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BUDAPEST BUSINESS SCHOOL

FACULTY OF INTERNATIONAL MANAGEMENT AND BUSINESS

INTERNATIONAL ECONOMY AND BUSINESS PROGRAMME

THE EFFECTIVENESS OF FOREIGN AID ON ECONOMIC GROWTH; EVIDENCE FROM ANGLOPHONE WEST AFRICA

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CHAPTER 1

INTRODUCTION

''Foreign Assistance is not an end in itself. The purpose of aid must be to create the conditions where it's no longer needed.''

-Barrack Obama, 2009.

1.1 Background

Foreign aid, often described as Official Development Assistance (ODA), refers to any income flows to countries or multilateral development institutions in the form of government aid or concessional aid with the primary goal of fostering development in emerging economies. (OECD, 2020). Foreign aid is also recognized as essential and auxiliary in achieving the Millennium Development Goals by the United Nations Millennium Declaration (MDGs). To be considered ODA, money must have better lending or grant terms than money accessible through commercial lending. (OECD, 2020). Over the years, providing and receiving foreign aid has become an integral part of contemporary foreign relations among both developed and developing nations. According to Williams (2013), for the first world, providing development aid has become a policy tool for achieving economic advancement through the formation of political allies with recipients, market penetration, and even the imposition of political and social ideologies on the receiving countries. For the developing nations, foreign aid has become a major means through which governments are able to provide social infrastructure to the population. According to Snowdon (2009), even though the general consensus remains that sustained economic growth is vital to eliminating extreme poverty, the idea that increased flows of foreign aid to poorer regions can be a catalyst to said growth remains highly controversial.

The foreign aid-growth theory has been centred in countless debates in modern economics. Since the enactment of the Marshall Plan of the United States in 1948; to provide bilateral assistance to foster economic growth in underdeveloped countries, several schools of thought have postulated on the actual effectiveness of foreign aid on economic growth. Early research which tried to reveal the relationship that foreign aid has with economic growth in less developed countries were positive, however the underlying assumptions of these findings lacked any basis in customary economic analysis. (Papanek, 1972). A cross section of subsequent studies have shown that Aid is by itself incapable of driving economic growth, but when applied in a good policy environment, is a potent variable for supplementing other factors that significantly affect the growth process such as investment and imports. (Griffin and Enos,

1970; Easterly, 1999). While many researches focus on finding the most suitable policy environments for which aid can be effective towards catalysing economic growth, other economists insist that aid in itself can lead to economic growth regardless of policy factors.

Economic development has always been used as a measure of foreign aid effectiveness. Following the various justifications for foreign aid policy, it is assumed that the relationship between aid and development is linear and positive, but should in time lead to less need for Aid. However, the case of Sub-Saharan African (SSA) countries provides counter evidence to this theory, as aid relief has continued to grow over the years, with no substantial economic growth to show for it. The large inflows of Foreign Aid to developing country strongly justify the lack of unanimity among economists on the true correlation between foreign aid and economic growth. Africa especially the Sub-Saharan region is particularly central to the foreign aid and growth discuss, and for valid concerns. Very notable to the case of SSA, is the United Nation's Millennium Development Goals, which flags poverty reduction as one of its prime objectives. United Nations Statistics report that the 2015 target towards reducing global poverty by half of the 1990 baseline was met five years ahead of the deadline, yet in 2018, approximately 40% of the population of the region were still living below the poverty line, only down from 55% in 1990. (World bank World Development Indicators).

1.2 Statement of the problem

According to OECD Development finance data (2019) , Sub-Saharan Africa received around 22.9% of all Official Development Assistance (ODA) delivered globally in 2019, yet nearly 40% of the population remains impoverished. According to World Bank data, the poverty rate in Sub-Saharan Africa fell from 55.7 percent to 41 percent between 1990 and 2018, whereas the percentage in East Asia fell from almost 50 percent to just over 1% during the same period. The OECD has a Development Assistance Committee list of ODA recipients, in which countries are classified as eligible or not for development aid. This list is benchmarked on their GNI per capita and a revisable income of three consecutive years. It also keeps track of aid and other resource movements that come from donor countries. As of 2019, the DAC list still considered all seventeen West African countries to be eligible for development aid from first-world countries. West Africa is home to some promising growing economies, but it is also the world's poorest region. West African countries received a total of USD13.9 billion in foreign assistance in 2017, accounting for 9.5 percent of worldwide ODA, yet more than one third of

the population of the continent lives in abject poverty. In comparison to other African regions, it has the highest rate. (2019, West African Brief). Despite receiving such a huge percentage of global development aid throughout the years, there is still a high demand for income transfers from rich to developing economies. Evidence from increased poverty rates and dropping standards of living across West Africa begs the question of the actual effectives of foreign aid as a catalyst to economic growth.

Despite several academic arguments about the efficiency of foreign aid, large flows of income from industrialized to underdeveloped economies continue. While West African countries have seen some economic growth throughout the years, the figures appear to be far behind those of East Asia's current growing economies. The poverty rate is not reducing quickly enough to keep up with the expanding population, with a high proportion of the people perpetually living below the poverty line. Is aid contributory to the inadequate development witnessed in these countries? Or has it bred overdependence and lowered the standards of living for these countries? The scepticism around the performance of aid as a poverty alleviation tool continues to grow. With aid agencies unable to provide succinct explanations, aid effectiveness will continue to be central to the development debate of Africa. In 2009, Dambisa Moyo wrote in her globally renowned book: "Dead aid" that Poverty in Africa grew from 11% to a startling 66 percent between 1970 and 1998, when aid flows to Africa were the highest. Since the 1970s, Sub-Saharan Africa has been the world's poorest region, with literacy, health, and other social indicators all falling. It is critical to address the disparity between the quantity of foreign aid received by West African countries and their economic development. Given the gap between theory and fact, it is necessary to assess the relationship between foreign aid and economic development, as well as its impact on West Africa's growing economies.

1.3 Research Questions

The purpose of this research is to give empirical evidence on the link between foreign aid and economic development in Anglophone West Africa. The following are the questions that have been posed:

1. How effective has foreign aid been at driving Economic growth in Anglophone West Africa over the years 1990-2019?

2. What is the impact of sectoral aid on economic growth in Anglophone West-Africa over the sub-period 2002-2019?

1.4 Objective of the study

Using a sample of the five Anglophone West African countries for a 20-year period, the goal of this study is to determine the degree to which foreign aid has had an impact on the growth of the West African countries in question.

The study will seek to achieve the following specific objectives;

1. To explore the effectiveness of foreign aid on economic Growth in Anglophone West Africa between (1990-2019)
2. To ascertain the impact of sectoral aid on economic growth in Anglophone West-Africa between (2002-2019)

1.5 Significance of the study

The efficiency of foreign aid in driving economic growth is a stimulating topic of dispute. Foreign aid has been beneficial in some examples of economic progress and unsuccessful in others. This study adds to the wealth of literature available on the subject of the impact of foreign aid on developing economies. Although the literature regarding the impact of sectoral aid is growing, there is still a big gap to be filled in this regard and this work aims to contribute therein. The study also aims to shed light on the pertinent question of why foreign aid inflows to West Africa have continued to increase despite the emerging status of the economy.

1.6 Scope and limitations of the study.

The research spans the years 1990 through 2019. Only the period from 2002 to 2019 is covered by the second objective, due to the scarcity of data on sectoral aid. While the nations in the sample share some characteristics due to their geographic location in West Africa, other factors like governmental regimes and religious inclinations, are country specific and cannot be measured, thus are unrecognised in regression models. The population was used as a proxy for labour due to a lack of data, which would have resulted in significantly more precise productivity estimates. There are no country-specific regression results explained in this study. Further examination of each country's economy would be required; as a result, I recommend this as a topic for future research.

1.7 Organisation of the study.

The remaining part of this work is structured as follows. Chapter two expands on Anglophone West-Africa, relevant foreign aid and economic growth concepts, and theoretical and empirical evaluations of relevant literature to the effectiveness of foreign aid. A discussion of aid effectiveness is provided in section 2.2.4. Chapter 3 outlines the methodology and empirical analysis of foreign and economic growth in Anglophone West-Africa. Finally, the concluding remarks, Policy recommendations and propositions for potential study are contained in the final chapter.

CHAPTER 2
LITERATURE REVIEW

2.1 Anglophone West-Africa; An overview.

Anglophone West-Africa is a Linguistic sub-region in Western Sub-Saharan Africa comprising five countries (The Gambia, Sierra Leone, Liberia, Ghana and Nigeria) all with English as the Lingua Franca. Unique in many ways, this sub-region is home to the world's most populous country (Nigeria), Africa's oldest republic (Liberia) and the premier of African Independence from colonial oppression. (Ghana in 1957). The combined region occupies around 4.5% of the land area of Africa, and about 21% of the population. In 2020, The collective GDP of the group of countries accounted for almost 20% of Africa's GDP, and approximately 0.6% of the world economy. (Statistics calculated from World bank World Development Indicators). Each country in the group possesses unique economic characteristics, with varying degrees of success, risk and reward factors for foreign aid or investment, and potential for economic growth.

In order to effectively ascertain the impact of foreign aid on the recipient group of countries, it is paramount to grasp the major factors that can affect the development in the region. This research considers four main areas of concern; political, economic, social and Technological.

Political environment

The Five Anglophone West African countries operate under the Democracy form of government. Liberia, Ghana and Sierra Leone operate as Unitary states and constitutional republics, while Nigeria and The Gambia are Federal republics. All five countries are members of the United Nations, Economic Community of West African States, International Monetary Fund, and the African Union. In 2000, with the aim to adopt a common stable currency, and lower the exposure of the west-African economy to external shocks, The Gambia, Ghana, Nigeria, Liberia and Guinea founded the West African Monetary Zone. Liberia joined the group in 2010. (West African Monetary Institute, 2022) As of the time of this research, each country still maintained its local currency as the legal tender.

According to Marshall (2005), The presence of Political instability and violent conflict in the region continues to be an issue for development, giving rise to concerns about reversal in hard-won economic gains. Regional conflict was extremely rare in the decade following 1960. The

majority of West African countries witnessed a peaceful post-war transition of power, with deaths falling from 2 million during Nigeria's Biafran War (1967–70) to near-zero in the 1970s. The Liberian civil war, which began in December 1989, marked the start of the subregion's descent into a crucible of political violence and internecine warfare. In the early 2000s, the civil conflicts in Liberia and Sierra Leone, which killed an estimated 800,000 people, came to an end. After 2007, the number of conflict-related deaths gradually increased again, peaking in 2010 due to the onset of violence in Mali and Nigeria. Marshall (2005).

According to Kaplan (1994), the sub-region's political order and stability have been directly threatened by combination of prolonged economic crisis, widespread social fragmentation, including a widening gap between the rich and the poor, collapsing public institutions, worsening corruption and a lack of public accountability, increasingly illegitimate states, and rising ethnic, regionalist, and religious entities.

Despite, the sub-region is still home to one of Africa's most promising economies (Ghana), and Sierra Leone has successfully emerged from conflict.

Economic environment

Anglophone West-Africa has experienced gradual economic growth since 1990, and since 2000, the collective GDP of the sub-region has risen from 76 billion USD to over 525 billion USD in 2019. The largest economies in the region Nigeria and Ghana accounted for over 25% of Africa's GDP in 2018. (Statistics calculated from World Bank World Development Indicators).

Nigeria is the most populous country in the group, and in Africa as a whole. It is home to over 2 million Africans and has had a steady population growth rate averaging 2.6% between 1990 and 2019. The major export commodity in Nigeria is crude oil, which accounts for at least 80% of its total exports revenue and making it a top oil producer in the world. (Ranking among the top 20). This heavy reliance of Nigeria's economy on crude oil makes the country very vulnerable to external shocks and prone to continuous economic challenges. In 2016, the country entered a recession, owing to low oil prices and terrorist attacks on pipelines in its Niger Delta region. In 2018, it began to grow again, but the recovery has still been entirely reliant on oil prices. (Davies and Mullan, 2021). Unemployment and inflation rates have steadily been climbing in Nigeria. According to World Bank reports (2021), the advent of the

COVID-19 pandemic and the absence of substantial economic reforms could set back personal incomes in Nigeria by forty years. Ghana provides the most promising economic prospects in Anglophone West Africa. The export profile of Ghana is way more diversified than Nigeria, harnessing its vast natural resource potentials for Revenue. After the rebasing of its economy in 2011, Ghana has been consistently considered one of the fastest growing economies in the world, with a per capita income of USD 2,246 in 2019. However, despite its giant strides in economic development, Ghana faces a very high risk of debt distress. According to IMF statistics, Ghana's Debt to GDP ratio stood at 62% in 2019, and even rose to 83% in 2021. One of the highest in Africa. Ghana is also one of the top Foreign direct investment destinations in Africa, attracting the second highest number of project investments between 2003 and 2019 mostly in the oil and gas and agri-business sectors. Efforts to further diversify the economy into other sectors such as digital technology, automotive construction and hydrocarbon production have also been made. (Investment monitor, 2021)

With a population of about 2.4 million people, Gambia is the smallest country in the group. Agriculture is a major source of income for the country's economy, with almost 75 percent of the population relying on it. With a population growth rate of 2.9 percent in 2020, the country would have the highest population growth rate in West Africa, owing to a low death rate. (Davies and Mullan, 2021). The country is significantly reliant on outside assistance. Foreign aid received accounted for 17% of Gambia's GDP in 2017. The Gambia is a member of the Economic Community of West African States (ECOWAS) and the African Continental Free Trade Area (AfCFTA). (Index of economic freedom, 2022).

Sierra Leone has a land area of 71,740 square kilometres, has an estimated population of approximately 8.2 million people (World Population Review) and has a border with the Republic of Liberia in the south and southeast, as well as the Atlantic Ocean on the west. Since the Sierra Leonean civil war ended in 2002, the country has been politically stable, with a high level of religious tolerance among the population. Sierra Leone, which is rich in natural resources, has long relied on its mining industry, which is dominated by a large number of miners, since minerals account for more than 80% of exports. (U.S International trade administration, 2021). The per capita GDP in 2019 was $522 and its GDP is ranked 160 out of 196 globally. Liberia is a bordering country to Sierra Leone, with largely untapped mineral resources such as iron ore, diamonds and gold. Its GDP per capita in 2019 was $6221 and has

a total population of slightly over 5 million people. In 2018, the poverty rate as measured by the Sierra Leone Integrated household survey stood at about 43% of the population. (World Bank poverty and equity brief, 2020).

Widening inequality gaps continue to be a glaring characteristic of Anglophone West-Africa, with Liberia and sierra Leone being among the poorest nations in the world, and Nigeria being the global poverty capital. Accessing quality education, water and healthcare constitutes a major inequality gap in this group of countries.

Social environment

As of 2019, the population of the group of countries was over 246 million people, and Nigeria accounted for 82% of this number. The average population growth rate was about 2.5%. countries in the group of Anglophone west-Africa are ethnically and religiously plural. In 2018, the adult literacy rate in Ghana was 79%, 62% in Nigeria and 43% in Sierra Leone. (statistics from World Bank World Development Indicators).

Technological environment

Technology is increasingly important in the development of any economy in the age of globalization. The importance of research in West Africa cannot be overemphasized, and agreements among West African countries to deepen research and development have been made severally. However, the Economic Community of West African States (ECOWAS) has invested very little in research (science, technology, and innovation) over the last three decades. (Azuh et al, 2020). According to Lemarchand (2015), the percentage of GDP spent on R&D in Ghana and Nigeria was 0.4 percent and 0.2 percent, respectively. This is significantly lower than the global average of 0.4 percent

2.2 CONCEPTUAL LITERATURE

2.2.1 Foreign Aid

The term "aid" refers to the nominal worth of direct and indirect financial resources as well as cash transfers from industrialized to developing and impoverished countries. (Corporate Finance Institute, 2020). Foreign aid can be defined as the voluntary movement of money, services or other resources from international organizations to governments or between governments for the collective benefits of the receiving country and its citizens. Foreign aid

can take on many forms, such as fiscal aid, humanitarian and military and usually directed towards specific sectors of the recipient economy. Corporate Finance Institute, 2020)

The concept of foreign aid as a major aspect of economic or political policy is relatively new, a by-product of the post-world war period. Until the mid-19th century, aid provided by world powers to less affluent countries were in the form of military assistance, or monies provided for infrastructural development in colony states more as a means to hold leverage and ensure loyalty in these countries. The enactment of the United States Marshall plan of 1948 marked the first major act of foreign aid as is known today, providing financial support to facilitate the reconstruction of Europe after World War 2. (Jena and Sethi, 2019). This plan also saw to the constitution of the World Bank, The International Monetary fund and the United Nations. The fundamental motive for the establishment of the IMF organization was to promote financial stability, while the main reason for the establishment of the World Bank was to increase money for reconstruction in Japan and European countries. Aid was viewed as a tool to assist 'developing' country economies in industrializing by drawing significant amounts of money and technical capabilities that would lead to industrial development like what had occurred in the western world. (Aid Watch, 2011). In the following decades, increased amounts of aid flowed from the United States, and other nations also followed. Extensive foreign aid programs were produced, and the style of aid provided began to take more diverse forms. Health, Education, sanitation and other areas began to receive attention. Donors and development aid organizations shifted focus to the success of aid on social indicators such food, shelter, gender equality, health care systems, educational facilities, and closing the inequality gap through income redistribution, rather than just macroeconomic outcomes. The 'fundamental requirement approach' was the name given to this process. (Kipping, 2011).

In the year 2000, the international community established the Millennium Development Goals Organization (MDGs). The MDGs were designed to address the shortfalls in foreign aid ability to reduce poverty in recipient nations. It was also mandated for the donors to work together to create a transnational action strategy by boosting ODA to 0.7% of GNI in 2015, with the goal of decreasing poverty in eight underdeveloped areas. (Aid Watch, 2011). The Development Cooperation has continued to evolve in terms of its form and its potential as a crucial factor in raising living standards in underdeveloped countries in order to achieve global development but claims, that overambitious aims by aid providers and recipients, lack of proper coordination, time management problems - and fragmentation in contributing aid, according to

the Development Cooperation Directorate, DAC (2011), have all too frequently hindered aid from being as successful as anticipated. As a result, this business has developed rules and principles to increase the effectiveness of aid to recipient countries. These standards and principles were developed as part of an ongoing effort to improve assistance delivery, which was recognized by three formal gatherings in 2003, 2005, and 2008: the High-Level Forum on Aid Effectiveness in Rome, Paris, and Accra, respectively" (DAC, Development Co-operation Directorate, 2011).

According to Macrae and Leader (2000), Foreign aid is a mishmash of Humanitarianism and diplomatic acts in the framework of the foreign policy after the cold war. Between 1945 and the late 90's, humanitarian intervention was characterized by the principle of non-interference, which limited the intrusion into the local political and economic affairs of sovereign nations. In the multipolar world after this period, foreign aid has transformed into a by-product of officious approaches to International Relations.

Figures 2.1 shows the global flow of development assistance from 1960- 2019. The trend visibly shows consistent increases in global aid, and a sharp rise around 2005 due to the Paris club reparation which happened in that year.

Figure 2.1 Global Net official development assistance (USD) (1960-2019)

Source; created by author from World bank WDI indicators.

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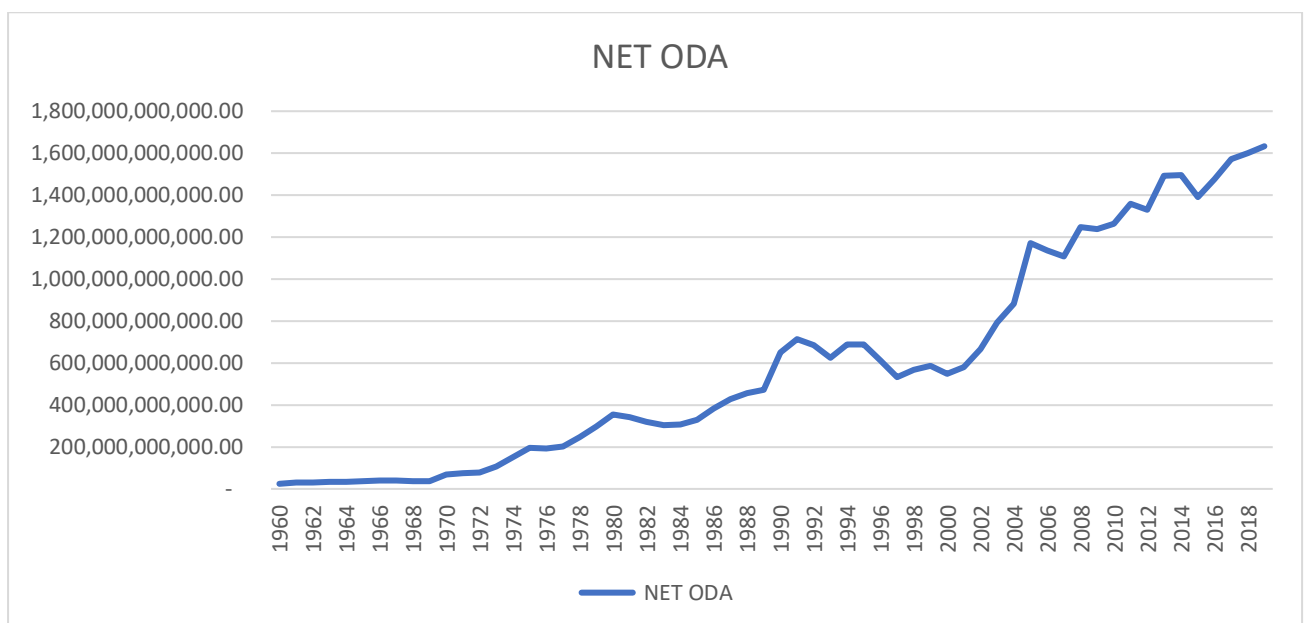
Figure 2.2 shows the top providers of foreign aid in 2019, with the United States significantly providing the most aid in the period.

Figure 2.2 Total Net Flows by DAC Donor Country (2019)
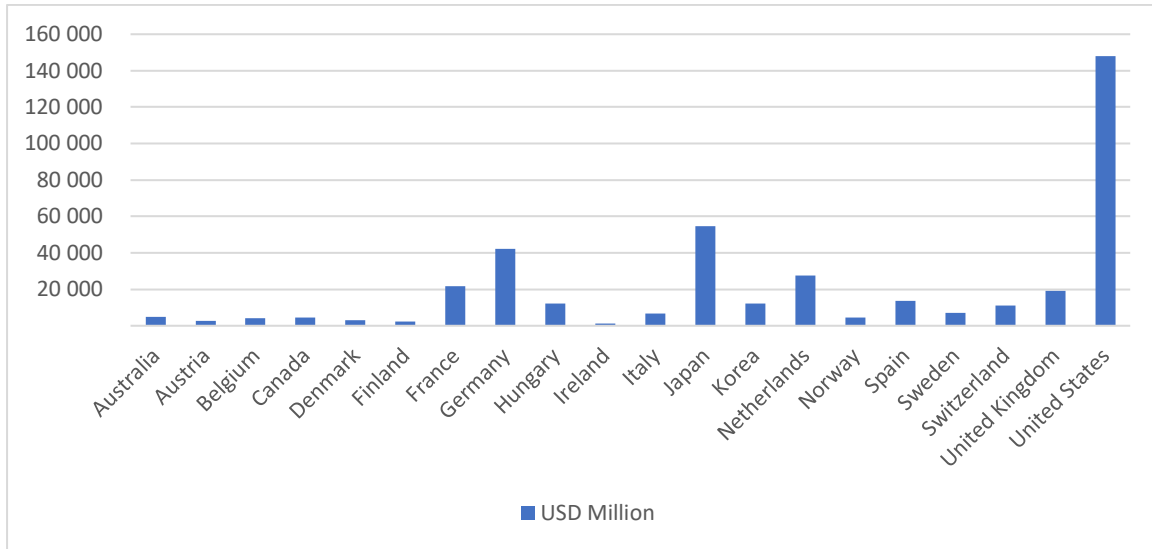
Source; created by author from OECD database

2.2.2 Historical Flow of Foreign Aid to Anglophone Africa.

Since the 1960s, the countries in Anglophone Africa have been recipients of foreign aid. Aid receipts in the region were steady through the period until the late 1990s and early 2000s when inflows began to significantly rise.

Figure 2.3 Net official development assistance received in Anglophone West Africa (USD)

Source; Derived by author from World bank DAC data

17
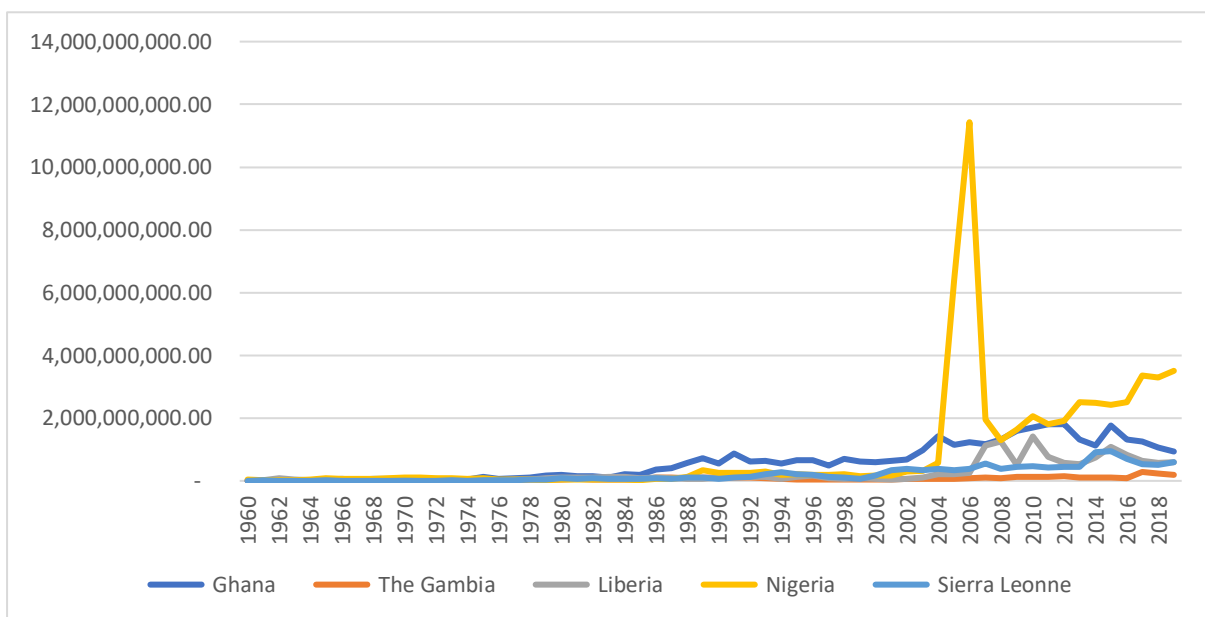
Throughout the 1960s, 1970s, and 1980s, aid to the region increased slowly but consistently, however a significant decline in multilateral and bilateral aid occurred in the mid-1990s. This decline in aid was concerning since it was due to both a global plunge in aid payments and a new development among donors to shift monies away from Africa and toward East Europe and East Asia, where living standards are significantly higher (Addison et al, 2005). Aid to the region began to increase in the early 2000s. Due to significant Paris Club debt reduction efforts, ODA was unusually high in 2005. (Notably for Iraq and Nigeria). According to the (Centre for Global Development, 2006) Net debt relief grants continued to account for a major portion of net ODA in 2006, delivering about USD 3 billion to Iraq and some near USD 11 billion to Nigeria in efforts to implement successive phases of the Paris Club accords. In actual terms, bilateral net ODA to Sub-Saharan Africa increased by 23% to USD 28 billion. However, debt relief programs were responsible for the majority of the increase. Aid to the region increased by only 2%, excluding Nigeria's debt relief. (OECD). As of 2019. Sub-Saharan Africa received 23% of all official development assistance distributed globally.(OECD DAC data, 2019)

Figure 2.4 Percentage of world aid to Anglophone West Africa, 1990-2019
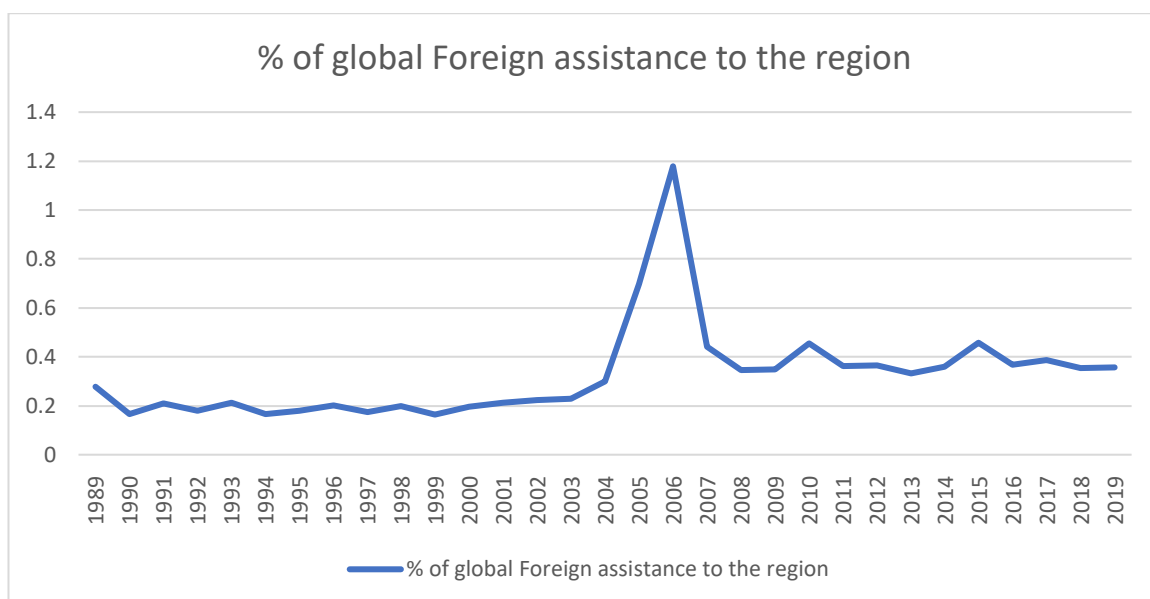
Source; Derived by author from World bank DAC data.

Figure 2.4 shows the percentage of global aid flows which poured into Anglophone West Africa between 1990 and 2019. On a global scale, aid flows fell by around 5% in 2006, however, the region saw a sharp increase in the same year, reaching an all-time high in the period under consideration. This spike was due to debt reliefs to Nigeria. As of 2004, Nigeria had an external debt stock encircling $36 billion, and over half of its people suffering chronic poverty despite its huge oil revenues. In 2005 through 2006, The government of Nigeria, and

the Paris club agreed to resolve Nigeria's debt profile through the first-ever discounted buy-back structure of debt settlement. (Centre for Global Development, 2006). The spike in aid flows to the region in 2006 was as a result of the debt relief grants totalling nearly 11million USD given to Nigeria as further implementation of the Paris club agreements.

ODA has always accounted for a large share of total foreign inflows into Sub-Saharan Africa. The share of overall inflows accounted for by aid, foreign direct investments, and portfolio stocks has changed over time, as shown in Figure 2.5. Aid contributed for around 70% of inflows to the region between 1990 and 1999. FDI inflows climbed from 36% to 39% between 2000 and 2019, while portfolio investments stayed unchanged at 9%. (Statistics calculated from World Bank World Development Indicators). Despite the fact that these numbers show that Africa's reliance on aid has decreased, aid remains an important source of money for the area and is not probable that foreign investment will take over soon.

Figure 2.5 Foreign Inflows to Sub Saharan Africa by Decade (1990-2019)
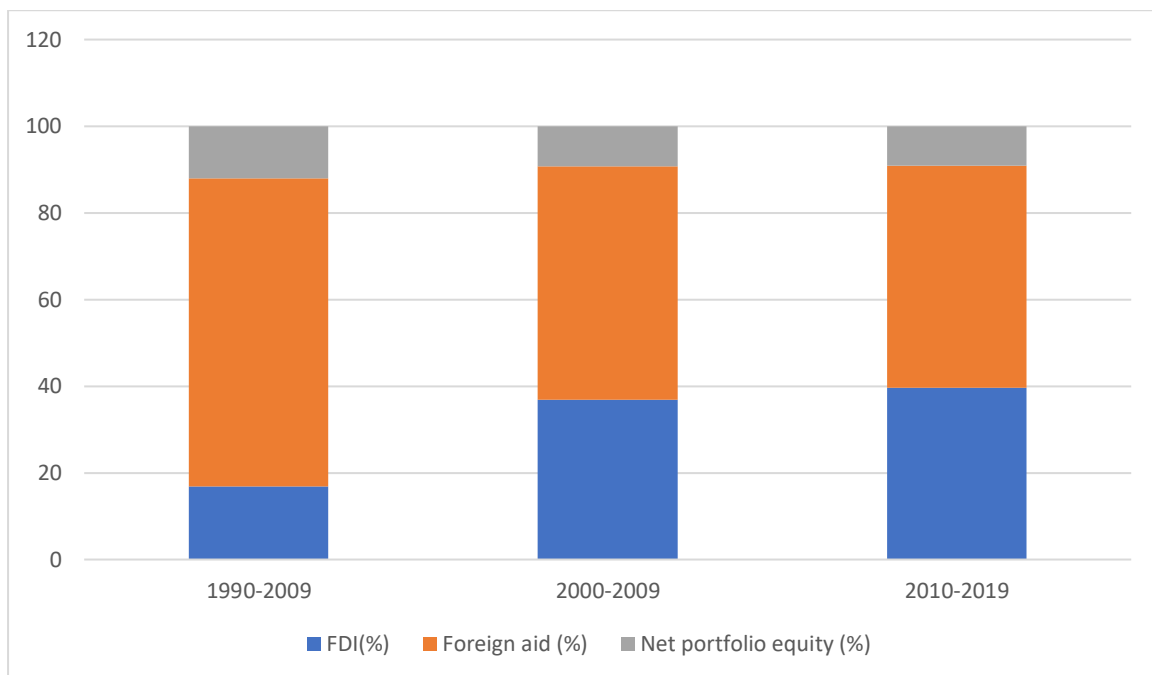
Source; calculated by author from World bank WDI indicators

The ratio of aid to national income is a typical approach to calculate how much aid a country receives. Table 2.1 shows the average aid to GDP ratios and average GDP growth rates for each of the nations in the empirical sample by decade. Between 1990 and 1999, Sierra Leone recorded the highest aid-GDP ratio, and also the least average growth rates. In the following

years, Liberia saw increased development assistance, and has the highest ratio to GDP between 2000 and 2019. Average growth rates seem to have improved over the period, with Ghana having the highest average growth rate between 2010 and 2019, and Nigeria having the least Aid to GDP ratio in the period

Table 2.1 Average Aid/GDP ratio and average growth by country and decade (1990-2019)

	1990-1999		2000-2009		2010-2019	
Country	Growth (%)	Aid(%)	Growth (%)	Aid(%)	Growth (%)	Aid(%)
Gambia	3.1	10.5	3.5	8.0	2.9	10.2
Ghana	4.3	9.7	5.4	9.6	6.8	2.9
Liberia	0.0	-	1.4	28.6	3.1	27.4
Nigeria	2.3	0.5	7.7	1.2	3.6	0.6
Sierra Leone	-2.6	18.3	6.8	24.0	5.0	15.4

Source; created by author from World bank WDI indicators

2.2.3 Aid classification and Trends of the Sectoral deployment of foreign aid in Anglophone West Africa.

Bilateral (two-sided) and multilateral (many-sided) aid are the two types of foreign assistance. According to OECD definitions, Bilateral aid refers to assistance supplied directly to a recipient government by a donor nation, while multilateral aid refers to assistance provided by an international organization that represents a number of government funders. However, in rare situations, donors are at liberty to hire a multilateral agency to carry out a development program or project in a beneficiary country on its behalf. (Odhiambo and Mahembe, 2019). The United Nations Development Program (UNDP) and the World Bank are two international organizations that administer multilateral aid. Furthermore, bilateral aid is managed by government organizations in the donor countries.

Foreign aid can also be classified based on its intended use. Africa's social sector, which includes education, health, and other social infrastructure services, got the most development funding in 2016. (OECD Development aid report, 2018). Only from 2002 onwards is data on sectoral disbursement to Anglophone West Africa available. Figure 2.6 depicts the percentage of aid disbursed to each sector from 2002 to 2019. During this time, the social sector, which includes education, access to health, population policy, potable water supply and

environmentalism, and security, among others, received 59 percent of official development assistance granted to Anglophone West-Africa. Economic infrastructure aid (which includes transportation, energy, communication, financial, and business services) and humanitarian aid (which includes relief coordination and disaster prevention) were the next largest sectors, receiving up to of 13% of total aid assurances from 2002 to 2019. The production sector, which includes agriculture as well as the heavy sectors of mining and construction, was the next largest beneficiary sector. Trade policy and regulation are also addressed in this report, with 8% of the total development assistance budgeted for the period. Multisector, which includes general environmental protection, urban development, rural development, and research, received 4% of funds. Unallocated aid received 2% and non-sector allocable aid which takes care of general aid, debt relief and administrative costs of the donors accounted for one percent of total commitments. (Statistics calculated by author from OECD CRS data)

Figure 2.6. Sectoral composition of aid to Anglophone West Africa (2002-2019)
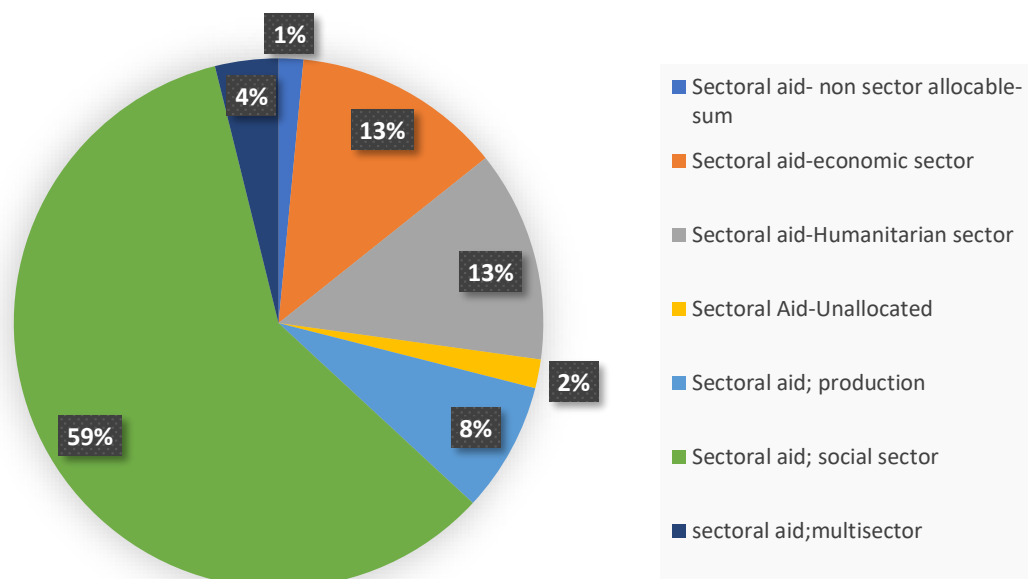
Source; Calculated by Author from OECD CRS data.

2.2.4 Effective Aid

Aid effectiveness refers to the degree of success or failure of international development aid regarding the goals and timelines for which it was set. Any discourse surrounding effectiveness or efficiency is usually benchmarked on the aims for which it was set. According to the 2006 survey on Monitoring the Paris declaration, ''the true test of aid effectiveness is improvement

in people's lives". Increasing the efficacy of aid entails ensuring that it assists developing countries in improving the well-being of their poorest citizens. As a result, aid must be properly targeted on these countries' development priorities. (OECD, 2007). The millennium development goals represent a set of wide-ranging commitments by world leaders to make the right to development a reality for everyone. In drawing up this plan, eight development goals were organised to be achieved by 2015, and countries on the developed side of the agreement were mandated to support global partnership for development in various ways; one of which was to improve the quantity and quality of aid provided to developing nations. (Herfkens and Bains, 2008) The first millennium development goal which was to beat down poverty rates to the barest minimum is very central to the measurement of economic growth and development. The goal had three targets which were; between 1990 and 2015, reduce the proportion of people with a daily living wage of less than $1.25, attain full and productive work for everybody, and drive the numbers down for people who suffer hunger chronically. This provides one apparent metric by which aid effectiveness can be measured; through the poverty index.

Figure 2.7: Net ODA per capita and poverty headcount ratio in sub-Saharan Africa. (1990-2019)

Net ODA received per capita (current US$)
Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)
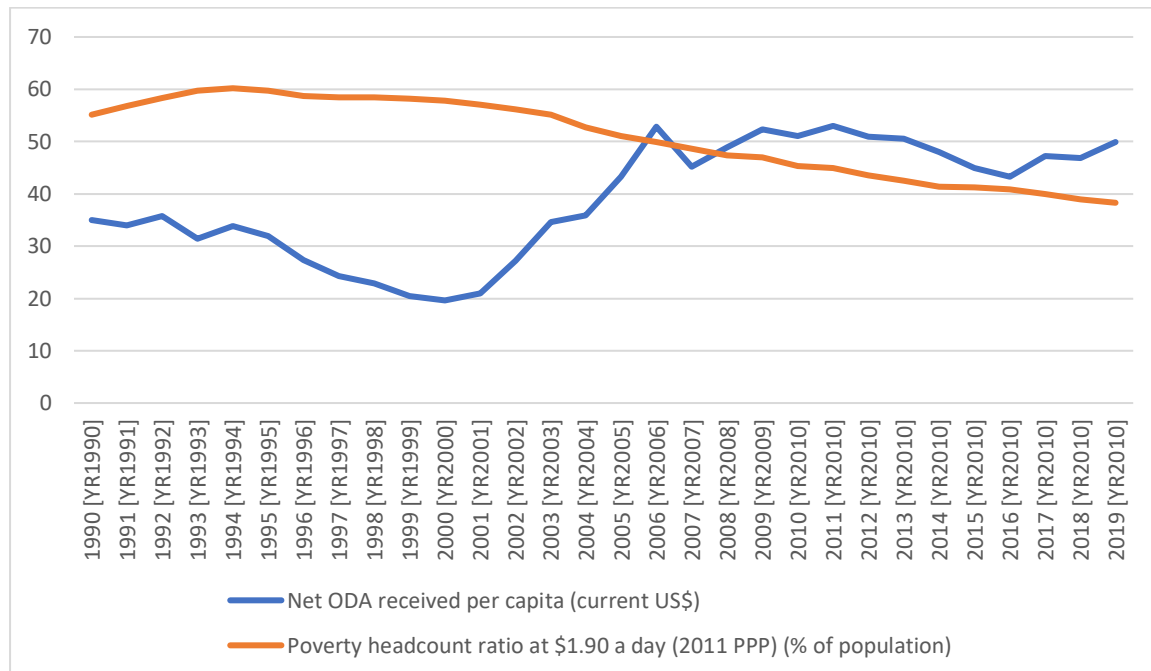
Source: Created by author from World Bank World Development Indicators.

Figure 2.7 shows graphical representation of available World Bank data comparing the Net development assistance received per capita, and the poverty headcount ratio in the Sub-Saharan

Africa region between 1990-2019. The statistics show that while the amount of aid received per capita in Sub-Saharan Africa has grown from $35 in 1990 to $44.9 in 2015 and $49.9 in 2019, the poverty rate in the region has shrunk from 55.1% to 41.3% in 2015 and 38.3% in 2019. This indicates the level of poverty in the region was only reduced by 25% in 2015, and by 30% in 2019, missing the 50% target set for 2015.

The Paris Declaration on Aid Effectiveness

In March 2005, more than 100 nations and international organizations signed the Paris Declaration on Aid Effectiveness, which included specific obligations for donors and partner governments to increase aid effectiveness. The ultimate goal was to increase the quality of development aid and its impact. The statement of resolve was;

''*We, Ministers of developed and developing countries responsible for promoting development and Heads of multilateral and bilateral development institutions, meeting in Paris on 2 March 2005, resolve to take far-reaching and monitorable actions to reform the ways we deliver and manage aid as we look ahead to the UN five-year review of the Millennium Declaration and the Millennium Development Goals (MDGs) later this year. As in Monterrey, we recognise that while the volumes of aid and other development resources must increase to achieve these goals, aid effectiveness must increase significantly as well to support partner country efforts to strengthen governance and improve development performance. This will be all the more important if existing and new bilateral and multilateral initiatives lead to significant further increases in aid.''* (Paris declaration on aid effectiveness, 2005).

The Paris Declaration on Aid Effectiveness (2005) is an action-oriented strategy document for improving aid quality and impact on development. It establishes a framework for monitoring progress and holding funders and recipients accountable for their responsibilities. (OECD, 2022). The Paris Declaration contained the key lessons learnt during decades of development cooperation. Priorities should be determined in response to regionally different needs, the numerous parties engaged should work more effectively, and the progress of development intervention should be properly documented and assessed. It was recommended, in order for aid to be more effective. These ideas were grouped into five categories based on five major principles of aid effectiveness. (OECD, 2022).

1. Ownership

Under the ownership principle; While the donors commit to adhering to partner country laws and governance, and strengthening the leadership capacities, recipients commit to showing efficient leadership over development policy design and strategy implementation through due diligence and broad consultative processes. They also pledge to carry through these development strategies until result oriented operational programmes are realised from them. Aid recipient governments will also co-ordinate development aid at all levels, while fostering meaningful partnerships with the general population and private businesses. (Paris declaration on aid effectiveness, 2005).

2. Alignment

The donors and beneficiaries have independent and shared commitments under the alignment principle. The donors base their overall support on the country's developed strategy and procedures, and channel funding through a unanimous framework derived from the development strategy, either by establishing supplementary precautions and measures in ways that bolster the already existing systems or by establishing a consensus framework derived from the development strategy. The donors also agreed to match their analytical and financial support with the development strategies of the partner nations, give dependable aid promises over a multi-year period, and release aid on time. The recipient countries agree to conduct evaluations that show dependable appraisals of their country's structures and procedures, to implement reforms to ensure that these systems and procedures are effective, accountable, and transparent, and to increase their efforts to mobilize domestic resources in order to create an enabling ecosystem for local and foreign investments through improved public financial management. Donors and recipient governments work together to harmonise review processes and apply mutually agreed standards to establish and monitor long-term reforms. (Paris declaration on aid effectiveness, 2005).

3. Harmonisation

The donors pledge to minimizing separate, duplicative aid missions and procedures, and to deploy the appropriate mix of aid instruments, particularly in countries with promising but high-risk transitions, in accordance with the harmonisation principle. In situations where national development schemes are not yet on ground, the partner countries commit to engaging extensively with the donor to provide clear views on how to accomplish complementarity at

the country or sector level, as well as to develop simple organisation tools. (Paris declaration on aid effectiveness, 2005).

4. Managing for results

Under this principle, donors and partner countries agree to collaborate to boost country competences and strive for results-based administration. Donors can aid by avoiding performance metrics that are incompatible with partner countries' development strategies, instead linking country programs and resources to outcomes and aligning them with effective performance assessment frameworks. As a result, the partners are collaborating to create outcome-oriented assessment frameworks that can be assessed using a reasonable range of indicators for which data is readily available. (Paris declaration on aid effectiveness, 2005).

5. Mutual Accountability

The results of development are held accountable by donors and partners. To facilitate budget planning, donors must offer timely, transparent, and thorough reporting on assistance flows, and partner nations must seek to increase parliamentary participation in development initiatives and budget planning. (Paris declaration on aid effectiveness, 2005).

According to a 2011 study, ownership had made the most progress of the five basic principles, Alignment and harmonization had progressed unevenly, while managing for results and mutual accountability had made little headway. At international forums, governments indicated support for the aid effectiveness agenda, but neither donors nor partner nations appeared to be interested in implementing the necessary political adjustments. (Danish Institute for International studies, 2019)

Accra Agenda for Action

The Accra Agenda for action was proposed in Ghana, 2008 to reinforce the Paris declaration; taking scores of the progress of the Paris declaration and setting the tone for accelerated achievements of the Paris targets, and building the capacity of countries to direct their own economic future. (OECD Accra Agenda for action, 2008). The three main areas of improvement in the Accra Agenda include;

1. Ownership:

Through increased engagement in development policy formulation, partner nations gain greater control over their development process and make better use of local mechanisms for aid delivery. (OECD Accra Agenda for action, 2008).

2. Inclusive Partnerships:

Full participation of all stakeholders; DAC benefactors and developing countries, as well as other donors, foundations and civil societies. (OECD Accra Agenda for action, 2008).

3. Delivering results:

Ensuring that aid is focused on valid and considerable impact in development. (OECD Accra Agenda for action, 2008).

According to the Danish Institute for International studies (2019), The Paris Declaration's importance in shaping donor action has however dwindled. Although some aid benefactors, such as the EU and Sweden, continue to highlight core elements of the agenda, the effectiveness principles are barely mentioned in the present development plans of ten donor countries (Belgium, Canada, Denmark, the EU, France, Germany, the Netherlands, Norway, Sweden, and the United Kingdom). Many authors only deal with the proposals of the Paris Declaration on a case-by-case basis. The Declaration's emphasis on results management, for example, has evolved over time, gradually echoing donor apprehensions about accountability rather than bolstering country-based reporting mechanisms as proposed. (Danish Institute for International studies, 2019).

2.2.5 The fungibility of aid

The fungibility of aid is a significant complicating aspect that has not been adequately addressed in the research on aid effectiveness. When aid resources meant to finance one type of spending are ultimately used to fund another type of expenditure, the aid becomes fungible. (Rana and Koch, 2019). Aid fungibility takes on several forms, some of which include; Sectoral, geographical, temporal and general fungibility.

1. When a government uses aid intended for one sector for another, this is known as sectoral fungibility. Aid meant for education, for example, causes a government to redirect funds to pay for security or the defence sector. (Khailji and Ernest, 1991)

2. Geographic fungibility means that aid is fungible between geographical regions rather than within sectors. (Wagstaff, 2011)

3. Temporal fungibility originates from the donor's unpredictability of aid flow, causing the recipient country to cut its own spending during periods of smooth assistance flow to compensate for periods of unpredictability. (Rana and Koch, 2019

4. General fungibility arises when aid intended for one purpose is diverted to another, for as when aid intended for consumption is diverted to investment. (Morrissey, 2005).

The implication of aid fungibility is this; Traditional methods of evaluating development assistance effectiveness aren't truly accurate if the aid provided covers something that would have been done otherwise. Project loan may not be cost-effective if aid monies are fungible and the recipient's public spending program is inadequate. (Swaroop and Devarajan, 1999).

Because aid is fungible, the efficacy of much of development assistance is dependent on the presence of solid institutions and authority. This proposes that efforts in program assistance should be emphasized in countries which already have strong establishments, whereas project aid should be maintained for its capacity to transfer knowledge, test new methods, and/or support global public good provision rather than for its ability to transfer financial resources alone. (Rana and Koch, 2019)

2.2.6 Economic growth

Economic growth describes a systemic rise in the quantity and quality of the economic goods and services that a society produces and consumes. (Roser, 2021). The best way to quantify economic growth is to look at the whole economic output of a country, which includes all commodities and services that firms generate for sale. This is measured as Gross Domestic Product (GDP). (Amadeo and Boyle, 2021). Economic growth can be achieved through capital accumulation, technical advancement, labour force expansion, and human capital development are all examples of ways to improve human capital. Growth is important for both budgetary stability and rising living standards.

A cardinal point in the discourse of economic growth is the Keynesian theory. This hypothesis, developed by John Maynard Keynes as a means of comprehending the Great Depression, contends that more government spending and lower taxation will stimulate demand and lift the world economy out of the slump. In order to stabilize aggregate demand, Keynes supported a countercyclical fiscal policy in which the government spends more money than it collects to make up for a reduction in investment and increase consumer spending. Keynes saw excessive savings as risky for the economy since this reduces the amount of money actually employed to spur growth. (Barnier, 2022). According to Keynes' theory of fiscal inducement, an increase in government expenditure eventually leads to more corporate activity and even more spending. Spending, according to this theory, improves aggregate output and generates more money. GDP growth might be substantially higher than the initial stimulus amount if workers are willing to spend their extra money. (Barnier, 2022)

According to the classical growth theory, specialization, division of labour, and the pursuit of comparative advantage all result in capital accumulation and reinvestment of earnings which go on to form a sustaining mechanism for economic growth. They emphasized that human initiative employed in a free-market economy to achieve individual goals, would benefit society as a whole. They came to the opinion that free commerce, respect for private property, and individual free entrepreneurship are sound economic adoptions. Meanwhile, the operation of competitive market forces and the restricted commitment of accountable government might resolve divergent economic interests. (Kenton, 2021)

One underrated criticism of economic theories is their applicability to all socio-economic set ups. The Keynesian theory for example is based assumptions which hold no water in developed countries due to the existence of peculiar deep-rooted issues that stem from history and societal evolution. (Colonialism and oppression). In Keynes theory, cyclical unemployment occurs in a depression (caused by the deficiency in effective demand, and excess savings) and can be tackled by government intervention through increased consumption and non-consumption expenditure. However, the nature of unemployment in most underdeveloped or emerging economies is rather chronic, and often disguised than cyclical or voluntary. (Your article Library, 2022). In such an economy, Income levels are exceedingly low, consumption is excessively high, and savings are nearly non-existent. In the absence of complementary resources, any efforts to boost money earnings through monetary and fiscal measures will result in price inflation. (Your article Library, 2022)

2.2.7 **The Dutch disease**

The Dutch disease, also recognised as the natural resource curse, refers to a paradoxical situation in which negative consequences arise from the discovery of huge natural resources and revenue from its exploitation. (Investopedia, 2021). Negative consequences in this context refer to detrimental effects of the rapid development of the new found sector, on other sectors of the economy. The Dutch disease is often characterized by a substantial appreciation in the domestic currency, leading to a fall in exports and unemployment, as the jobs for other sectors suffer due to increased wealth generated by resource-based industries. Investopedia, 2021). As a long run result, the economy is at the risk of the "de-industrialization" process because labour and other factors of production relocate to the booming sector (the resource movement effect) and this reduces the performance and international Competitiveness of the other sectors. (Brahmbhatt et al, 2010) When the boom ends, the currency reverses but expenditures remain the same. The other sectors of the economy are not revived as quickly as they were abandoned and cannot immediately take the place of the former booming sector in international trade. As a consequence, the governments of such economies face fiscal problems and foreign exchange problems.

In general, a growth in economic prosperity due to the discovery of a natural resource or a lasting improvement in the trade balance should be considered a positive development. However, predicated on the premise that manufacturing and other non-resource tradables have specific long-term, growth-enhancing properties, there are several economic research outcomes claiming that these apparent gains come at the expense of long-term growth. (Vostroknutova et al, 2010). Due to rising returns and costly, time-consuming learning in manufacturing, the economy would struggle to recreate sources of growth when a natural resource was depleted. Also, whether Dutch disease has a greater impact on labour-intensive industries than on capital-intensive industries, and whether it increases capital intensity in enterprises. (Brahmbhatt et al, 2010)

Sachs and Warner's seminal studies (1995, 2001) are foundational to a growing body of evidence that shows that the profusion of natural economic resources has a considerable adverse bearing on economic growth. They show, for example, that from 1970 to 1990, a ten-point upswing in the proportion of natural resource exports to GDP was correlated with lower

industrial export growth and as much as 0.4–0.7 percentage points worse annual per capita GDP growth in the country samples they considered.

On the other side of the Balance of trade is imports, of which foreign aid constitutes a free portion. Aid flows, according to the United Nations' University Research Brief (2012), contribute to the Dutch disease in the same manner that mineral resources do, through a mix of economic impact, governance effects, and corruption promotion. The inflow of aid into a country may cause the country's currency to appreciate. This increase in value could simply be the start of a new equilibrium. The appreciation, on the other hand, may cause the exports to fall if the aid is not spent on imports or invested in the private sector. Similarly, when a government believes its wealth is the result of a windfall rather than sound economic management, it is less likely to feel pressured to properly manage the economy. This could lead to the government easing its tax policy or starting on significant capital spending projects without thinking about the long-term consequences. A poorly managed economy will be unable to adapt quickly enough to counteract the negative effects of rising real exchange rates. Also, when huge sums of money are available, people attempting to improve their personal wealth through the theft of aid monies have more incentives and face less risks. (United Nations' University Research Brief ,2012)

2.3 THEORETICAL LITERATURE.

This section covers a review of relevant theories to economic growth and foreign aid.

2.3.1 Rostow's stages of economic growth theory

Before 1960, the notion that the Western world was defined by "modernization" was based on the assumption that the Western world was capable of progressing past its pre-development phases. As a result, all countries should emulate capitalism or liberal democracy just like the western world. Based on this idea, the stages of economic growth theory by Rostow postulates that all countries exist somewhere on a linear spectrum of five stages in the development process. (Jacobs, 2020).

Stage 1: The traditional society

In this stage, the economy is characterised by subsistence Agriculture with intensive labour and minimal trading, no centralized governments or political structures, and little to knowledge or application of science and technology to development. (Jacobs, 2020). At this point, accumulating output usually means expanding lands for cultivation or discovering and

distributing a new crop. However, there is a limit to the amount of output per person that can be achieved due to a lack of access to current science and technology but, external pressures and market interests can trigger the transition to the next stage.

Stage 2: Preconditions to take-off.

A society launches industrial development and starts to operate under a more nationalised/international political orientation rather than regional one at this stage. (Jacobs, 2020) Primary changes in the societal, administrative, and commercial aspects of the economy are some of the conditions of this stage, and foreign demand for raw materials drives economic change. At this period, commercial agriculture and extractive technologies, as well as the creation of a political elite, are particularly prominent. The installation of physical infrastructure triggers the transition to the next stage of development, which is prompted by external demand for resources. (economicdiscussion.net, 2022)

Stage 3: Take Off

During the take-off stage, society is dominated by the constant desire to succeed economically in order to enhance living standards. The stage is characterized by the following;

1. In both agriculture and industry, revolutionary developments are happening, and productivity levels skyrocket. The urban population is growing, as is the urban labour force so, the ratio of investment to national income must climb to a level that can keep up with expected population growth.

2. The time span in which the basic structure of the economy as well as the social and political structures are modified must be brief (a decade or two) in order to demonstrate the characteristics of an economic revolution.

3. It has to result in economic growth that is self-sufficing and organic.
   (Information summarised from economicdiscussion.net, 2022)

Stage 4: Drive to Maturity

Here, stability in the economy and happens when the economy reaches a point where its systems are efficient enough to generate organic and cyclical growth through increased rates of savings and investment. As the structure of the economy changes increasingly, the overall capital per head increases. Diminishing returns set in the key industries which sparked the take-off, but the mean growth rate is supported by a chain of new fast emerging sectors. The cyclical

movements of national income in this stage in an economy is the background for most of modern theoretical economics. (economicdiscussion.net, 2022)

Stage 5: High mass Consumption.

Developed economies in this stage flourish in a free market economy, characterized by mass buying and selling of high-value consumer goods. (Jacobs, 2020)

Rostow's model was generally criticized for not providing definitions clear-cut enough to distinguish the actual growth history of various countries. (Tsiang, 1964)**.**

2.3.2 The Harrod Dommer growth Theory

The Harrod-Domar model explains economic growth rate as primarily a function of the level of savings and capital. The key assumptions of this model can be summarized as follows;

1. Output of a country is determined by the capital stock and as such capital is necessary for output.
2. The marginal product of capital is constant and the change in the capital stock is the difference between investment and the depreciation of capital stock
3. The Investment equals savings (which is a product of the savings rate by the output.)

   The model, which is based on Keynesian theory, assumes that markets evolve as a result of investments, and that increases in GNP are a result of physical capital investment. As a result, the output function is linear.

   (Information summarised from wikipedia, 2022)

$$Y_t = aK_t,$$

where Y is the output, K capital supply, MPK is the marginal product of capital.
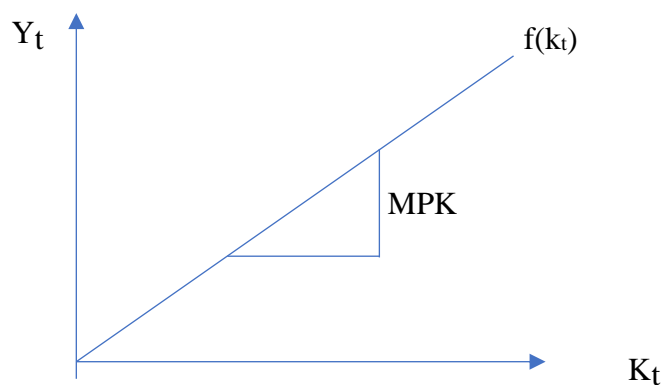
Source: own editing.

Accordingly, in the long run, a growing economy must demonstrate both increased demand and increased productive capability and in result, the equation for warranted equilibrium growth reveals a direct corelation between the economy's growth rate anchored on investment and the inclination to save, as well as capital efficiency. (Keita, 2016). Low rates of economic growth in underdeveloped nations are caused by a lack of savings, which leads to a vicious cycle of low investments and low outputs. As a result, increasing savings domestically or from abroad is required to enhance economic growth. Increased savings produce a virtuous loop of self-fuelling economic growth. (Pettinger, 2019).

The Harrod-Domar model was created as an economic explanation to business cycle fluctuations, but has since been also extended to address the paradox of economic growth in resource-rich, yet less developed countries. Its implications were that the amount of labour and capital available determines economic growth; greater investment leads to capital accumulation, which leads to economic expansion. (Pettinger, 2019). Similar to Keynesian assumptions, the conclusion remains that an economy does not immediately achieve maximum employment of resources or entirely stable growth rates. Economic growth is reliant on policies that encourage investment by increasing savings and putting that money to better use through technological advances.

For a variety of reasons, the model has been heavily criticized. Particularly relevant of the various criticisms to the economy in Anglophone West Africa, and West Africa as a region, is on the Endogeneity of savings. Savings is arguably the most crucial parameter in the Harrod-Domar model. The amount of savings in any country is largely determined by how much influence policymakers have over the economy. There are various reasons to assume that the total level of per capita income in a society, as well as the distribution of that money throughout the people, also influence the rate of savings. The question is posed. Should savings be considered as a policy variable that can be easily manipulated? (Liquisearch,com, 2022) Critics further say that the model conflates economic growth and development; however, economic growth is merely a compartment of development in reality. (Pettinger, 2019). Another critique is that the theory suggests that underdeveloped countries borrow to finance capital expenditure in order to stimulate economic growth; yet, history is evidence that this frequently leads to refund issues afterwards. (Liquisearch,com, 2022). Case in point; the high debt-GDP ratio of Ghana as discussed earlier.

2.3.3 The two-gap model

Chenery and Strout (1966) extended the Harrod-Domar model to explain that economic growth in developing countries is limited by two gaps; one between its domestic savings and investment, and another in its Balance of Payments or a foreign exchange gap. The rationale behind this model is as follows; A country that wants to improve its economy must be able to meet all of the criteria for rapid growth with its local resources or imports paid for by exports. Success requires that skills, export gains and local savings rise simultaneously, as well as proper allocation of these additional resources to meet the shifting needs that come with rising income levels. Even if the others have been highly successful, failure in one of these attempts can frustrate the attempt to raise output. When growth is constrained by a few bottlenecks, other resources like as labour, natural resources, and specific types of productive capacity are likely to be underutilized. Foreign assistance can help to alleviate these limits, allowing for more efficient use of domestic resources and thus faster growth. Some possible bottlenecks, like as skills, funds, or foreign exchange, can be temporarily alleviated by bringing in external resources that do not require immediate payment. Other resources can therefore be used more efficiently, allowing overall output growth to exceed the rate of expansion of the most limiting domestic component. Chenery and Strout (1966). The two-gap model was developed in two steps to show the role of aid in the transition to sustained growth; *The investment limited growth* which takes root in the Harrod-Domar model where savings is the resource limit to achieving sustained growth. The second step includes possibilities of when the Balance of payments limit is effective, identified as the *Trade limited growth*. The comprehensive expression of the model can be given as;

1) $V_{t+1} = V_t + (1/k)I_t$

Two gap analysis;

(2) $V_t = S_t + C_t$

(3) $S_t = I_t - F_t$

(4) $S_t \leq \dot{s}_t = S_0 + \alpha' (V_t - V_0)$

(5) $F_t = \max\{I_t - \dot{s}_t, \dot{M}_t - E_t\}$

(6,7) $F_t = I_t - S_t = M_t - E_t$

(8) $E_t = E_0(1 + \varepsilon)^t$

(9) $M_t \geq \dot{M}_t = \dot{M}_0 + \mu'(V_t - V_0)$

(10) $I_t \leq (1+\beta)I_{t-1}$

(11) $V_t \leq (1+\dot{r})V_{t-1}$

Where;

V_t = Gross National Product in year t

I_t = Gross Investment

St = Gross domestic savings

$\dot{s}_t$ = Potential gross domestic savings (maximum amount of domestic savings potentially available at the income level of V_t.

M_t = Imports of goods and service

$\dot{M}_t$ = Required imports of goods and services (Minimum amount of imports required for supporting the output level of V_t.

E_t = Exports of goods and services

F_t = Net inflow of foreign capital

C_t = Consumption

$\dot{r}$ = Target rate of growth of GNP

α'= Marginal savings rate ($\Delta\dot{s}/\Delta V$)

β = Maximum rate of growth of investment

k = Incremental gross capital-output ratio $\{\Delta\dot{M} / \Delta V\}$

μ' = Marginal import rate (AM/A7)

ε = Rate of growth of exports.

The crux of the two-gap methodology is embodied in equations (5) and (11). The higher of (I_t-$\dot{s}_t$.) or ($\dot{M}_t$-E_t) should be used to determine the required quantity of capital inflow in line with Equation (5). According to Hjertholm et al (1998), The gaps are not additive: In the sense that Aid fills both of them at the same time. The non-binding gap is "over-filled" if the larger gap is filled and if aid is insufficient to close the greater of these gaps, the targeted growth rate will be impossible to achieve. Chenery and Strout's two-gap approach's guiding principle is that the requisite volume of foreign aid is determined in order to achieve full GNP growth. The quantity of foreign aid is defined by the active gap coherent with the GNP growth rate that is the practicable maximum under the absorptive capacity constraint when the desired growth rate cannot be obtained due to the absorptive capacity restriction. (Ezaki, 1975)

In conclusion, the two-gap model suggests that foreign aid will be beneficial to growth by augmenting domestic savings, export profits, and consequently government revenue. The empirical record of foreign aid, on the other hand, appears to be more varied, and a variety of macroeconomic complexities have been proposed in the literature to explain why there isn't necessarily a one-to-one link between aid and economic performance. (Hjertholm et al, 1998)

2.4 EMPIRICAL LITERATURE
This section reviews some of the extensively recognised literature on the correlation between foreign aid and economic growth under several economic policies.

2.4.1 Aid-growth relationship
Based on existing literature, the answer to whether foreign aid is effective towards economic growth is not unanimous. While a lot of studies established that foreign aid has a significant bearing on economic growth, Kraay and Radelet (2005) determined that aid has a good influence in some countries but not in others, and that its efficacy on growth may be affected by the type of aid, donor policies, how it is funded, time horizon, as well as the recipient country's policies and institutional framework, time horizon, as well as the policies and institutional environment of the recipient country.

In order to establish the quantity of foreign aid necessary to attain a target growth rate, Chenery and Strout (1966) undertook a theoretical and empirical study of foreign aid from the two-gap perspective, including an examination of the absorptive capacity limit. As a result, in order to achieve and sustain the continuous goal rate of growth, the majority of today's emerging countries will go through three phases. Phase 1, when the absorptive capacity limit and one of the two gaps are in effect, Phase 2, when the Investment-Savings gap is dominant, and Phase 3, when the Imports-Exports gap is considerable, are the three stages whose order was determined empirically. (Ezaki, 1975). According to Chenery and Strout 1966, in order to raise their per capita GDP, most developing countries rely substantially on external resources. Over the last few years, the institutional structure for this resource transfer has shifted dramatically. Foreign assistance programs have largely supplanted colonial relations, and private investment, which now accounts for barely a quarter of overall resource flow, is progressively scrutinized for its influence on the development of the beneficiary country. As a result, the inflow of external resources—what is loosely referred to as "foreign assistance"—has effectively become

a separate element of production, whose productivity and allocation pose one of the major difficulties for current development theory. (Sameem, 2013).

Burnside and Dollar (2000) use ordinary least squares and two stage least squares approaches on panel data from 56 nations for six four-year time periods from 1970-73 to 1990-93, to examine the connection between of foreign aid, economic policy, and economic growth (Per Capita GDP). They built a model based on the Harrod-Domar theory, which assumes a stable linear relationship between investment and growth, and then added a weighted index of policies to it. The index is composed of: fiscal policy (represented by a budget surplus as defined by Easterly and Rebelo in 1993), monetary policy (inflation rate as defined by Fischer in 1993), and trade policy (as defined by Sachs and Warner in 1993, 1995). In addition, their model contains a number of exogenous variables. The findings suggest that foreign aid effectiveness is linked to the quality of economic policies and state institutions., and that foreign aid has a positive impact on economic growth in developing countries with sound fiscal, monetary, and trade policies, but has little impact when poor policies are in place. Their general theory regarding foreign aid is that it has an impact on growth, but that it is conditional on the same policies that have an impact on growth.

Foreign aid, they argue, works like a revenue transfer that may or may not result in growth. The investment or consumption of aid determines the outcome. It will be effective in fostering growth to the extent that it is invested. This demonstrates why foreign aid isn't always effective in supporting economic growth but when used for investment, foreign aid is usually effective. They also point out that removing the aid-policy interaction term from the equation yields estimates that are never statistically significant. When the policy effect is added, their studies consistently find that aid achieves its objectives better in a good policy environment as compared to a bad one. Whether or not outliers are included, and whether or not middle-income countries are included, the conclusion remains the same. They also discovered no evidence of a trend toward giving more aid to countries with successful programs. Donor interests appear to influence bilateral aid, whereas multilateral aid is based on income, population size, and policy. Bilateral aid, and other forms of aid which incline to donor interests are closely linked to government consumption, while multilateral aid is often allocated in favour of excellent policies.

Collier and Dollar (2002) embrace Burnside and Dollar (2000)'s thesis, but add However, foreign assistance's success is affected not only by the effectiveness of economic policy environment, but also by the level of poverty. They test their hypothesis using several forms of sensitivity analysis after adding three more policy-related variables to a non-linear growth model, and using an extended panel data sets for averages of four years of 56 nations spanning the years 1974-77 to 1994-97. Inflation rate as a monetary policy indicator (Fischer 1993), government consumption as a fiscal policy indicator (Easterly and Rebelo 1993), and exports plus imports as a measure of trade openness (Frankel and Romer 1999) are the supplementary variables. However, none of these variables offers any additional information, and the outcomes are nearly identical. (Sameem, 2013). They go on to create a poverty-efficient aid allocation model and compare it to actual aid allocation. In their view, to make foreign aid more effective in reducing poverty, governments must reallocate resources to equalize their marginal productivities.

Furthermore, their findings support Burnside and Dollar's (2000) conclusions in the enlarged sample of a positive and substantial aid policy interaction term. According to their research, far-reaching poverty is required for assistance to have a greater impact, and effective economic policy assures that it has a positive influence, so aid should be distributed to nations with huge amounts of poverty to lessen poverty. Burnside and Dollar's findings were further expanded upon by Collier and Dollar (2002). (Sameem, 2013)

The Burnside and Dollar (2000) research contains two flaws. To begin, they limited their policy evaluations to three easily quantifiable macroeconomic metrics. It's hard to believe that these are the only policies that matter when it comes to growth. Collier and Dollar (2002) utilize the World Bank's Country Policy and Institutional Assessment as a measure of the policy environment to address this. This index consists of 20 equally weighted components that address macroeconomic challenges, structural policies, public sector management, and social inclusion policies. Second, Burnside and Dollar (2000) only looked at 275 nations, so they can't provide comprehensive advice on aid allocation. Collier and Dollar (2002) use a bigger data set (349 observations) to address this issue. They find the aid-policy interaction term to be positive and statistically significant using the ordinary least squares approach. This demonstrates that Burnside and Dollar's (2000) findings are robust to the addition of extra data. Furthermore, when it comes to poverty-efficient aid allocation, they assess that for a given level

of poverty, aid is positively related to strategies in a in bad and moderate policy environments, and negatively corelated to policies in moderate or good policy climes.

They conclude that if foreign aid were allocated more efficiently, its productivity in boosting economic growth would nearly triple. Their suggestion is, just as policy improves to the point where aid is proven to be positively impactful, aid should be slowly removed from the system. They differentiate real aid distribution from poverty-efficient distribution in that poverty efficient allocation requires the amount of aid to consistently rise in response to policy reform and vice versa for real aid allocation.

Hansen and Tarp (2001) employed the generalized method of moments (GMM) estimator on two separate samples: a total sample of 56 nations and a sub-sample of 45 countries, to show that foreign aid is successful with or without good economic policy environment. Foreign aid, they conclude, will produce results irrespective of the policy environment in which it is employed. The findings show a positive and statistically significant association between aid and growth, as well as diminishing aid returns. Furthermore, Hansen and Tarp (2001) show that the choice of estimator matters a lot when using the model to make policy suggestions by comparing the findings from OLS and GMM for both samples. As a result, caution should be exercised when using the model to make policy recommendations. (Sameem, 2013) Aid, they continued, has an impact on growth because it increases investment. When Investment and human capital parameters are added to the model, the results showed that aid is inconsequential to describing the behaviour of growth. Prior aid-growth studies by Burnside and Dollar (2000) and others were criticized for having narrowly defined model specifications, therefore Hansen and Tarp (2001) use a more robust empirical model that includes quadratic aid and policy factors, as well as aid-policy interaction variables.

For four separate time period samples from 1960 to 2000, Rajan and Subramanian (2008) use the fundamental ordinary least squares technique to examine all developing nations that received aid throughout the post-war period. The model took into account the independent variables used in the studies of Burnside and Dollar (2000), Collier and Dollar (2002), and Hansen and Tarp (2001) papers, further added measures of geographical setting, health, and separate instead of a composite measure for the vector of policy measures including (imports-exports, inflation and balance of trade). The findings show in both the short and long run, the association between foreign aid and growth is a negative one.

Their finding holds true across five distinct time periods, aid sources, and aid categories. Due to the risk of endogeneity affecting the results, a new instrumentation technique to measure the aid-growth relationship is used, as well as a different set of explanatory factors, including a measure of colonization. Justified by their assumption that donors are more likely to tend towards providing aid based in history and influence rather than for economic reasons, they model aid distribution using donor-related factors rather than recipient-specific characteristics If the donor has stronger historical ties or seeming influence on a recipient, the more like the donor is to fund development aid to the country. They replicate the interplay between relative size and colonial history to capture such historical connections through colonial ties and shared languages.

The unique instrumentation technique, according to model estimates, explains a majority of what the donor decides to allocate. Using the new model specification and 17 cross-section data, they find that the coefficient of aid is statistically negligible in the three long run periods of 1960-2000, 1970-2000, and 1980-2000, whereas it is negative and substantial in the period 1990-2000. They also tested their findings with other aid changes based on motives, donor kinds, aid objective, and impact time, but the outcomes were nearly same. They also emphasize that fungibility is a challenge with drawing distinctions across aid types. If aid is fungible, separating it into good and bad subcategories is pointless. Rajan and Subramanian (2008) also discover that the outcomes of aid remain mostly unchanged when utilizing both types of AB and BB GMM estimators for panel data specifications. As a result, they come to the conclusion that there is little evidence of a systematic beneficial association between foreign aid and economic growth.

Arndt et al. (2010) evaluated Rajan and Subramanian's results and concluded that, in the long run, foreign aid has a positive and statistically significant causal effect on economic growth. By creating a superior approach, model specification, and preferred estimator and following the data samples used by Rajan and Subramanian, their findings validate the assumption that foreign aid has a positive impact on economic growth in long run data samples from the 1960s and 1970s (2008). While discovering a systematic aid-growth relationship in small data samples from 1980 to 2000 and 1990 to 2000 is difficult, the long term evidence is sufficient to support the effectiveness of aid.

Mallik (2008) used co-integration analysis to assess the impact of foreign aid on economic growth in the six least developed and most aid-dependent African countries: Central African Republic, Malawi, Mali, Niger, Sierra Leone, and Togo. The empirical conclusion reveals that the natural log of foreign aid as a proportion of real GDP has a significant negative long-term influence on the natural log of real GDP per capita in five of the six nations studied. With the exception of Niger, aid expansion has no meaningful effect on economic development per capita in the short run. On the surface, these unfavourable results appear to show that international aid has a long-term negative impact on these countries' living standards.

Ekanayake and Chatrna (2010) used a panel data series on foreign aid to test the premise that foreign aid can help developing countries grow. The effects of foreign aid on developing country economic growth were studied using annual data from a group of 85 developing countries covering Asia, Africa, Latin America, and the Caribbean from 1980 to 2007, while taking regional disparities and income levels into account. When the foreign aid variable is analysed for different time periods, in three out of four situations, it shows a negative sign. Indicating that foreign aid appears to have a negative impact on economic growth in developing countries. Furthermore, in none of the four cases was this coefficient statistically significant. Second, the foreign aid variable showed a negative sign in three out of four scenarios when the model was estimated for different areas, demonstrating that foreign aid appears to have a detrimental impact on economic growth in developing countries. On the other hand, this variable is positive for Africa, indicating that foreign aid has a favorable impact on African countries' economic growth. This is to be expected, given that Africa receives more international assistance than any other continent. Finally, the foreign aid variable showed a positive sign in three out of four cases when the model was estimated for different income levels, demonstrating that foreign aid appears to have a positive effect on economic growth in developing nations. For low-middle-income countries, this variable is negative, indicating that foreign aid has a negative impact on economic growth.

Jones (2013) used panel cointegration techniques to test the foreign aid-led growth hypothesis in a group of West African countries. Long term association is discovered between aid and growth through the results of the panel cointegration At least one test for each country revealed evidence of this long-term link. The study conducted a panel-wide and individual granger causality tests to determine the direction of causality between foreign aid and economic growth. The findings showed that there exists unidirectional causality among the variables, as well as

occasions where both factors are independent. The study went ahead to examine the impact of foreign aid and chosen explanatory variables on economic growth in nations where foreign aid was found to granger cause growth using simplified version of the Chenery and Strout Two-Gap Model. The impact was found to vary on a case-by-case basis.

Wamnoye et al (2014) used System Generalized method of moments to investigate the impact of the quantity and quality of foreign aid on economic growth based on a country's legal origin, on two data sets while controlling for various growth determinants. The samples included 32 African Least Developed Countries with data spanning 1975 to 2010, and 20 countries over the period 1987-2010 with more detailed data on governance covering ethnic fractionalization, bureaucracy quality, corruption, law and order and democratic accountability. The study specified two models for testing; The first entered the variables as standalones, and as a further stage, included dummy variables to introduce the legal origins of the countries' governance. (French or English colonialism). The results showed that 10% increase in the initial share of ODA in GDP, or a 10% increase bilateral aid boosts growth for the subsequent four years in both former French and British colonies, but observed diminishing marginal effects on growth when ODA is doubled. The effect of multilateral aid is beneficial only in countries of British legal origin and neutral in those of French. The study concludes that the importance of strengthening market enhancing governance in these countries should not be ignored.

Using fixed effects panel data analysis, Tait et al (2016) empirically assessed the impact of foreign aid on Sub-Saharan Africa from 1970 to 2012. In addition to the standard growth equation, the model used here incorporates variables derived from the new growth theory to reflect socio-political aspects and governance indicators such as freedom, initial life expectancy, and conflict, as well as exports and interest repayments on external debt. The study's findings show that aid had a considerable positive long-term influence on per capita GDP growth within the time period studied. Aid has a significant positive effect that is neither subject to declining marginal returns nor dependent on the country's level of freedom. Furthermore, when aid commitments are decomposed by sector, certain sectors are identified as having a greater impact on growth from 1995 to 2012. Accordingly, Aid for social infrastructure, particularly education and health, as well as general budget support, has a considerable positive impact on GDP.

Bundhoo and Tang (2017) using the pooled OLS, fixed effects, random effects, first difference estimator and two-stage least square methods, tested the impact of foreign aid on economic growth on panel data of Sub-Saharan Africa's ten largest recipients of foreign aid for a period spanning 1990-2012. The model included a policy index based on six variables from the World Bank's governance indicators database, similar to the method taken by Burnside and Dollar (2000). Corruption Control, Government Effectiveness, Political Stability and Absence of Violence/Terrorism, Regulatory Quality, Voice and Accountability, and Rule of Law were the six indicators. They were included to account for the impact of institutional issues such political stability, government quality, and corruption levels. According to the research, aid has little impact on economic growth on its own. On the other hand, the interaction of the variable foreign aid with the policy index was found to be statistically significant and positive, indicating that aid tends to improve growth rates in a good policy environment. When the institutional quality index and its interaction term were included in the model, it was discovered that institutional quality has a positive and significant impact on growth, although none of the other components do. The two-gap growth model, which claims that foreign aid boosts investment and imports, was also tested. Foreign aid, according to the research, is an effective way for these ten countries to augment their investment and import needs. Foreign aid is contingent on the receiving country's economic, political, and institutional conditions, which may explain why aid efficacy is low in Sub-Saharan Africa, where bad governance is a major issue.

Yiew and Lau (2018) empirically explored the role and the impact of foreign aid on economic growth on a sample of 95 developing countries and included population and Foreign Direct Investment as the regulatory variables. The results from the panel data analysis showed that a U-shaped correlation exists between foreign aid and economic growth. Initially, the relationship is negative, and foreign aid leads to downward movements in economic growth. Over some time, the relationship begins to change and foreign aid contributes positively to economic growth. The study concludes that FDI and Population are more pertinent to the behaviour of GDP, and the overdependence of developing countries on the inflows of development aid may lead to negative impacts on the growth as a whole. As for the achievement of the Sustainable Development Goals, strengthening of their legal frameworks and effective management of foreign aid is necessary for realization.

Lanxi (2021) used the Makiw-Romer-Weil version of the Solow model using individual and panel data to see if foreign aid has a favorable influence on the economies of Indonesia, Malaysia, and the Philippines over a 19-year period from 1990 to 2019. According to the research, has a negative long-term influence on growth but no short-term effect.

2.4.2 Foreign Aid and the poverty trap.

The poverty trap refers to a situation in which an economic system requires but lacks a significant amount of capital which is necessary for it to escape poverty. The difficulty in acquiring this capital, which results from a lack thereof and other market and institutional failures, creates a self-reinforcing loop of poverty. One of the most basic and well-known poverty-trap mechanisms, according to Ben-David (1998), is the link between extreme poverty and poor domestic saving and capital accumulation, as well as low or negative productivity growth. While economists agree that ongoing economic growth is essential for reducing extreme poverty, the notion that a major increase in foreign aid to Sub-Saharan African countries is required to sustain such progress is disputed. Friedman 1958; Bauer 1971; Easterly 2006b; Riddell 2007; Friedman 1958; Bauer 1971; Easterly 2006b; Riddell 2007). According to Snowdon (2010), several countries (such as the United Kingdom and the United States) have eradicated poverty through sustained prosperity with little or no external assistance.

Pham and Pham (2017) examining a country receiving aid to finance its public investments find that the effectiveness of aid is conditional upon the recipient country's initial situation. The results show that if the recipient has a high quality of circumstances (autonomous technology, government effort in financing public investment, fixed cost and efficiency of public investment, corruption in the use of aid), development aid may be able to assist it in achieving economic growth, regardless of the initial capital. Only if aid flows are sufficiently high would the recipient country be able to escape the poverty trap in low-quality circumstances. Aid may assist the receiver in lowering the threshold for economic take-off in intermediate conditions compared to low circumstances, implying that the recipient's chances of escaping poverty are better, but there is still a chance that the recipient's economy will converge to a middle-income trap or fluctuate around it.

In Kray and Raddatz (2005) The implications of low saving and low productivity at low levels of development, the two main mechanisms that generate poverty traps in aggregate growth models, were investigated, and no evidence of threshold effects, where sufficiently high levels

of aid are required to "jump-start" a sustainable growth process, was found. According to the findings, saving rates and productivity indeed increase with income levels, but not in the nonlinear way that is required to establish poverty traps. Because of these processes, the poverty-trap approach to foreign aid produces counterfactual predictions for the relationship between aid, investment, and growth. This violates the widely held idea that large increases in aid will have disproportionately negative effects on the economic growth of low-income countries.

CHAPTER 3
EMPIRICAL ANALYSIS

3.1 Framework

This study has two empirical objectives in analysing aid and growth. First, to estimate the long-term effectiveness of foreign aid on economic growth in Anglophone West Africa from 1990-2019, and secondly, to determine the impact of sectoral aid on economic growth in the region from 2002-2019.

From the wide literature reviewed on aid effectiveness, three general types of aid-growth relationships are represented in in figure 3.1. The Accumulation structure, describing the effect of foreign aid on savings and investment, and the subsequent effect on Growth, the Growth direct structure which is a direct influence of aid on growth, and the conditional structure; which accounts for the likely endogenous nature of the aid-growth relationship as a result conditions external to the model. This study investigates the aid-growth hypothesis in Anglophone West Africa through the estimation of model A and C.

Figure 3.1 Aid-Growth relationships in the three structures
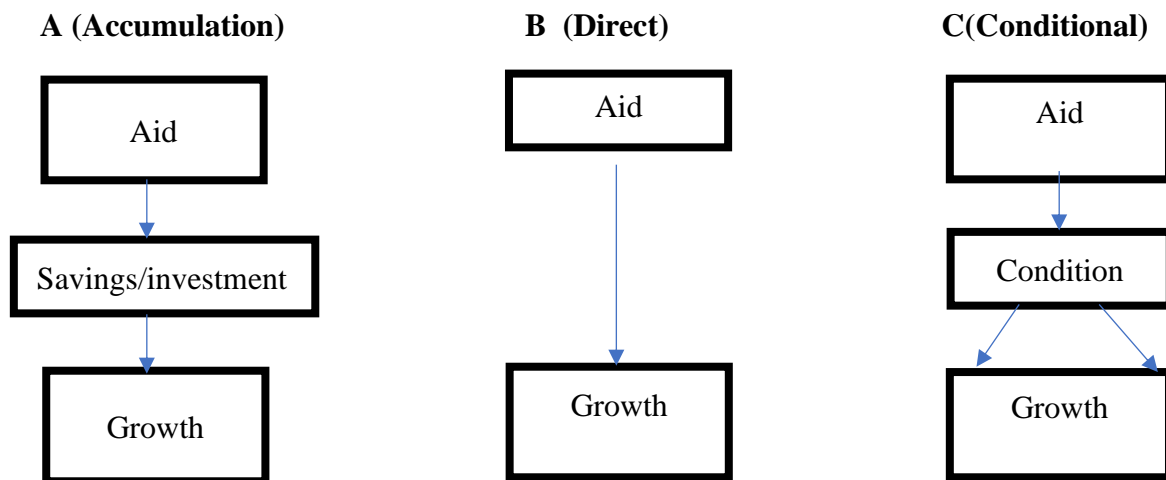
Source; created by author from Doucouliagos and Paldam (2008)

3.2 Long-Term impact of Aid on Growth

3.2.1 Framework and Model Specification

In order to estimate the effect of foreign aid on economic growth, this research adopts the Harrod-Domar model and the Chenery and Strout (1966) two-gap model. In line with the aforementioned models, the aid-growth relationship is facilitated through savings and investment. In this study, the model for checking the impact of foreign aid on growth is estimated by the following equation:

$$GDP_{it} = \alpha_t + \beta_1 lab_{it} + \beta_2 sav_{it} + \beta_3 faid_{it} + \beta_4 gdp_{i0} + \beta_5 fdi_{it} + \beta_6 inf_{it} + \beta_6 faid^2_{it} + \varepsilon_t. \qquad (3.1)$$

3.2.2 Description of Data and Variables

In this section, the variables of interest(it) are Gross Domestic Product (GDP), which is used as a proxy for economic growth and output, and is consistent with several aid studies.

Foreign aid, in this case, Net Official Development Assistance (ODA), can have a beneficial or negative impact on economic growth, according to prior studies. The empirical literature reveals that the influence of aid on growth is dependent on a number of underlying factors, including but not limited to the components of aid flows, the country's institutional structures, and the quality of its policies, the presence of the Dutch Disease, Aid fungibility and other conditionalities imposed by donors

To account for convergence and initial country conditions, initial GDP is included. According to Gyimah-Brempong (1992), this variable is especially important when examining a sample of developing countries since countries with differing degrees of economic development are expected to have varying capacities to utilize resources in order to achieve economic growth. The GDP figure in the year preceding the period under consideration is used as the variable.

Other indicators include aid squared (as a percentage of GDP) to demonstrate the long-term link, population as a proxy for labour supply, domestic savings as a proxy for capital stock, and Foreign Direct Investment. t is a linear trend with a coefficient, t. is the error term, and is the long run coefficient. With the exception of National Savings, all of the variables are in natural logarithmic form to eliminate any early heteroscedasticity issues and to allow for more realistic comparisons stated as fractions of each country's GDP. The National savings data collected for the countries in view showed some Negative values and as such, could not be logged to remove heteroscedastic issues.

The estimation uses unbalanced Panel Data from the World Bank's World Development Indicators database. The sample consists of five nations in Anglophone West Africa. This sample is especially relevant to the argument over foreign assistance-led growth in developing economies because it includes both large and small economies from one of the world's least developed areas, which gets a significant amount of foreign aid each year. The study period is

quite long, at twenty-nine years where the data is available. Further details on the countries included in the sample and the availability of data, as well as Variable descriptive statistics are provided in the appendices.

3.2.3 Methodology

This study makes use of the Eviews 11 econometrics software package to carry out regression analysis and to perform various tests on the model estimated. Cointegration analysis is done for the panel of Anglophone West African countries to show the causal relationship between aid and growth.

The panel data was initially evaluated for unit root to ensure that the individual variables' times series behaviour was accurately approximated and to establish the sequence of integration of the variables. The Levin-Li-Chu test is used to determine whether the variables in the panel have a unit root. The Im, Pesaran, and Shin (1997) test for integration is used to confirm the Levin-Lin-Chu test results since panel data boosts the predictive potential of testing. To confirm, the Augmented Dickey Fuller Test and the Phillips Perron Test are used. This is significant because if the variables in a model are not stationary, the conclusions and analyses based on them are likely to be deceptive.

3.2.4 Empirical results

Table 1 presents the four different types of panel unit root tests adopted for this study. These unit-roots are categorized under the first-generation panel unit root test. The results of the unit root tests as presented in Table 1 indicate that all the variables are integrated of order one implying that they are stationary at first difference. The result further allows testing for cointegration to check whether there exists a long-run relationship among the variables or not.

Table 3.1: Panel Unit Root Tests

		At Level		At 1st Difference	
Variable	**Unit Root**	**Statistic**	**P-value**	**Statistic**	**P-value**
GDP	Levin-Lin-Chu	-3.28157	0.0005	-7.30616	0.0000***
	Im-Pesaran-Shin W-stat	-3.42234	0.0003	-9.55808	0.0000***
	ADF - Fisher Chi-square	31.2830	0.0005	86.5329	0.0000***
	PP - Fisher Chi-square	58.1338	0.0000	122.111	0.0000***

LAB	Levin-Lin-Chu	-2.47464	0.0067	-9.18771	0.0000***
	Im-Pesaran-Shin W-stat	-0.20894	0.4172	-11.5453	0.0000***
	ADF - Fisher Chi-square	10.1772	0.4251	93.0693	0.0000***
	PP - Fisher Chi-square	27.2376	0.0024	27.2904	0.0023***
SAV	Levin-Lin-Chu	-0.24215	0.4043	-5.73564	0.0000***
	Im-Pesaran-Shin W-stat	0.41373	0.6605	-5.92482	0.0000***
	ADF - Fisher Chi-square	6.50043	0.5914	47.8579	0.0000***
	PP - Fisher Chi-square	14.8287	0.0626	113.076	0.0000***
FAID	Levin-Lin-Chu	-0.20864	0.4174	-5.98704	0.0000***
	Im-Pesaran-Shin W-stat	0.64152	0.7394	-6.56180	0.0000***
	ADF - Fisher Chi-square	5.18270	0.8786	58.9520	0.0000***
	PP - Fisher Chi-square	7.21471	0.7050	100.730	0.0000***
$FAID^2$	Levin-Lin-Chu	-1.90651	0.0283	-5.61467	0.0000***
	Im-Pesaran-Shin W-stat	-3.12316	0.0009	-7.45740	0.0000***
	ADF - Fisher Chi-square	28.1873	0.0017	67.2756	0.0000***
	PP - Fisher Chi-square	56.3121	0.0000	137.534	0.0000***
FDI	Levin-Lin-Chu	-1.38605	0.0829	-6.38291	0.0000***
	Im-Pesaran-Shin W-stat	-1.65377	0.0491	-6.30534	0.0000***
	ADF - Fisher Chi-square	16.4750	0.0868	57.2431	0.0000***
	PP - Fisher Chi-square	19.7253	0.0320	122.267	0.0000***
INF	Levin-Lin-Chu	-1.34296	0.0896	-3.73198	0.0001***
	Im-Pesaran-Shin W-stat	-1.83760	0.0331	-4.80999	0.0000***
	ADF - Fisher Chi-square	19.4430	0.0350	46.1262	0.0000***
	PP - Fisher Chi-square	20.7165	0.0232	86.6916	0.0000***

Note: *** and ** denote 1% and 5% significance levels. Source computed by the researcher using Eviews 10 (2021)

A negative significant coefficient on the lagged dependent variable indicates the presence of cointegration. The lagged variable is useful in predicting current movement of the dependent variable if it is statistically significant. As a result, the coefficient of lagged GDP is the key term here. A simplified version of the Chenery and Strout's Two-Gap Model is used to estimate the impact of aid in these nations which was stated in the model specification earlier.

Further from the unit root tests, the study conducted test for cointegration (long-run relationship) among the variables using the procedure developed by Pedroni and the result is presented in the table below;

Table 3.2: Panel A: Pedroni residual-based test co-integration with no deterministic trend

Alternative hypothesis: common AR coefs. (within-dimension)				
			Weighted	
	Statistic	p-value	Statistic	p-value
Panel v-Statistic	-2.568769	0.9949	-2.553146	0.9947
Panel rho-Statistic	0.543146	0.7065	0.490792	0.6882
Panel PP-Statistic	-3.707804	0.0001	-2.369047	0.0089***
Panel ADF-Statistic	-3.760487	0.0001	-2.452637	0.0071***

Alternative hypothesis: individual AR coefs. (between-dimension)		
	Statistic	Prob.
Group rho-Statistic	1.452830	0.9269
Group PP-Statistic	-3.526868	0.0002***
Group ADF-Statistic	-4.160431	0.0000***

***; **; * indicate statistical significance at 1%; 5% and 10% levels respectively

The results of the Pedroni residual-based test for co-integration with no deterministic trend in Table 2 provide evidence to support the existence of cointegration both in the within-dimension and between-dimension. For the within-dimension, the results showed that two of the test statistics; panel PP-Statistic and panel ADF-statistic together with their weighted scores are statistically significant, implying the existence of in the within-dimension. Similarly, for the case of between-dimension, the group PP-statistic and group ADF-Statistic are all statistically significant. Given that most of the test statistics are statistically significant, it is enough to conclude that there exist cointegration in the model.

Furthermore, the aid-growth regression with traditional growth variables over the period 1990-2019 is presented in Table 3.3 below;

Table 3.3: Aid-Growth Regressions with Traditional Growth Variables, 1990-2019

Dependent Variable = GDP growth rate			
Variables	Coefficient	Std. Error	P-value
LAB	2.146665	1.213367	0.0820*
SAV	-3.89E-12	4.14E-11	0.9255
FAID	-1.610881	1.318205	0.2266
FAID^2	-93.36764	60.84602	0.1303
GDP_0	-26.22384	23.77608	0.2745
FDI	0.192166	0.164429	0.2472
INF	-0.015512	0.153876	0.9200
Constant	49.18721	51.98588	0.3479
Countries included	5		
Method	Panel LS		
Adjusted R2	0.160100		
F-Statistic	1.606634		
Prob(F-statistic)	0.151384		
Durbin-Watson stat	1.800151		

***, ** and * represent significance at the 1%, 5% and 10% levels respectively.

Table 3.2 presents the results obtained from the regression of growth rate against a number of control variables which are usually present in growth interaction models. Over the period 1990-2019, Aid has a negative effect in its relationship with growth when interacted with these other variables. Aid squared is also found to be with negative impact on growth, indicating that the impact of aid on the selected countries can be far more detrimental to growth in the long run if uncontrolled.

Over the period, Labour supply is shown to have significant positive relationship at the 10% level with economic growth. The coefficient of savings in the results suggests a negative relationship with growth, which can be explained by the large presence of dissaving in the data of these countries.

The r^2 value indicates about 16% of the variations in the dependent variable are explained by the joint effect of the explanatory variables and about 84% of its variations are explained by

factors outside the model. Given the probability F-statistic of 0.15 which is above than the 5% level, the conclusion therefore is that foreign aid has no significant effect and is not a strong determinant of GDP growth in the region.

3.3 Impact of Sectoral Aid on Growth

This component of the empirical research contributes to the literature on disaggregated aid-growth, which looks at the influence of various types of aid on Economic growth. This analysis uses recently available data to evaluate the impact of earmarked sectoral aid, or aid designated for a specific purpose, on growth from 2002 to 2019 in the Anglophone West African countries in view.

3.3.1 Model Specification

The model for checking the impact of sectoral aid on growth is estimated by the following equation:

$$Y_{it} = \alpha_0 + \alpha_n N_{it} + \alpha_x X_{it} + \alpha_P P_{it} + \varepsilon_{it} \tag{3.2}$$

where Y_{it} is per capita GDP growth for period t, N_{it} is a vector of variables of interest, X_{it} is a vector of variables included in the growth equation, and P_{it} is a vector of variables derived from the new growth theory.

3.3.2 Description of Data and Variables

The dependent variable in this model is GDP per capita growth rate, to account for population growth and measure the real annual increase in GDP. The variable of interest is foreign aid, which is divided into seven sectors. Social Sector, Economic Sector, production sector, Multisector, Humanitarian Sector, non-sector allocable and Unallocated aid. Considering the homogeneity of aid, its effect on economic growth will depend on the type of aid received, and as such, the expectation of this study is that the impact will vary by sector. Aid aimed at financing investment, such as economic and production aid, is expected to have an immediate influence on growth. Longer-term aid to finance welfare and human capital needs, such as social infrastructure aid, is likely to boost GDP. During periods of poor or negative economic development, humanitarian aid, which includes emergency catastrophe relief, frequently increases. As a result, it is unlikely to boost economic growth in the short term.

Foreign Direct Investment, imports (as a percentage of GDP), which serves as one of the transmission mechanisms for aid in the gap model of growth, whereby aid can increase a recipient country's capacity to import capital goods necessary for investment, as well as initial GDP per capita for the period, and the population growth rate, which serves as a proxy for the growth rate of the labour force, are all included in the vector of traditional growth variables.

Exports as a percentage of GDP, initial life expectancy, inflation, and political stability as a measure of governance are among the variables derived from the new growth theory. Political stability is an institutional variable that evaluates the possibility of political instability or politically motivated violence, including terrorism, and was included to the model to improve its explanatory power. Imports and exports are indicators of the economy's trade openness, and they are expected to boost economic growth. The impact of inflation on growth is likely to be negative.

Data derived from the OECD Creditor Reporting System (CRS) on sectoral aid commitments is used to assess the impact of sectoral aid on growth.

3.3.3 Empirical results and discussions

Table 3.4 shows the results of the sectoral regressions. Foreign Direct investments and the level of trade openness measured by the imports and Exports have a positive impact on aid, though not significant. Initial Life expectancy has a negative effect on growth, and, population growth has a negative effect. Inflation had a very small, negative coefficient, which can be rounded to zero. Social infrastructure aid is positive but insignificant. General Unallocated aid and aid directed to the production sector also have a significant positive effect on growth. Aid provided for economic infrastructure, the humanitarian sector, non-sector allocable aid and the multisector showed a negative impact on growth, all not significant in the model.

Table 3.4: Sectoral Aid Regression, 2002-2019

Dependent Variable = GDP per capita growth rate.			
Variables	Coefficient	Std. Error	P-value
SOCAID	0.785359	1.590836	0.6237
ECOAID	-0.737561	0.866830	0.3989
PROAID	0.920477	1.281226	0.4758
MULSAID	-1.089017	1.656378	0.5139

HUMAID	-0.266258	0.400781	0.5095
NSALAID	-0.135656	0.678031	0.8422
UNALAID	0.665740	0.729540	0.3659
FDI	0.167974	0.216235	0.4409
IMPORT	0.009443	0.131067	0.9428
GDP_0	-0.002869	0.025284	0.9101
POPGR	-0.397824	7.771646	0.9594
INF	-0.055947	0.187431	0.7666
POLSTA	-1.913132	5.292391	0.7193
EXPORT	0.209214	0.155488	0.1845
ILEXP	-0.077576	0.281160	0.7838
Constant	-2.011954	34.98154	0.9544
Countries included	5		
Method	Panel LS		
Adjusted R2	0.215416		
F-Statistic	0.915204		
Prob(F-statistic)	0.553337		
Durbin-Watson stat	1.919780		

***, ** and * represent significance at the 1%, 5% and 10% levels respectively.

SOCAID = Social Aid; ECOAID = Economic Aid; PROAID = Production Aid; MULSAID = Multisector Aid; HUMAID = Humanitarian Aid; NSALAID = Non sector Allocable Aid; UNALAID = Unallocated Aid; FDI (as % of GDP); IMPORT = Imports of goods and services (% of GDP); GDP_0 = Initial GDP; POPGR = Population growth rate; INF = Inflation; POLSTA = Political Instability; EXPORT = Exports; ILEXP = Initial life expectancy

CHAPTER 4
CONCLUSION AND RECOMMENDATIONS
4.1 Results discussion and conclusion

In this thesis, I investigated the effectiveness of foreign aid on economic growth in Anglophone West Africa over the period 1990-2019. The main aims of the study were based on two main areas of concern: To determine the effectiveness of foreign aid on economic growth, and to determine the impact of sectoral aid on economic growth in these countries. The analysis is unique in the sense that it niched down the study to involve the west African countries with similar colonial history, and presents a balanced mix of the big and small economies in this region. Panel data cointegration techniques and regression analysis were used on the up-to-date data to arrive at the results. The questions laid down for the purpose of this research are:

1. How effective has foreign aid been at driving Economic growth in Anglophone West Africa over the years 1990-2019?
2. What is the impact of sectoral aid on economic growth in Anglophone West-Africa over the sub-period 2002-2019?

According the results of the empirical analysis in this research, foreign aid is found to be ineffective in driving economic growth in the region. When interacted with the other variables of interest, I found that Foreign Aid is insignificant in explaining the variation in economic growth in the region. Coefficients of the regression on aid shows that one-point increase in the amount of aid poured into the region, is seen to produce a 1.6-point decrease in the growth rate of the economy, and is insignificant at the 5 or 10% level. The results are consistent with some previous studies, which find an insignificant relationship between foreign aid and economic growth in the Sub-Saharan Region.

A regression analysis was also performed on sectoral aid and other explanatory variables to check the impact of aid provided from various sectors have on the Per capita growth rate in the region between 2002 and 2019. The results showed that sectoral aid is also an insignificant factor in explaining the changes in per capita growth rate in the region, though aid provided for social infrastructure and the production sector have a positive relationship with economic growth in the model.

The relationship between savings and economic growth as interacted in the model is also important, as the model was built on the Harrod-Domar and Chenery and Strout models which emphasize that increasing savings boosts economic growth. The data suggests consistent episodes of dissaving in the region, which may point to the fact that foreign aid, and other incomes pumped into the region may be channelled to other uses which do not cause an increase in the propensity to save. The issue of aid fungibility becomes important here. The economic and political analysis of the region shows that poor governance, coupled with economic and political instability are a pertinent issue in the region. If aid is used to offset non-productive sectors in the economy such as recurrent expenditure or funding the military to ensure security, its aim cannot be fulfilled.

4.2 Policy recommendations

African countries must go into deeper reflection on the actual reasons for continued aid funding, and its consequences on the economy if continued. Going by the results of this research, it can be inferred that aid is not a strong determinant of growth in the region, so why does the west continue to provide these funds, and at what cost to the African economy is this aid provided? In order to achieve much-needed financial independence and regain control of African destiny, African leaders must extricate African institutions high dependence on aid.

The metrics of trade openness were found to have a positive relationship with economic growth in the empirical investigation. African states should work to improve regional integration projects, which are critical for long-term development and prosperity in the continent. Increasing intra-African commerce and trade will be critical to speeding economic growth since it will boost productivity, and local infrastructural development.

Economic and political stability boosts economic growth prospects. African countries must grasp this opportunity to develop democratic policies, to enable the African economy achieve growth-pushing standards such as employment generation, regional integration and closing the wealth gap. The plans developed regarding fiscal and monetary policies must be in line to establish highly competitive private sectors which can promote the business environment, and stimulate development in Africa. As the results and previous studies showed, good governance, transparency, and strengthened judicial systems, a better investment climate, and reduced corruption all make for improved growth situations.

In the empirical study, labour showed a positive and significant relationship with economic growth. Long-term investments in the private sector, infrastructure, and industrial enterprises, in particular, are required to supply the jobs that African youth require. In order to generate a qualified workforce, increasing incentives to increase school quality will be crucial.

If aid is to be received, West African governments will have to do economic studies on their own economies. They should refrain from implementing policies that have already been developed and suited for other economies, without verifying the similarities and more importantly the differences in those economic structures compared to theirs since the underlying economic realities and policies are different in every country/region. As a result, I believe that all policies should be customized to each country's specific needs. To achieve a sustainable rise in per capita income, economic and foreign aid should be geared toward facilitating a move from agrarian-based output to manufacturing and a technologically sophisticated service sector. African leaders will have to rethink their economies, become more democratic, absorb new knowledge, and build self-sufficient programs in order to achieve this.

Transparency is an essential feature of every aid partnership. Donors and recipients of aid must work more to make credit arrangements' terms more transparent. Even though the agreement's terms have underlying political influences in some cases, exposing them to policy drafters can help with improved implementation monitoring. This increases the chances of avoiding misappropriation or mismanagement, maintaining quality control, and seeing that the local interest is serves at the end of the day. Governments would be leery of arrangements with carefully defined procurement contracts that result in recurring funds being returned to contributors. Prioritize hiring local expertise and only a few expats for guidance purposes. In several developing countries, the World Bank has funded numerous institutional strengthening and capacity building projects. It's past time to put your newfound insight and ability to work for you. Not only would this boost worker productivity, but it would also provide locals with valuable experience in administering future aid projects or programs.

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4.3 Research ideas for the future

Only the effect of sectoral aid on growth from 2002 to 2019 has been calculated due to the limited period of data available. Because of the shorter time span, there is more serial correlation, which may skew the results. More advanced cointegration techniques may be used in the future. More extensive analysis of sector-specific data is feasible because to the OECD CRS database's classification of aid into over 200 unique uses. This would provide further direction to aid allocation policymakers, as sectors that were judged to be unimportant in this research could have components that have a substantial impact on growth. It would be good to conduct more empirical research on the impact of sectoral aid disbursements in comparison to data on commitments.

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Panel unit root test: Summary

Series: GDP

Date: 04/12/22 Time: 06:30

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.28157	0.0005	5	129
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.42234	0.0003	5	129
ADF - Fisher Chi-square	31.2830	0.0005	5	129
PP - Fisher Chi-square	58.1338	0.0000	5	134

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(GDP)

Date: 04/12/22 Time: 06:45

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.30616	0.0000	5	124
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-9.55808	0.0000	5	124
ADF - Fisher Chi-square	86.5329	0.0000	5	124
PP - Fisher Chi-square	122.111	0.0000	5	129

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: LAB

Date: 04/12/22   Time: 06:31

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.47464	0.0067	5	140
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.20894	0.4172	5	140

| ADF - Fisher Chi-square | 10.1772 | 0.4251 | 5 | 140 |
| PP - Fisher Chi-square | 27.2376 | 0.0024 | 5 | 145 |

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(LAB)

Date: 04/12/22   Time: 06:46

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.18771	0.0000	5	135
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-11.5453	0.0000	5	135
ADF - Fisher Chi-square	93.0693	0.0000	5	135
PP - Fisher Chi-square	27.2904	0.0023	5	140

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: SAV

Date: 04/12/22   Time: 06:32

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

| | | | Cross- | |
Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.24215	0.4043	4	112
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	0.41373	0.6605	4	112
ADF - Fisher Chi-square	6.50043	0.5914	4	112
PP - Fisher Chi-square	14.8287	0.0626	4	116

** Probabilities for Fisher tests are computed using an asymptotic Chi

   -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(SAV)

Date: 04/12/22   Time: 06:33

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.73564	0.0000	4	108
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.92482	0.0000	4	108
ADF - Fisher Chi-square	47.8579	0.0000	4	108
PP - Fisher Chi-square	113.076	0.0000	4	112

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: FAID

Date: 04/12/22   Time: 06:34

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.20864	0.4174	5	140

Im, Pesaran and Shin W-stat	0.64152	0.7394	5	140
ADF - Fisher Chi-square	5.18270	0.8786	5	140
PP - Fisher Chi-square	7.21471	0.7050	5	145

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(FAID)

Date: 04/12/22   Time: 06:34

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.98704	0.0000	5	135

Null: Unit root (assumes individual unit root process)

Im, Pesaran and Shin W-stat	-6.56180	0.0000	5	135
ADF - Fisher Chi-square	58.9520	0.0000	5	135
PP - Fisher Chi-square	100.730	0.0000	5	140

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: FAID2
Date: 04/12/22 Time: 06:35
Sample: 1990 2019
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.90651	0.0283	5	130
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.12316	0.0009	5	130
ADF - Fisher Chi-square	28.1873	0.0017	5	130
PP - Fisher Chi-square	56.3121	0.0000	5	135

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: D(FAID2)
Date: 04/12/22 Time: 06:35
Sample: 1990 2019
Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prthethth ob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.61467	0.0000	5	125
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-7.45740	0.0000	5	125
ADF - Fisher Chi-square	67.2756	0.0000	5	125
PP - Fisher Chi-square	137.534	0.0000	5	130

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: FDI

Date: 04/12/22   Time: 06:42

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.38605	0.0829	5	130
Null: Unit root (assumes individual unit root process)				

Im, Pesaran and Shin W-stat				
stat	-1.65377	0.0491	5	130
ADF - Fisher Chi-square	16.4750	0.0868	5	130
PP - Fisher Chi-square	19.7253	0.0320	5	135

** Probabilities for Fisher tests are computed using an asymptotic
Chi

-square distribution. All other tests assume asymptotic
normality.

Panel unit root test: Summary

Series: D(FDI)

Date: 04/12/22   Time: 06:43

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.38291	0.0000	5	125
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat				
stat	-6.30534	0.0000	5	125
ADF - Fisher Chi-square	57.2431	0.0000	5	125
PP - Fisher Chi-square	122.267	0.0000	5	130

** Probabilities for Fisher tests are computed using an asymptotic
Chi

-square distribution. All other tests assume asymptotic
normality.

Panel unit root test: Summary

Series: INF

Date: 04/12/22   Time: 06:44

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.34296	0.0896	5	110
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.83760	0.0331	5	110
ADF - Fisher Chi-square	19.4430	0.0350	5	110
PP - Fisher Chi-square	20.7165	0.0232	5	115

** Probabilities for Fisher tests are computed using an asymptotic
Chi

-square distribution. All other tests assume asymptotic
normality.

Panel unit root test: Summary

Series: D(INF)

Date: 04/12/22   Time: 06:44

Sample: 1990 2019

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.73198	0.0001	5	105
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.80999	0.0000	5	105
ADF - Fisher Chi-square	46.1262	0.0000	5	105
PP - Fisher Chi-square	86.6916	0.0000	5	110

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Pedroni Residual Cointegration Test

Series: GDP LAB SAV FAID FAID2 FDI INF

Date: 04/12/22   Time: 06:53

Sample: 1990 2019

Included observations: 150

Cross-sections included: 4 (1 dropped)

Null Hypothesis: No cointegration

Trend assumption: No deterministic trend

Automatic lag length selection based on SIC with lags from 1 to 5

Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-2.568769	0.9949	-2.553146	0.9947
Panel rho-Statistic	0.543146	0.7065	0.490792	0.6882

	Statistic	Prob.	Statistic	Prob.
Panel PP-Statistic	-3.707804	0.0001	-2.369047	0.0089
Panel ADF-Statistic	-3.760487	0.0001	-2.452637	0.0071

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	1.452830	0.9269
Group PP-Statistic	-3.526868	0.0002
Group ADF-Statistic	-4.160431	0.0000

Cross section specific results

Phillips-Peron results (non-parametric)

Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
1	-0.062	12.11297	10.37235	2.00	29
2	0.166	3.222456	1.042176	7.00	29
3		Dropped from Test			
4	0.249	9.983180	9.983180	0.00	29
5	-0.363	31.44945	28.81867	2.00	12

Augmented Dickey-Fuller results (parametric)

Cross ID	AR(1)	Variance	Lag	Max lag	Obs
1	-0.062	12.11297	0	5	29
2	-0.950	2.236347	3	5	26
3		Dropped from Test			
4	0.249	9.983180	0	5	29
5	-0.363	31.44945	0	1	12

Dependent Variable: GDP

Method: Panel Least Squares

Date: 04/12/22   Time: 05:55

Sample (adjusted): 2002 2019

Periods included: 18

Cross-sections included: 4

Total panel (unbalanced) observations: 67

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	49.18721	51.98588	0.946165	0.3479
LAB	2.146665	1.213367	1.769181	0.0820
SAV	-3.89E-12	4.14E-11	-0.093914	0.9255
FAID	-1.610881	1.318205	-1.222026	0.2266
FAID2	-93.36764	60.84602	-1.534490	0.1303
GDP0	-26.22384	23.77608	-1.102951	0.2745
FDI	0.192166	0.164429	1.168691	0.2472
INF	-0.015512	0.153876	-0.100812	0.9200

R-squared	0.160100	Mean dependent var		5.008191
Adjusted R-squared	0.060451	S.D. dependent var		5.280256
S.E. of regression	5.118171	Akaike info criterion		6.215122
Sum squared resid	1545.545	Schwarz criterion		6.478369
Log likelihood	-200.2066	Hannan-Quinn criter.		6.319290
F-statistic	1.606634	Durbin-Watson stat		1.800151
Prob(F-statistic)	0.151384			

Dependent Variable: GDP

Method: Panel Least Squares

Date: 04/14/22   Time: 03:49

Sample: 2002 2019

Periods included: 18

Cross-sections included: 4

Total panel (unbalanced) observations: 66

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.011954	34.98154	-0.057515	0.9544
SOCAID	0.785359	1.590836	0.493677	0.6237
ECOAID	-0.737561	0.866830	-0.850871	0.3989
PRODAID	0.920477	1.281226	0.718434	0.4758
MULSAID	-1.089017	1.656378	-0.657469	0.5139
HUMAID	-0.266258	0.400781	-0.664347	0.5095
NSALAID	-0.135656	0.678031	-0.200073	0.8422
UNALAID	0.665740	0.729540	0.912548	0.3659
FDI	0.167974	0.216235	0.776813	0.4409
IMPORT	0.009443	0.131067	0.072050	0.9428
GDP0	-0.002869	0.025284	-0.113482	0.9101
POPGR	-0.397824	7.771646	-0.051189	0.9594
INF	-0.055947	0.187431	-0.298496	0.7666
POLSTA	-1.913132	5.292391	-0.361487	0.7193
EXPORT	0.209214	0.155488	1.345533	0.1845
ILEXP	-0.077576	0.281160	-0.275916	0.7838

R-squared	0.215416	Mean dependent var	2.255084
Adjusted R-squared	-0.019959	S.D. dependent var	5.234808
S.E. of regression	5.286790	Akaike info criterion	6.375516
Sum squared resid	1397.507	Schwarz criterion	6.906342
Log likelihood	-194.3920	Hannan-Quinn criter.	6.585271
F-statistic	0.915204	Durbin-Watson stat	1.919780
Prob(F-statistic)	0.553337		

DATA TABLES (objective 1) (1990-2019)

Source; World Bank World Development Indicators and own calculation

https://databank.worldbank.org/source/world-development-indicators

Country Name	YEAR	FDI as a fraction of GDP	FOREIGN AID (official development assistance) (current usd)	Foreign aid as a fraction of GDP	FAID as a % of GDP	GDP (current US$)
Gambia, The	1990 [YR1990]	0.044530874	97260002.14	0.306733214	30.67332136	317,083,373.52
Gambia, The	1991 [YR1991]	0.013429293	99540000.92	0.144195184	14.41951845	690314321.4
Gambia, The	1992 [YR1992]	0.008852952	108839996.3	0.152382449	15.23824491	714255460.5
Gambia, The	1993 [YR1993]	0.014225982	84900001.53	0.112443996	11.24439964	755042548.1
Gambia, The	1994 [YR1994]	0.013016041	68889999.39	0.092285018	9.228501814	746491692.6
Gambia, The	1995 [YR1995]	0.009833688	45430000.31	0.057799204	5.779920447	785996982.5
Gambia, The	1996 [YR1996]	0.012561481	36060001.37	0.0425117	4.251169986	848237108.6
Gambia, The	1997 [YR1997]	0.01451721	38900001.53	0.048405318	4.840531785	803630742.5
Gambia, The	1998 [YR1998]	0.028204707	39450000.76	0.046948343	4.694834293	840285264.6
Gambia, The	1999 [YR1999]	0.060732264	34349998.47	0.042161543	4.216154334	814723460.1
Gambia, The	2000 [YR2000]	0.055587104	49639999.39	0.06340404	6.340403987	782915402.4
Gambia, The	2001 [YR2001]	0.051614119	52729999.54	0.076708356	7.670835635	687408804.6
Gambia, The	2002 [YR2002]	0.07406491	64470001.22	0.111494264	11.14942641	578236035.1
Gambia, The	2003 [YR2003]	0.037517996	63290000.92	0.129948575	12.99485752	487038821.6
Gambia, The	2004 [YR2004]	0.057725661	61340000.15	0.063769616	6.376961569	961900106.9
Gambia, The	2005 [YR2005]	0.052204109	60759998.32	0.059122181	5.912218063	1027702254
Gambia, The	2006 [YR2006]	0.07798791	75199996.95	0.071339568	7.133956844	1054113427
Gambia, The	2007 [YR2007]	0.061025656	97199996.95	0.075955018	7.595501802	1279704745
Gambia, The	2008 [YR2008]	0.045328493	94629997.25	0.060591761	6.059176122	1561763437

Gambia, The	2009 [YR2009]	0.027202431	125169998.2	0.08631578	8.631577975	1450140386
Gambia, The	2010 [YR2010]	0.024066008	121099998.5	0.078468603	7.846860327	1543292393
Gambia, The	2011 [YR2011]	0.025592165	135710006.7	0.096269086	9.626908633	1409694554
Gambia, The	2012 [YR2012]	0.029104789	138979995.7	0.098218645	9.821864525	1415006238
Gambia, The	2013 [YR2013]	0.04968005	112300003.1	0.081636575	8.163657452	1375608956
Gambia, The	2014 [YR2014]	0.018718853	100339996.3	0.081613023	8.161302296	1229460602
Gambia, The	2015 [YR2015]	0.052225555	113940002.4	0.082674441	8.267444118	1378176868
Gambia, The	2016 [YR2016]	0.047036993	91989997.86	0.061963658	6.196365808	1484579844
Gambia, The	2017 [YR2017]	0.042752408	284489990.2	0.18904123	18.90412296	1504909753
Gambia, The	2018 [YR2018]	0.048965369	234130004.9	0.140141327	14.01413272	1670670669
Gambia, The	2019 [YR2019]	0.039217746	194039993.3	0.107054829	10.7054829	1812529105
Ghana	1990 [YR1990]	0.002513086	559719970.7	0.095042173	9.504217268	5889174825
Ghana	1991 [YR1991]	0.00303189	878630004.9	0.13319546	13.319546	6596546196
Ghana	1992 [YR1992]	0.003508005	614219970.7	0.095763859	9.576385932	6413901602
Ghana	1993 [YR1993]	0.020951163	627260009.8	0.105134616	10.51346159	5966255778
Ghana	1994 [YR1994]	0.042795005	547719970.7	0.10059948	10.05994797	5444560669
Ghana	1995 [YR1995]	0.016472967	649869995.1	0.100519128	10.0519128	6465137615
Ghana	1996 [YR1996]	0.017303571	651270019.5	0.093910808	9.391080829	6934984709
Ghana	1997 [YR1997]	0.011870024	494170013.4	0.071709169	7.170916912	6891308594
Ghana	1998 [YR1998]	0.022376781	703880004.9	0.094089418	9.408941786	7480968858
Ghana	1999 [YR1999]	0.031569996	610090026.9	0.07903381	7.903381042	7719354839
Ghana	2000 [YR2000]	0.033293034	600650024.4	0.12053925	12.05392499	4983024408
Ghana	2001 [YR2001]	0.016805553	644849975.6	0.121328486	12.13284856	5314909954
Ghana	2002 [YR2002]	0.009556738	689369995.1	0.11179583	11.17958299	6166330136

Ghana	2003 [YR2003]	0.017917154	985039978	0.129060208	12.90602081	7632406553
Ghana	2004 [YR2004]	0.015681142	1419010010	0.159773801	15.9773801	8881368538
Ghana	2005 [YR2005]	0.013492265	1152640015	0.107275464	10.72754636	10744675210
Ghana	2006 [YR2006]	0.03111459	1236250000	0.060479256	6.047925592	20440893017
Ghana	2007 [YR2007]	0.055710753	1162920044	0.046839347	4.683934696	24827844950
Ghana	2008 [YR2008]	0.09466664	1312170044	0.045754164	4.57541645	28678701891
Ghana	2009 [YR2009]	0.091083006	1584680054	0.060836666	6.083666585	26048108185
Ghana	2010 [YR2010]	0.078495779	1697219971	0.052713159	5.271315932	32197272797
Ghana	2011 [YR2011]	0.08255744	1803869995	0.04585646	4.58564598	39337314810
Ghana	2012 [YR2012]	0.0798266	1799290039	0.043597005	4.359700546	41270954737
Ghana	2013 [YR2013]	0.051366502	1328170044	0.021141447	2.114144692	62823043706
Ghana	2014 [YR2014]	0.061394936	1123130005	0.02050149	2.050148999	54782847753
Ghana	2015 [YR2015]	0.064613282	1770479980	0.035834911	3.583491096	49406568433
Ghana	2016 [YR2016]	0.062055063	1318650024	0.023478073	2.347807291	56165172899
Ghana	2017 [YR2017]	0.053884869	1263550049	0.020917492	2.091749229	60406382899
Ghana	2018 [YR2018]	0.044414071	1067540039	0.015862577	1.586257726	67299280680
Ghana	2019 [YR2019]	0.056774528	936320007.3	0.013701401	1.370140098	68337537816
Liberia	1990 [YR1990]	-	113739997.9	-	-	..
Liberia	1991 [YR1991]	-	157630004.9	-	-	..
Liberia	1992 [YR1992]	-	119599998.5	-	-	..
Liberia	1993 [YR1993]	-	122330001.8	-	-	..
Liberia	1994 [YR1994]	-	63400001.53	-	-	..
Liberia	1995 [YR1995]	-	123099998.5	-	-	..
Liberia	1996 [YR1996]	-	172669998.2	-	-	..

Liberia	1997 [YR1997]	-	75690002.44	-	-	..
Liberia	1998 [YR1998]	-	71989997.86	-	-	..
Liberia	1999 [YR1999]	-	93949996.95	-	-	..
Liberia	2000 [YR2000]	0.023798627	67419998.17	0.077139586	7.713958601	874000000
Liberia	2001 [YR2001]	0.009161148	38479999.54	0.042472406	4.247240568	906000000
Liberia	2002 [YR2002]	0.003020496	54990001.68	0.05932039	5.932039016	927000000
Liberia	2003 [YR2003]	0.497620321	106779998.8	0.142754009	14.27540091	748000000
Liberia	2004 [YR2004]	0.08400416	213389999.4	0.237892976	23.78929759	897000000
Liberia	2005 [YR2005]	0.087251961	222089996.3	0.234025286	23.40252859	949000000
Liberia	2006 [YR2006]	0.096386659	260899993.9	0.233154597	23.31545969	1119000000
Liberia	2007 [YR2007]	0.095875937	1123020020	0.817931551	81.7931551	1373000000
Liberia	2008 [YR2008]	0.16427351	1250410034	0.724455408	72.4455408	1726000000
Liberia	2009 [YR2009]	0.072287005	510750000	0.288885747	28.88857466	1768000000
Liberia	2010 [YR2010]	1.033373871	1416109985	0.708763756	70.87637564	1998000000
Liberia	2011 [YR2011]	0.869894468	762250000	0.317869058	31.78690575	2398000000
Liberia	2012 [YR2012]	0.827471578	566710022	0.203004435	20.30044347	2791614000
Liberia	2013 [YR2013]	0.629068539	535929992.7	0.168680068	16.86800684	3177198100
Liberia	2014 [YR2014]	0.155587406	749590026.9	0.232384035	23.23840349	3225652000
Liberia	2015 [YR2015]	0.072102378	1094430054	0.339139876	33.91398763	3227075700
Liberia	2016 [YR2016]	0.091719033	819179992.7	0.241047336	24.10473364	3398419600
Liberia	2017 [YR2017]	0.073094858	631590026.9	0.186271093	18.62710926	3390703400
Liberia	2018 [YR2018]	0.037726849	573229980.5	0.167476204	16.74762038	3422754800
Liberia	2019 [YR2019]	0.026112119	597309997.6	0.179934518	17.99345184	3319596500
Nigeria	1990 [YR1990]	0.01087951	255080001.8	0.004720575	0.472057457	54035795388

Nigeria	1991 [YR1991]	0.014503178	258320007.3	0.005259126	0.525912557	49118433048
Nigeria	1992 [YR1992]	0.018760177	258820007.3	0.005415219	0.541521935	47794925815
Nigeria	1993 [YR1993]	0.0484779	288420013.4	0.010392688	1.039268845	27752204320
Nigeria	1994 [YR1994]	0.057908473	189660003.7	0.005605763	0.56057625	33833042988
Nigeria	1995 [YR1995]	0.007621956	210960006.7	0.004787749	0.478774855	44062465800
Nigeria	1996 [YR1996]	0.00977521	188750000	0.003695487	0.369548679	51075815093
Nigeria	1997 [YR1997]	0.008622763	199839996.3	0.003669628	0.366962799	54457835193
Nigeria	1998 [YR1998]	0.005486162	203339996.3	0.0037239	0.372389952	54604050168
Nigeria	1999 [YR1999]	0.016925575	151990005.5	0.002559935	0.255993457	59372613486
Nigeria	2000 [YR2000]	0.016417393	173800003.1	0.002502565	0.250256464	69448756933
Nigeria	2001 [YR2001]	0.016082842	167820007.3	0.002266908	0.226690775	74030364472
Nigeria	2002 [YR2002]	0.019647268	299549987.8	0.003140404	0.314040378	95385819321
Nigeria	2003 [YR2003]	0.019114635	309850006.1	0.002953429	0.295342916	1.04912E+11
Nigeria	2004 [YR2004]	0.013740862	578770019.5	0.004243618	0.424361817	1.36386E+11
Nigeria	2005 [YR2005]	0.0282883	6401790039	0.036346116	3.634611643	1.76134E+11
Nigeria	2006 [YR2006]	0.020560238	11431959961	0.048419175	4.841917465	2.36104E+11
Nigeria	2007 [YR2007]	0.021899343	1958599976	0.007106014	0.7106014	2.75626E+11
Nigeria	2008 [YR2008]	0.024137396	1293719971	0.00381093	0.381092963	3.39476E+11
Nigeria	2009 [YR2009]	0.029002494	1639229980	0.005556547	0.555654666	2.95009E+11
Nigeria	2010 [YR2010]	0.016672134	2052360107	0.005678026	0.567802602	3.61457E+11
Nigeria	2011 [YR2011]	0.021830128	1809859985	0.004468861	0.446886077	4.04994E+11
Nigeria	2012 [YR2012]	0.015521152	1916170044	0.004206726	0.420672586	4.55502E+11
Nigeria	2013 [YR2013]	0.010935591	2515719971	0.004945459	0.494545858	5.08693E+11
Nigeria	2014 [YR2014]	0.008586119	2478600098	0.004533944	0.453394405	5.46676E+11

Nigeria	2015 [YR2015]	0.00629447	2431540039	0.004994913	0.499491286	4.86803E+11
Nigeria	2016 [YR2016]	0.008533939	2498189941	0.006173705	0.617370543	4.0465E+11
Nigeria	2017 [YR2017]	0.006421817	3358959961	0.008939432	0.893943186	3.75746E+11
Nigeria	2018 [YR2018]	0.001951828	3304949951	0.008320819	0.832081855	3.9719E+11
Nigeria	2019 [YR2019]	0.005143929	3517320068	0.007849051	0.784905093	4.4812E+11
sierra leone	1990 [YR1990]	0.049926818	59319999.69	0.091311432	9.131143241	649644826.8
sierra leone	1991 [YR1991]	0.009621338	103269996.6	0.132400579	13.24005788	779981458.9
sierra leone	1992 [YR1992]	-0.008233922	133059997.6	0.195677043	19.56770432	679997997.6
sierra leone	1993 [YR1993]	-0.009707081	206470001.2	0.268557087	26.85570872	768812334.8
sierra leone	1994 [YR1994]	-0.003151812	273730011	0.300170213	30.01702128	911915970.7
sierra leone	1995 [YR1995]	0.008368628	212270004.3	0.24377591	24.37759102	870758739.4
sierra leone	1996 [YR1996]	0.000705	182520004.3	0.193811017	19.38110169	941742152.7
sierra leone	1997 [YR1997]	0.002117142	118010002.1	0.138799693	13.87996931	850218033.6
sierra leone	1998 [YR1998]	0.000155992	106529998.8	0.158438151	15.84381511	672375927.3
sierra leone	1999 [YR1999]	0.000796555	73730003.36	0.110145923	11.01459232	669384768.9
sierra leone	2000 [YR2000]	0.061334202	180639999.4	0.284081436	28.40814356	635874002.2
sierra leone	2001 [YR2001]	0.009019746	334630004.9	0.306868329	30.68683292	1090467712
sierra leone	2002 [YR2002]	0.008308524	383209991.5	0.3057509	30.57508997	1253340520
sierra leone	2003 [YR2003]	0.006216616	337170013.4	0.243301748	24.33017483	1385810072
sierra leone	2004 [YR2004]	0.042217306	376230011	0.259731099	25.97310989	1448536631
sierra leone	2005 [YR2005]	0.05497242	339980011	0.205986774	20.59867745	1650494367
sierra leone	2006 [YR2006]	0.031228456	380339996.3	0.201759872	20.17598719	1885112202
sierra leone	2007 [YR2007]	0.044229933	550530029.3	0.255052503	25.50525026	2158496873
sierra leone	2008 [YR2008]	0.021191755	379339996.3	0.151405408	15.14054076	2505458705

sierra leone	2009 [YR2009]	0.045001919	447290008.5	0.182277206	18.22772063	2453899847
sierra leone	2010 [YR2010]	0.092475476	458299987.8	0.17777165	17.77716497	2578026297
sierra leone	2011 [YR2011]	0.323011956	423890014.6	0.144055489	14.40554887	2942546781
sierra leone	2012 [YR2012]	0.190024596	439750000	0.115666989	11.56669888	3801862611
sierra leone	2013 [YR2013]	0.087324108	449070007.3	0.091268025	9.126802532	4920343195
sierra leone	2014 [YR2014]	0.074791191	914030029.3	0.182253493	18.22534929	5015157816
sierra leone	2015 [YR2015]	0.059837012	946820007.3	0.224432799	22.4432799	4218723875
sierra leone	2016 [YR2016]	0.037691759	693260009.8	0.188652727	18.86527271	3674794530
sierra leone	2017 [YR2017]	0.111235122	541169982.9	0.145500478	14.5500478	3719369107
sierra leone	2018 [YR2018]	0.061306981	507980011	0.124349017	12.43490175	4085114794
sierra leone	2019 [YR2019]	0.084003711	594640014.6	0.145867425	14.5867425	4076578543

Country Name	YEAR	FDI as a fraction of GDP	FOREIGN AID (official development assistance) (current usd)	Foreign aid as a fraction of GDP	FAID as a % of GDP	GDP (current US$)
Gambia, The	1990 [YR1990]	0.044530874	97260002.14	0.306733214	30.67332136	317,083,373.52
Gambia, The	1991 [YR1991]	0.013429293	99540000.92	0.144195184	14.41951845	690314321.4
Gambia, The	1992 [YR1992]	0.008852952	108839996.3	0.152382449	15.23824491	714255460.5
Gambia, The	1993 [YR1993]	0.014225982	84900001.53	0.112443996	11.24439964	755042548.1
Gambia, The	1994 [YR1994]	0.013016041	68889999.39	0.092285018	9.228501814	746491692.6
Gambia, The	1995 [YR1995]	0.009833688	45430000.31	0.057799204	5.779920447	785996982.5
Gambia, The	1996 [YR1996]	0.012561481	36060001.37	0.0425117	4.251169986	848237108.6
Gambia, The	1997 [YR1997]	0.01451721	38900001.53	0.048405318	4.840531785	803630742.5
Gambia, The	1998 [YR1998]	0.028204707	39450000.76	0.046948343	4.694834293	840285264.6
Gambia, The	1999 [YR1999]	0.060732264	34349998.47	0.042161543	4.216154334	814723460.1
Gambia, The	2000 [YR2000]	0.055587104	49639999.39	0.06340404	6.340403987	782915402.4
Gambia, The	2001 [YR2001]	0.051614119	52729999.54	0.076708356	7.670835635	687408804.6
Gambia, The	2002 [YR2002]	0.07406491	64470001.22	0.111494264	11.14942641	578236035.1
Gambia, The	2003 [YR2003]	0.037517996	63290000.92	0.129948575	12.99485752	487038821.6
Gambia, The	2004 [YR2004]	0.057725661	61340000.15	0.063769616	6.376961569	961900106.9
Gambia, The	2005 [YR2005]	0.052204109	60759998.32	0.059122181	5.912218063	1027702254
Gambia, The	2006 [YR2006]	0.07798791	75199996.95	0.071339568	7.133956844	1054113427
Gambia, The	2007 [YR2007]	0.061025656	97199996.95	0.075955018	7.595501802	1279704745
Gambia, The	2008 [YR2008]	0.045328493	94629997.25	0.060591761	6.059176122	1561763437
Gambia, The	2009 [YR2009]	0.027202431	125169998.2	0.08631578	8.631577975	1450140386
Gambia, The	2010 [YR2010]	0.024066008	121099998.5	0.078468603	7.846860327	1543292393
Gambia, The	2011 [YR2011]	0.025592165	135710006.7	0.096269086	9.626908633	1409694554
Gambia, The	2012 [YR2012]	0.029104789	138979995.7	0.098218645	9.821864525	1415006238

Gambia, The	2013 [YR2013]	0.04968005	112300003.1	0.081636575	8.163657452	1375608956
Gambia, The	2014 [YR2014]	0.018718853	100339996.3	0.081613023	8.161302296	1229460602
Gambia, The	2015 [YR2015]	0.052225555	113940002.4	0.082674441	8.267444118	1378176868
Gambia, The	2016 [YR2016]	0.047036993	91989997.86	0.061963658	6.196365808	1484579844
Gambia, The	2017 [YR2017]	0.042752408	284489990.2	0.18904123	18.90412296	1504909753
Gambia, The	2018 [YR2018]	0.048965369	234130004.9	0.140141327	14.01413272	1670670669
Gambia, The	2019 [YR2019]	0.039217746	194039993.3	0.107054829	10.7054829	1812529105
Ghana	1990 [YR1990]	0.002513086	559719970.7	0.095042173	9.504217268	5889174825
Ghana	1991 [YR1991]	0.00303189	878630004.9	0.13319546	13.319546	6596546196
Ghana	1992 [YR1992]	0.003508005	614219970.7	0.095763859	9.576385932	6413901602
Ghana	1993 [YR1993]	0.020951163	627260009.8	0.105134616	10.51346159	5966255778
Ghana	1994 [YR1994]	0.042795005	547719970.7	0.10059948	10.05994797	5444560669
Ghana	1995 [YR1995]	0.016472967	649869995.1	0.100519128	10.0519128	6465137615
Ghana	1996 [YR1996]	0.017303571	651270019.5	0.093910808	9.391080829	6934984709
Ghana	1997 [YR1997]	0.011870024	494170013.4	0.071709169	7.170916912	6891308594
Ghana	1998 [YR1998]	0.022376781	703880004.9	0.094089418	9.408941786	7480968858
Ghana	1999 [YR1999]	0.031569996	610090026.9	0.07903381	7.903381042	7719354839
Ghana	2000 [YR2000]	0.033293034	600650024.4	0.12053925	12.05392499	4983024408
Ghana	2001 [YR2001]	0.016805553	644849975.6	0.121328486	12.13284856	5314909954
Ghana	2002 [YR2002]	0.009556738	689369995.1	0.11179583	11.17958299	6166330136
Ghana	2003 [YR2003]	0.017917154	985039978	0.129060208	12.90602081	7632406553
Ghana	2004 [YR2004]	0.015681142	1419010010	0.159773801	15.9773801	8881368538
Ghana	2005 [YR2005]	0.013492265	1152640015	0.107275464	10.72754636	10744675210
Ghana	2006 [YR2006]	0.03111459	1236250000	0.060479256	6.047925592	20440893017

Ghana	2007 [YR2007]	0.055710753	1162920044	0.046839347	4.683934696	24827844950
Ghana	2008 [YR2008]	0.09466664	1312170044	0.045754164	4.57541645	28678701891
Ghana	2009 [YR2009]	0.091083006	1584680054	0.060836666	6.083666585	26048108185
Ghana	2010 [YR2010]	0.078495779	1697219971	0.052713159	5.271315932	32197272797
Ghana	2011 [YR2011]	0.08255744	1803869995	0.04585646	4.58564598	39337314810
Ghana	2012 [YR2012]	0.0798266	1799290039	0.043597005	4.359700546	41270954737
Ghana	2013 [YR2013]	0.051366502	1328170044	0.021141447	2.114144692	62823043706
Ghana	2014 [YR2014]	0.061394936	1123130005	0.02050149	2.050148999	54782847753
Ghana	2015 [YR2015]	0.064613282	1770479980	0.035834911	3.583491096	49406568433
Ghana	2016 [YR2016]	0.062055063	1318650024	0.023478073	2.347807291	56165172899
Ghana	2017 [YR2017]	0.053884869	1263550049	0.020917492	2.091749229	60406382899
Ghana	2018 [YR2018]	0.044414071	1067540039	0.015862577	1.586257726	67299280680
Ghana	2019 [YR2019]	0.056774528	936320007.3	0.013701401	1.370140098	68337537816
Liberia	1990 [YR1990]	-	113739997.9	-	-	..
Liberia	1991 [YR1991]	-	157630004.9	-	-	..
Liberia	1992 [YR1992]	-	119599998.5	-	-	..
Liberia	1993 [YR1993]	-	122330001.8	-	-	..
Liberia	1994 [YR1994]	-	63400001.53	-	-	..
Liberia	1995 [YR1995]	-	123099998.5	-	-	..
Liberia	1996 [YR1996]	-	172669998.2	-	-	..
Liberia	1997 [YR1997]	-	75690002.44	-	-	..
Liberia	1998 [YR1998]	-	71989997.86	-	-	..
Liberia	1999 [YR1999]	-	93949996.95	-	-	..
Liberia	2000 [YR2000]	0.023798627	67419998.17	0.077139586	7.713958601	874000000

Liberia	2001 [YR2001]	0.009161148	38479999.54	0.042472406	4.247240568	906000000
Liberia	2002 [YR2002]	0.003020496	54990001.68	0.05932039	5.932039016	927000000
Liberia	2003 [YR2003]	0.497620321	106779998.8	0.142754009	14.27540091	748000000
Liberia	2004 [YR2004]	0.08400416	213389999.4	0.237892976	23.78929759	897000000
Liberia	2005 [YR2005]	0.087251961	222089996.3	0.234025286	23.40252859	949000000
Liberia	2006 [YR2006]	0.096386659	260899993.9	0.233154597	23.31545969	1119000000
Liberia	2007 [YR2007]	0.095875937	1123020020	0.817931551	81.7931551	1373000000
Liberia	2008 [YR2008]	0.16427351	1250410034	0.724455408	72.4455408	1726000000
Liberia	2009 [YR2009]	0.072287005	510750000	0.288885747	28.88857466	1768000000
Liberia	2010 [YR2010]	1.033373871	1416109985	0.708763756	70.87637564	1998000000
Liberia	2011 [YR2011]	0.869894468	762250000	0.317869058	31.78690575	2398000000
Liberia	2012 [YR2012]	0.827471578	566710022	0.203004435	20.30044347	2791614000
Liberia	2013 [YR2013]	0.629068539	535929992.7	0.168680068	16.86800684	3177198100
Liberia	2014 [YR2014]	0.155587406	749590026.9	0.232384035	23.23840349	3225652000
Liberia	2015 [YR2015]	0.072102378	1094430054	0.339139876	33.91398763	3227075700
Liberia	2016 [YR2016]	0.091719033	819179992.7	0.241047336	24.10473364	3398419600
Liberia	2017 [YR2017]	0.073094858	631590026.9	0.186271093	18.62710926	3390703400
Liberia	2018 [YR2018]	0.037726849	573229980.5	0.167476204	16.74762038	3422754800
Liberia	2019 [YR2019]	0.026112119	597309997.6	0.179934518	17.99345184	3319596500
Nigeria	1990 [YR1990]	0.01087951	255080001.8	0.004720575	0.472057457	54035795388
Nigeria	1991 [YR1991]	0.014503178	258320007.3	0.005259126	0.525912557	49118433048
Nigeria	1992 [YR1992]	0.018760177	258820007.3	0.005415219	0.541521935	47794925815
Nigeria	1993 [YR1993]	0.0484779	288420013.4	0.010392688	1.039268845	27752204320
Nigeria	1994 [YR1994]	0.057908473	189660003.7	0.005605763	0.56057625	33833042988

Nigeria	1995 [YR1995]	0.007621956	210960006.7	0.004787749	0.478774855	44062465800
Nigeria	1996 [YR1996]	0.00977521	188750000	0.003695487	0.369548679	51075815093
Nigeria	1997 [YR1997]	0.008622763	199839996.3	0.003669628	0.366962799	54457835193
Nigeria	1998 [YR1998]	0.005486162	203339996.3	0.0037239	0.372389952	54604050168
Nigeria	1999 [YR1999]	0.016925575	151990005.5	0.002559935	0.255993457	59372613486
Nigeria	2000 [YR2000]	0.016417393	173800003.1	0.002502565	0.250256464	69448756933
Nigeria	2001 [YR2001]	0.016082842	167820007.3	0.002266908	0.226690775	74030364472
Nigeria	2002 [YR2002]	0.019647268	299549987.8	0.003140404	0.314040378	95385819321
Nigeria	2003 [YR2003]	0.019114635	309850006.1	0.002953429	0.295342916	1.04912E+11
Nigeria	2004 [YR2004]	0.013740862	578770019.5	0.004243618	0.424361817	1.36386E+11
Nigeria	2005 [YR2005]	0.0282883	6401790039	0.036346116	3.634611643	1.76134E+11
Nigeria	2006 [YR2006]	0.020560238	11431959961	0.048419175	4.841917465	2.36104E+11
Nigeria	2007 [YR2007]	0.021899343	1958599976	0.007106014	0.7106014	2.75626E+11
Nigeria	2008 [YR2008]	0.024137396	1293719971	0.00381093	0.381092963	3.39476E+11
Nigeria	2009 [YR2009]	0.029002494	1639229980	0.005556547	0.555654666	2.95009E+11
Nigeria	2010 [YR2010]	0.016672134	2052360107	0.005678026	0.567802602	3.61457E+11
Nigeria	2011 [YR2011]	0.021830128	1809859985	0.004468861	0.446886077	4.04994E+11
Nigeria	2012 [YR2012]	0.015521152	1916170044	0.004206726	0.420672586	4.55502E+11
Nigeria	2013 [YR2013]	0.010935591	2515719971	0.004945459	0.494545858	5.08693E+11
Nigeria	2014 [YR2014]	0.008586119	2478600098	0.004533944	0.453394405	5.46676E+11
Nigeria	2015 [YR2015]	0.00629447	2431540039	0.004994913	0.499491286	4.86803E+11
Nigeria	2016 [YR2016]	0.008533939	2498189941	0.006173705	0.617370543	4.0465E+11
Nigeria	2017 [YR2017]	0.006421817	3358959961	0.008939432	0.893943186	3.75746E+11
Nigeria	2018 [YR2018]	0.001951828	3304949951	0.008320819	0.832081855	3.9719E+11

Nigeria	2019 [YR2019]	0.005143929	3517320068	0.007849051	0.784905093	4.4812E+11
sierra leone	1990 [YR1990]	0.049926818	59319999.69	0.091311432	9.131143241	649644826.8
sierra leone	1991 [YR1991]	0.009621338	103269996.6	0.132400579	13.24005788	779981458.9
sierra leone	1992 [YR1992]	-0.008233922	133059997.6	0.195677043	19.56770432	679997997.6
sierra leone	1993 [YR1993]	-0.009707081	206470001.2	0.268557087	26.85570872	768812334.8
sierra leone	1994 [YR1994]	-0.003151812	273730011	0.300170213	30.01702128	911915970.7
sierra leone	1995 [YR1995]	0.008368628	212270004.3	0.24377591	24.37759102	870758739.4
sierra leone	1996 [YR1996]	0.000705	182520004.3	0.193811017	19.38110169	941742152.7
sierra leone	1997 [YR1997]	0.002117142	118010002.1	0.138799693	13.87996931	850218033.6
sierra leone	1998 [YR1998]	0.000155992	106529998.8	0.158438151	15.84381511	672375927.3
sierra leone	1999 [YR1999]	0.000796555	73730003.36	0.110145923	11.01459232	669384768.9
sierra leone	2000 [YR2000]	0.061334202	180639999.4	0.284081436	28.40814356	635874002.2
sierra leone	2001 [YR2001]	0.009019746	334630004.9	0.306868329	30.68683292	1090467712
sierra leone	2002 [YR2002]	0.008308524	383209991.5	0.3057509	30.57508997	1253340520
sierra leone	2003 [YR2003]	0.006216616	337170013.4	0.243301748	24.33017483	1385810072
sierra leone	2004 [YR2004]	0.042217306	376230011	0.259731099	25.97310989	1448536631
sierra leone	2005 [YR2005]	0.05497242	339980011	0.205986774	20.59867745	1650494367
sierra leone	2006 [YR2006]	0.031228456	380339996.3	0.201759872	20.17598719	1885112202
sierra leone	2007 [YR2007]	0.044229933	550530029.3	0.255052503	25.50525026	2158496873
sierra leone	2008 [YR2008]	0.021191755	379339996.3	0.151405408	15.14054076	2505458705
sierra leone	2009 [YR2009]	0.045001919	447290008.5	0.182277206	18.22772063	2453899847
sierra leone	2010 [YR2010]	0.092475476	458299987.8	0.17777165	17.77716497	2578026297
sierra leone	2011 [YR2011]	0.323011956	423890014.6	0.144055489	14.40554887	2942546781
sierra leone	2012 [YR2012]	0.190024596	439750000	0.115666989	11.56669888	3801862611

sierra leone	2013 [YR2013]	0.087324108	449070007.3	0.091268025	9.126802532	4920343195
sierra leone	2014 [YR2014]	0.074791191	914030029.3	0.182253493	18.22534929	5015157816
sierra leone	2015 [YR2015]	0.059837012	946820007.3	0.224432799	22.4432799	4218723875
sierra leone	2016 [YR2016]	0.037691759	693260009.8	0.188652727	18.86527271	3674794530
sierra leone	2017 [YR2017]	0.111235122	541169982.9	0.145500478	14.5500478	3719369107
sierra leone	2018 [YR2018]	0.061306981	507980011	0.124349017	12.43490175	4085114794
sierra leone	2019 [YR2019]	0.084003711	594640014.6	0.145867425	14.5867425	4076578543

Country Name	YEAR	GDP growth (annual %)	Gross domestic savings (current US$)	Inflation, consumer prices (annual %)	Labour supply (population as a proxy)	Squared(aid as afraction of GDP)
Gambia, The	1990 [YR1990]	3.558879369	33811384.69	12.16778411	955595	0.094085264
Gambia, The	1991 [YR1991]	3.107039222	30997137.33	8.64234326	992671	0.020792251
Gambia, The	1992 [YR1992]	3.378688791	44153827.13	9.486542506	1027476	0.023220411
Gambia, The	1993 [YR1993]	3.012101374	-27298417.89	6.463804228	1060861	0.012643652
Gambia, The	1994 [YR1994]	0.15434596	-40717558.29	1.710206323	1094219	0.008516525
Gambia, The	1995 [YR1995]	0.881848241	37,899,018.26	6.980974418	1128577	0.003340748
Gambia, The	1996 [YR1996]	2.223545638	-41343843.14	1.099488708	1164091	0.001807245
Gambia, The	1997 [YR1997]	4.89999911	48470677.05	2.7812279	1200522	0.002343075
Gambia, The	1998 [YR1998]	3.499998702	13354793.25	1.114188412	1238124	0.002204147
Gambia, The	1999 [YR1999]	6.39999905	19556405.82	3.812372054	1277118	0.001777596
Gambia, The	2000 [YR2000]	5.500000216	-8639361.569	0.844969567	1317708	0.004020072
Gambia, The	2001 [YR2001]	5.800000243	51065027.54	4.492596092	1360070	0.005884172
Gambia, The	2002 [YR2002]	-3.25000015	9015764.793	8.609124744	1404263	0.012430971

Gambia, The	2003 [YR2003]	6.869999622	19060444.09	17.03286654	1449925	0.016886632
Gambia, The	2004 [YR2004]	7.050000001	12819018.25	14.20674328	1496524	0.004066564
Gambia, The	2005 [YR2005]	-2.351729362	-12633138.99	4.838621775	1543745	0.003495432
Gambia, The	2006 [YR2006]	-0.555580977	61300135.04	2.056503424	1591444	0.005089334
Gambia, The	2007 [YR2007]	3.043249508	61415327.22	5.369134738	1639846	0.005769165
Gambia, The	2008 [YR2008]	6.255905534	-45228145.67	4.443654909	1689288	0.003671362
Gambia, The	2009 [YR2009]	6.665724308	42053.86498	4.561506877	1740277	0.007450414
Gambia, The	2010 [YR2010]	5.90833581	-53201967.01	5.049680759	1793199	0.006157322
Gambia, The	2011 [YR2011]	-8.130444223	68079225.43	4.795882662	1848142	0.009267737
Gambia, The	2012 [YR2012]	5.241569246	181977067.8	4.254321998	1905020	0.009646902
Gambia, The	2013 [YR2013]	2.87276879	71282118.38	5.699129896	1963708	0.00666453
Gambia, The	2014 [YR2014]	-1.407382495	45974288.93	5.947999357	2024037	0.006660686
Gambia, The	2015 [YR2015]	4.058073804	137985715	6.808454946	2085860	0.006835063
Gambia, The	2016 [YR2016]	1.943359655	186615293.1	7.228792721	2149134	0.003839495
Gambia, The	2017 [YR2017]	4.822611249	91945594.08	8.034189745	2213900	0.035736586
Gambia, The	2018 [YR2018]	7.234890333	78128522.71	6.520968239	2280092	0.019639592
Gambia, The	2019 [YR2019]	6.15363195	95974797.5	7.115676256	2347696	0.011460736
Ghana	1990 [YR1990]	3.328817883	322235154.7	37.25906649	14773274	0.009033015
Ghana	1991 [YR1991]	5.281826397	482717391.3	18.03143901	15207360	0.017741031
Ghana	1992 [YR1992]	3.87941908	80707093.82	10.05611674	15653345	0.009170717
Ghana	1993 [YR1993]	4.850000554	360892141.8	24.95984247	16106756	0.011053287
Ghana	1994 [YR1994]	3.299999739	678057531.4	24.87025544	16561677	0.010120255
Ghana	1995 [YR1995]	4.112418972	749386989.2	59.4615537	17014058	0.010104095
Ghana	1996 [YR1996]	4.602461156	916764526	46.56101968	17462504	0.00881924

Ghana	1997 [YR1997]	4.19635744	291155273.4	27.88520864	17908977	0.005142205
Ghana	1998 [YR1998]	4.700390784	766990051.9	14.62416667	18357159	0.008852819
Ghana	1999 [YR1999]	4.399996825	266480495.1	4.865397851	18812369	0.006246343
Ghana	2000 [YR2000]	3.700000082	276791337.9	40.24093312	19278850	0.014529711
Ghana	2001 [YR2001]	4.000000128	373085439.1	41.50949629	19756929	0.014720601
Ghana	2002 [YR2002]	4.499999559	458976022.2	9.360932396	20246376	0.012498308
Ghana	2003 [YR2003]	5.200000133	534868943.2	29.77297972	20750308	0.016656537
Ghana	2004 [YR2004]	5.599999991	649567648.7	18.04273882	21272328	0.025527667
Ghana	2005 [YR2005]	5.900003819	400669023.4	15.43899202	21814648	0.011508025
Ghana	2006 [YR2006]	6.399912606	1516084144	11.67918394	22379057	0.00365774
Ghana	2007 [YR2007]	4.346819104	-228315891.1	10.73426655	22963946	0.002193924
Ghana	2008 [YR2008]	9.149798938	-849855649.5	16.49463961	23563832	0.002093444
Ghana	2009 [YR2009]	4.844487052	891063914.6	19.24694822	24170943	0.0037011
Ghana	2010 [YR2010]	7.899711941	-219969790.2	10.73338984	24779614	0.002778677
Ghana	2011 [YR2011]	14.04712358	152532947.5	8.728459371	25387713	0.002102815
Ghana	2012 [YR2012]	9.292789406	1864672640	11.18634094	25996454	0.001900699
Ghana	2013 [YR2013]	7.312525017	9356896235	11.66619231	26607641	0.000446961
Ghana	2014 [YR2014]	2.856240163	10860659325	15.48961603	27224480	0.000420311
Ghana	2015 [YR2015]	2.120759338	9376394201	17.1499695	27849203	0.001284141
Ghana	2016 [YR2016]	3.37346575	11357751650	17.45463471	28481947	0.00055122
Ghana	2017 [YR2017]	8.128894881	10751853327	12.37192155	29121464	0.000437541
Ghana	2018 [YR2018]	6.200077681	14537054457	7.808765166	29767108	0.000251621
Ghana	2019 [YR2019]	6.507774794	12122271917	7.143640033	30417858	0.000187728
Liberia	1990 [YR1990]	..	..	..	2075917	-

Liberia	1991 [YR1991]	..	..	..	2040141	-
Liberia	1992 [YR1992]	..	..	..	2001612	-
Liberia	1993 [YR1993]	..	..	..	1976701	-
Liberia	1994 [YR1994]	..	..	..	1986491	-
Liberia	1995 [YR1995]	..	..	..	2044657	-
Liberia	1996 [YR1996]	..	..	..	2160480	-
Liberia	1997 [YR1997]	..	..	..	2326210	-
Liberia	1998 [YR1998]	..	..	..	2517472	-
Liberia	1999 [YR1999]	..	..	..	2699708	-
Liberia	2000 [YR2000]	..	..	..	2848447	0.005950516
Liberia	2001 [YR2001]	2.920272969	..	..	2953928	0.001803905
Liberia	2002 [YR2002]	3.763018282	..	14.15964701	3024727	0.003518909
Liberia	2003 [YR2003]	-30.14513259	..	10.33028812	3077055	0.020378707
Liberia	2004 [YR2004]	2.619847686	..	7.829087049	3135654	0.056593068
Liberia	2005 [YR2005]	5.281212071	..	10.83435885	3218114	0.054767834
Liberia	2006 [YR2006]	8.043906248	..	7.341446083	3329211	0.054361066
Liberia	2007 [YR2007]	9.535279869	..	11.39189668	3461911	0.669012022
Liberia	2008 [YR2008]	7.145688998	..	17.48944864	3607863	0.524835638
Liberia	2009 [YR2009]	5.300539377	..	7.427643059	3754129	0.083454975
Liberia	2010 [YR2010]	6.099827602	..	7.289927969	3891357	0.502346062
Liberia	2011 [YR2011]	8.20076584	..	8.488167518	4017446	0.101040738
Liberia	2012 [YR2012]	7.993815693	..	6.831787034	4135662	0.041210801
Liberia	2013 [YR2013]	8.687287816	..	7.577306817	4248337	0.028452965
Liberia	2014 [YR2014]	0.7013931	..	9.861112856	4359508	0.05400234

Liberia	2015 [YR2015]	-0.01856497	..		7.748696876	4472229	0.115015856
Liberia	2016 [YR2016]	-1.554958617	..		8.834248683	4586788	0.058103818
Liberia	2017 [YR2017]	2.45515592	..		12.41963239	4702224	0.03469692
Liberia	2018 [YR2018]	1.157575122	..		23.5635149	4818976	0.028048279
Liberia	2019 [YR2019]	-2.467297635	..		..	4937374	0.032376431
Nigeria	1990 [YR1990]	11.77688593	34697189797	7.364400306	95212454	2.22838E-05
Nigeria	1991 [YR1991]	0.358352604	29411060027	13.0069731	97667632	2.76584E-05
Nigeria	1992 [YR1992]	4.631192947	25571002833	44.58884272	100161708	2.93246E-05
Nigeria	1993 [YR1993]	-2.035118776	14126478309	57.16525283	102700751	0.000108008
Nigeria	1994 [YR1994]	-1.814924483	15604772948	57.03170891	105293701	3.14246E-05
Nigeria	1995 [YR1995]	-0.072664767	20278833601	72.8355023	107948339	2.29225E-05
Nigeria	1996 [YR1996]	4.195924045	21664944664	29.26829268	110668784	1.36566E-05
Nigeria	1997 [YR1997]	2.93709942	24133510107	8.529874214	113457661	1.34662E-05
Nigeria	1998 [YR1998]	2.581254103	20544513266	9.996378124	116319763	1.38674E-05
Nigeria	1999 [YR1999]	0.584126895	27639520642	6.618373395	119260055	6.55326E-06
Nigeria	2000 [YR2000]	5.015934757	39697238064	6.933292156	122283853	6.26283E-06
Nigeria	2001 [YR2001]	5.917684652	27944468207	18.87364621	125394046	5.13887E-06
Nigeria	2002 [YR2002]	15.32915574	32456722542	12.8765792	128596079	9.86214E-06
Nigeria	2003 [YR2003]	7.34719497	35202779856	14.03178361	131900634	8.72274E-06
Nigeria	2004 [YR2004]	9.250558228	48730303629	14.99803382	135320420	1.80083E-05
Nigeria	2005 [YR2005]	6.438516525	61995746757	17.86349337	138865014	0.00132104
Nigeria	2006 [YR2006]	6.059428031	1.04668E+11	8.22522152	142538305	0.002344416
Nigeria	2007 [YR2007]	6.591130361	67198508055	5.388007969	146339971	5.04954E-05
Nigeria	2008 [YR2008]	6.764472778	1.03338E+11	11.58107517	150269622	1.45232E-05

Nigeria	2009 [YR2009]	8.036925102	68593987865	12.55496039	154324939	3.08752E-05
Nigeria	2010 [YR2010]	8.005655915	86724888993	13.72020184	158503203	3.224E-05
Nigeria	2011 [YR2011]	5.307924204	1.02868E+11	10.84002754	162805080	1.99707E-05
Nigeria	2012 [YR2012]	4.230061175	1.5112E+11	12.21778174	167228803	1.76965E-05
Nigeria	2013 [YR2013]	6.671335393	1.01509E+11	8.475827285	171765819	2.44576E-05
Nigeria	2014 [YR2014]	6.309718656	1.19109E+11	8.062485824	176404931	2.05566E-05
Nigeria	2015 [YR2015]	2.652693295	75406178309	9.009387183	181137454	2.49492E-05
Nigeria	2016 [YR2016]	-1.61686895	52929987793	15.67534055	185960244	3.81146E-05
Nigeria	2017 [YR2017]	0.80588662	58127425937	16.52353998	190873247	7.99134E-05
Nigeria	2018 [YR2018]	1.922757342	70698792769	12.09473155	195874685	6.9236E-05
Nigeria	2019 [YR2019]	2.208429277	88879608695	11.39679497	200963603	6.16076E-05
sierra leone	1990 [YR1990]	3.349997984	88969105.32	..	4319763	0.008337778
sierra leone	1991 [YR1991]	2.351960645	102659879.6	..	4348663	0.017529913
sierra leone	1992 [YR1992]	-19.01290963	47967561.07	..	4347727	0.038289505
sierra leone	1993 [YR1993]	1.374549379	26229074.89	..	4328965	0.072122909
sierra leone	1994 [YR1994]	-1.947384335	114239134.1	..	4309780	0.090102157
sierra leone	1995 [YR1995]	-7.999753286	-19858315.68	..	4303953	0.059426694
sierra leone	1996 [YR1996]	1.753821399	-34561746.5	..	4312660	0.03756271
sierra leone	1997 [YR1997]	-5.877082015	-36592969.94	..	4335295	0.019265355
sierra leone	1998 [YR1998]	1.785014281	-12751982.6	..	4381484	0.025102648
sierra leone	1999 [YR1999]	-1.979285588	-38410930.05	..	4462374	0.012132124
sierra leone	2000 [YR2000]	6.652727885	-128217102.4	..	4584570	0.080702262
sierra leone	2001 [YR2001]	-6.345455153	-85825619.01	..	4754069	0.094168171
sierra leone	2002 [YR2002]	26.4173166	-106174964	..	4965770	0.093483613

sierra leone	2003 [YR2003]	9.313120969	-80367362.96	..	5201074	0.059195741
sierra leone	2004 [YR2004]	6.59794486	-16302520.64	..	5433995	0.067460244
sierra leone	2005 [YR2005]	4.505095672	15591807.38	..	5645629	0.042430551
sierra leone	2006 [YR2006]	4.223914279	63886554.56	..	5829240	0.040707046
sierra leone	2007 [YR2007]	8.058145152	39240845.31	11.64997445	5989641	0.065051779
sierra leone	2008 [YR2008]	5.39828521	-40598505.42	8.204614927	6133599	0.022923597
sierra leone	2009 [YR2009]	3.188051216	-109112489.7	7.469166667	6272735	0.03322498
sierra leone	2010 [YR2010]	5.346466052	345359866.7	7.193536131	6415636	0.031602759
sierra leone	2011 [YR2011]	6.315045036	-180860742	6.788194444	6563238	0.020751984
sierra leone	2012 [YR2012]	15.18176908	500465.0052	6.588359616	6712586	0.013378852
sierra leone	2013 [YR2013]	20.71576829	-808804591.7	5.51827137	6863975	0.008329852
sierra leone	2014 [YR2014]	4.556772366	-400038704.1	4.645462047	7017153	0.033216336
sierra leone	2015 [YR2015]	-20.59877072	-562543066.4	6.693679279	7171909	0.050370081
sierra leone	2016 [YR2016]	6.055474029	-534442416.3	10.88328586	7328846	0.035589851
sierra leone	2017 [YR2017]	4.192610074	-130492497.4	18.2198092	7488427	0.021170389
sierra leone	2018 [YR2018]	3.46460214	-283215117	16.03278985	7650149	0.015462678
sierra leone	2019 [YR2019]	5.254241203	-292076373.1	14.80305857	7813207	0.021277306

DATA TABLES (objective 2) (2002-2019)

Source; OECD Creditor reporting System;

https://stats.oecd.org/Index.aspx?DataSetCode=crs1#

World bank World Governance Indicators:

http://info.worldbank.org/governance/wgi/Home/Reports

World Bank World Development Indicators and own derived calculation.

https://databank.worldbank.org/source/world-development-indicators

Country Name	YEAR	Sectoral aid-non sector allocable-sum	Sectoral aid-economic sector	Sectoral aid-Humanitarian sector	sectoral aid-total	Sectoral Aid-Unallocated	Sectoral aid; production	Sectoral aid; social sector
Gambia, The	2002 [YR2002]	897783	187870	4228	16620382	2167338	7708658	2532688
Gambia, The	2003 [YR2003]	435019	358097	2572828	22473030	1136738	7192811	5008316
Gambia, The	2004 [YR2004]	955439	1344290	340317	12814697	473674	2878999	2446056
Gambia, The	2005 [YR2005]	1628584	1356062	518764	14470223	534890	2748399	4385318
Gambia, The	2006 [YR2006]	196663	2440361	753045	26344145	181693	1468130	12707550
Gambia, The	2007 [YR2007]	62025	1332561	280	30768786	394788	2212540	21940371
Gambia, The	2008 [YR2008]	33000	168534	708467	29166406	124349	1507645	10227199
Gambia, The	2009 [YR2009]	50000	884800	462809	26995927	334431	5661137	7835908
Gambia, The	2010 [YR2010]	17410	58910	394264	30571522	376493	1464745	9925141
Gambia, The	2011 [YR2011]	17504	276676	4180	30722523	134735	487965	18205654
Gambia, The	2012 [YR2012]	27574	128807	728374	27097618	66221	614704	20363993
Gambia, The	2013 [YR2013]	921914	77330	1088429	27980210	171715	2287160	14548138
Gambia, The	2014 [YR2014]	661000	36679	161266	18410331	79134	531130	15969534
Gambia, The	2015 [YR2015]	946000	63564	496728	22573912	42174	625110	16185828
Gambia, The	2016 [YR2016]	430677	63550	330622	22285662	84941	673794	18986689
Gambia, The	2017 [YR2017]	3177092	334737	15649984	47407510	72873	238242	27355990
Gambia, The	2018 [YR2018]	1694215	1762231	25446	46087710	53691	1765664	32691332
Gambia, The	2019 [YR2019]	2449247	173219	1035000	41574760	656645	275494	31247145
Ghana	2002 [YR2002]	298093	51612958	409376	495318500	55911966	22996452	116543502
Ghana	2003 [YR2003]	803829	73360227	1306632	536319047	38407921	22832278	173818246
Ghana	2004 [YR2004]	2773522	87793430	627214	1810792972	43586413	36798171	245843142

Country	Year							
Ghana	2005 [YR2005]	3033500	96514623	1800616	1032162561	128461025	57992936	215361404
Ghana	2006 [YR2006]	1298200	84365128	1141888	637390335	2673695	54956951	259969556
Ghana	2007 [YR2007]	1318044	83486229	9736956	648631018	2189835	72317769	280535145
Ghana	2008 [YR2008]	983709	92614367	7374815	668250002	-3150002	90287696	284484903
Ghana	2009 [YR2009]	1138164	107874073	2261670	878095859	4062497	125615918	276634627
Ghana	2010 [YR2010]	838205	145117258	1005130	903649046	12932777	152244374	374383376
Ghana	2011 [YR2011]	1004138	176709682	564531	885580342	13857102	161822962	313466922
Ghana	2012 [YR2012]	1130859	174677916	3378160	864126470	13393530	127048730	379940070
Ghana	2013 [YR2013]	862825	85306705	2784517	703079983	7435290	123067128	359531958
Ghana	2014 [YR2014]	1253000	83093029	1259678	578044293	3252462	114861562	329381180
Ghana	2015 [YR2015]	2167000	77887890	5304939	663692354	3407636	115781137	341157435
Ghana	2016 [YR2016]	951966	139160516	267178	664981679	2681323	132986488	323255588
Ghana	2017 [YR2017]	21880551	122998774	1251132	634866441	1752765	122325734	304949765
Ghana	2018 [YR2018]	23135692	136981438	293937	649952137	2554635	149470064	296521152
Ghana	2019 [YR2019]	31644104	161534355	55847	572394860	4795055	85963191	263994015
Liberia	2002 [YR2002]	1191917	63301	17884008	53197621	6491488	68427	8259786
Liberia	2003 [YR2003]	8455665	13597	60429921	99779775	13059499	8379	13569521
Liberia	2004 [YR2004]	3398878		157871041	204439636	1743772	657139	38470538
Liberia	2005 [YR2005]	3338132	77147	85429405	179244990	1819181	2186499	83256512
Liberia	2006 [YR2006]	502871	112611	113204589	207936958	532359	549918	87294471
Liberia	2007 [YR2007]	553900	4229644	75448260	243030448	573673	1507647	101741784
Liberia	2008 [YR2008]	479695	30923011	44668364	1119764097	480583	10591202	133361751
Liberia	2009 [YR2009]	55000	39527461	20233819	356812909	759051	11094959	162663684
Liberia	2010 [YR2010]	48074	41003776	13350925	671077085	156441	6252053	223674136
Liberia	2011 [YR2011]	1244000	48720344	55418552	672813958	139039	12114876	175564419
Liberia	2012 [YR2012]	823000	57377429	37992421	330200996	1212838	15701018	170374490
Liberia	2013 [YR2013]	989039	63677408	15746236	310184639	204160	34219552	159976509
Liberia	2014 [YR2014]	372000	85299479	90718725	415673644	1475538	26817104	176425206
Liberia	2015 [YR2015]	704000	63315568	369691348	692220163	1012871	28575857	173926633

Liberia	2016 [YR2016]	33675	156504826	124529819	562569573	1330396	24411676	206639051
Liberia	2017 [YR2017]	35762243	110503536	15283355	422716562	710045	18264582	210573702
Liberia	2018 [YR2018]	31273134	71822366	3565409	350956533	150481	13496134	212237253
Liberia	2019 [YR2019]	34395984	98745682	6238623	322482694	1591191	11252968	156335207
Nigeria	2002 [YR2002]	9455761	12072878	1076296	277894688	21264316	6371686	153204910
Nigeria	2003 [YR2003]	15996908	21023397	299611	253384311	7093891	6485196	182360929
Nigeria	2004 [YR2004]	16505674	10916679	87308	294244080	5997860	5026496	232767873
Nigeria	2005 [YR2005]	24423705	16435442	14473609	6115566484	90149283	11288258	244994365
Nigeria	2006 [YR2006]	3888820	22099643	1590681	11999671255	2500082	11438062	373303693
Nigeria	2007 [YR2007]	4067913	161214153	851921	1405261867	1744732	13557546	476558691
Nigeria	2008 [YR2008]	22394790	63208171	1205221	795729887	1320893	14164949	625539895
Nigeria	2009 [YR2009]	2131138	56104980	837592	721251810	2047132	21434589	633880453
Nigeria	2010 [YR2010]	2295205	56061081	1325278	914498672	2678235	43861515	762067835
Nigeria	2011 [YR2011]	2512183	87440754	8449534	893956133	993329	46319086	736140770
Nigeria	2012 [YR2012]	3025570	82213997	3629403	930347420	1585706	36023530	793902152
Nigeria	2013 [YR2013]	7239599	104336081	2772734	1166086574	1451695	47215553	986034838
Nigeria	2014 [YR2014]	6044000	102739485	8608077	1076818166	1838914	55562322	858438028
Nigeria	2015 [YR2015]	7174000	107690425	61046631	1141905618	1367153	52452048	885218923
Nigeria	2016 [YR2016]	3200121	90904913	202403415	1275483916	2737064	48615614	880724817
Nigeria	2017 [YR2017]	27280036	177608490	561615911	1802694103	32735209	92916279	870454290
Nigeria	2018 [YR2018]	33333644	151420027	648740699	1726396110	1539269	77318756	765593429
Nigeria	2019 [YR2019]	42579053	99232549	502155331	1363890410	640129	44228470	643166533
Sierra Leone	2002 [YR2002]	19070951	1067417	102169277	293593755	42281360	2150388	74158941
Sierra Leone	2003 [YR2003]	6387322	1267795	71300774	269110448	5963059	1599708	97034054
Sierra Leone	2004 [YR2004]	5905082	26291265	30827600	178995597	4598477	3144907	63920747
Sierra Leone	2005 [YR2005]	5237648	1312038	23931831	131592773	3088058	2673079	48067277
Sierra Leone	2006 [YR2006]	720264	2825556	22434198	173871094	1143443	6795727	69558109
Sierra Leone	2007 [YR2007]	150075	19438947	13925178	376113859	338989	5380659	79334216
Sierra Leone	2008 [YR2008]	112690	16527574	10582356	172723555	519612	10454369	82603528

Sierra Leone	2009 [YR2009]	58616	24225239	4380239	186973032	820990	8076692	101442509
Sierra Leone	2010 [YR2010]	589038	5627855	6158996	184821900	275688	28536411	111937200
Sierra Leone	2011 [YR2011]	784189	1423518	6614423	157695518	1140927	7635600	93152934
Sierra Leone	2012 [YR2012]	2719313	7147555	12744174	172941720	458911	8960123	109685807
Sierra Leone	2013 [YR2013]	2898829	6832765	7693583	262456910	159477	10226344	106254254
Sierra Leone	2014 [YR2014]	2359000	2542584	301291553	456203774	167773	3907201	108743141
Sierra Leone	2015 [YR2015]	3676000	19529219	375909206	548708072	147116	5979385	104844594
Sierra Leone	2016 [YR2016]	1074804	24195591	151404129	433506650	239770	8485206	234086967
Sierra Leone	2017 [YR2017]	3700059	15331286	43449012	301949839	2748702	15350372	212770744
Sierra Leone	2018 [YR2018]	3282350	42373402	5477007	257103901	2104857	10426294	189816501
Sierra Leone	2019 [YR2019]	8851486	41549262	5496068	255685855	1227487	18237014	173377624

Country Name	YEAR	sectoral aid;multisector	Political Instability	Population growth (annual %)	Inflation, consumer prices (annual %)	Imports of goods and services (% of GDP)	FDI as a % of GDP	GDP per capita growth (annual %)	Exports as a % of GDP
Gambia, the	2002 [YR2002]	2837189	0.8262815	3.1976441	8.60912474	32.4855663	7.406	-6.294781	27.2
Gambia, The	2003 [YR2003]	3289876	0.3240196	3.1999221	17.0328665	37.7650066	3.752	3.504379	31.1
Gambia, The	2004 [YR2004]	2957744	0.1655898	3.1633255	14.2067433	29.3395167	5.773	3.71666	20.6
Gambia, The	2005 [YR2005]	1571459	0.2021239	3.1066197	4.83862178	30.1154326	5.22	-5.338653	19.9
Gambia, The	2006 [YR2006]	1807283	-0.034331	3.0430498	2.05650342	29.3397562	7.799	-3.536144	21
Gambia, The	2007 [YR2007]	1932632	0.0477552	2.9960555	5.36913474	26.260887	6.103	0.001806	18
Gambia, The	2008 [YR2008]	1786220	0.0651153	2.9704803	4.44365491	24.6138993	4.533	3.146013	14.5
Gambia, The	2009 [YR2009]	2406515	0.1244179	2.9737158	4.56150688	26.0312869	2.72	3.540487	15.7

Gambia, The	2010 [YR2010]	6104491	0.065417	2.995688	5.04968076	26.3447001	2.407	2.782703	14.7
Gambia, The	2011 [YR2011]	3561012	-0.000271	3.0179634	4.79588266	25.7802976	2.559	-10.86161	16.9
Gambia, The	2012 [YR2012]	2493904	-0.000779	3.0311697	4.254322	27.8589909	2.91	2.099382	19.8
Gambia, The	2013 [YR2013]	2375863	-0.048636	3.0342015	5.6991299	26.482755	4.968	-0.201719	19
Gambia, The	2014 [YR2014]	928253	-0.151401	3.0259509	5.94799936	36.4210353	1.872	-4.346061	21.8
Gambia, The	2015 [YR2015]	1066072	0.0195886	3.0087208	6.80845495	33.341172	5.223	0.973887	19.6
Gambia, The	2016 [YR2016]	519770	-0.434412	2.988373	7.22879272	30.1098919	4.704	-1.058019	15.9
Gambia, The	2017 [YR2017]	577939	-0.084013	2.9690696	8.03418975	36.5295999	4.275	1.756104	16.8
Gambia, The	2018 [YR2018]	498556	-0.074431	2.9460127	6.52096824	41.3826826	4.897	4.121818	21.7
Gambia, The	2019 [YR2019]	1018433	0.2247214	2.9218629	7.11567626	34.4479724	3.922	3.096843	18.9
Ghana	2002 [YR2002]	28273877	-0.163768	2.4471549	9.3609324	54.8729913	0.956	1.973759	42.6
Ghana	2003 [YR2003]	36405612	0.0287742	2.4585275	29.7729797	56.6081031	1.792	2.645164	40.7
Ghana	2004 [YR2004]	36318361	0.0399668	2.4845983	18.0427388	60.3670092	1.568	3.008591	39.3
Ghana	2005 [YR2005]	31207037	0.1683214	2.5174598	15.438992	61.7222972	1.349	3.267292	36.4
Ghana	2006 [YR2006]	28315431	0.008032	2.5543895	11.6791839	40.7293251	3.111	3.716463	25.2
Ghana	2007 [YR2007]	29323927	-0.071786	2.5799855	10.7342665	40.8292317	5.571	1.689118	24.5

Ghana	2008 [YR2008]	29024863	-0.027629	2.5787573	16.4946396	44.4847683	9.467	6.371073	25
Ghana	2009 [YR2009]	62234561	0.0299434	2.5438215	19.2469482	42.3028725	9.108	2.211067	29.3
Ghana	2010 [YR2010]	74431540	0.0260932	2.487009	10.7333898	45.9010978	7.85	5.249331	29.5
Ghana	2011 [YR2011]	45550770	0.1671121	2.4244018	8.72845937	49.3588453	8.256	11.31541	36.9
Ghana	2012 [YR2012]	69377329	0.130695	2.3694827	11.1863409	52.808817	7.983	6.733556	40.4
Ghana	2013 [YR2013]	51826656	0.0606061	2.3238286	11.6661923	35.3185385	5.137	4.847518	25.4
Ghana	2014 [YR2014]	26842041	-0.106808	2.2918138	15.489616	35.6046598	6.139	0.525774	28.2
Ghana	2015 [YR2015]	69073493	-0.032099	2.268778	17.1499695	42.6895663	6.461	-0.170049	33.8
Ghana	2016 [YR2016]	40770208	-0.130929	2.24661	17.4546347	36.6837607	6.206	1.076961	31.2
Ghana	2017 [YR2017]	20870268	0.0918345	2.2205049	12.3719216	36.6714901	5.388	5.754349	33.9
Ghana	2018 [YR2018]	24520836	-0.025517	2.1928529	7.80876517	34.5036225	4.441	3.896614	33.5
Ghana	2019 [YR2019]	24071005	0.1344119	2.1625845	7.14364003	39.3752024	5.677	4.229181	37.4
Liberia	2002 [YR2002]	282102	-2.191442	2.3685029	14.159647		0.302	1.334264	
Liberia	2003 [YR2003]	367387	-2.159336	1.7152131	10.3302881		49.76	-31.33308	
Liberia	2004 [YR2004]	298936	-1.366981	1.8864794	7.82908705		8.4	0.702091	
Liberia	2005 [YR2005]	1136244	-1.361709	2.5957709	10.8343588		8.725	2.583517	

Country	Year								
Liberia	2006 [YR2006]	1051406	-1.32963	3.3939865	7.34144608		9.639	4.438441	
Liberia	2007 [YR2007]	21611604	-1.243969	3.908541	11.3918967		9.588	5.336636	
Liberia	2008 [YR2008]	8722752	-1.285086	4.1294882	17.4894486		16.43	2.811232	
Liberia	2009 [YR2009]	6434714	-1.051082	3.9740671	7.42764306		7.229	1.197886	
Liberia	2010 [YR2010]	9028351	-0.468525	3.5901639	7.28992797		103.3	2.358236	
Liberia	2011 [YR2011]	12650629	-0.42737	3.1888437	8.48816752		86.99	4.804846	
Liberia	2012 [YR2012]	16708076	-0.484477	2.9001035	6.83178703		82.75	4.906862	
Liberia	2013 [YR2013]	15760042	-0.475507	2.68802	7.57730682		62.91	5.804668	
Liberia	2014 [YR2014]	14434162	-0.61545	2.5831595	9.86111286		15.56	-1.866574	
Liberia	2015 [YR2015]	23053443	-0.818026	2.5527735	7.74869688		7.21	-2.538563	
Liberia	2016 [YR2016]	37851316	-0.437408	2.5293055	8.83424868		9.172	-4.013709	
Liberia	2017 [YR2017]	28125845	-0.333085	2.4855591	12.4196324		7.309	-0.06004	
Liberia	2018 [YR2018]	12674188	-0.211711	2.4525869	23.5635149		3.773	-1.293225	
Liberia	2019 [YR2019]	11067199	-0.331434	2.4272154			2.611	-4.806127	
Nigeria	2002 [YR2002]	11138271	-1.625118	2.5215174	12.8765792	16.7954492	1.965	12.45747	23.2
Nigeria	2003 [YR2003]	9812356	-1.633998	2.5372545	14.0317836	22.5835838	1.911	4.657786	26.8

Nigeria	2004 [YR2004]	13790283	-1.753987	2.5596581	14.9980338	11.6420671	1.374	6.489604	20.3
Nigeria	2005 [YR2005]	12967466	-1.667195	2.5856891	17.8634934	12.0255048	2.829	3.721624	21
Nigeria	2006 [YR2006]	11405415	-2.034141	2.6108432	8.22522152	13.0504339	2.056	3.326218	29.5
Nigeria	2007 [YR2007]	6248643	-2.011331	2.6321713	5.38800797	18.1005949	2.19	3.822072	21.2
Nigeria	2008 [YR2008]	4736867	-1.860629	2.6498677	11.5810752	15.1267631	2.414	3.97251	25.7
Nigeria	2009 [YR2009]	4814936	-1.995072	2.6629212	12.5549604	17.428369	2.9	5.197954	18.6
Nigeria	2010 [YR2010]	29516270	-2.211123	2.6714428	13.7202018	17.6601455	1.667	5.158545	25.7
Nigeria	2011 [YR2011]	12100345	-1.956455	2.6778856	10.8400275	21.6610181	2.183	2.525322	31.6
Nigeria	2012 [YR2012]	9795593	-2.042074	2.6809296	12.2177817	12.9857803	1.552	1.472851	31.5
Nigeria	2013 [YR2013]	11802436	-2.088478	2.6769079	8.47582729	12.9989534	1.094	3.853723	18
Nigeria	2014 [YR2014]	34939814	-2.130276	2.6650065	8.06248582	12.4500677	0.859	3.513977	18.4
Nigeria	2015 [YR2015]	13201786	-1.925443	2.6474061	9.00938718	10.6663422	0.629	-0.029282	10.7
Nigeria	2016 [YR2016]	37991188	-1.87771	2.6276752	15.6753406	11.5044092	0.853	-4.168388	9.22
Nigeria	2017 [YR2017]	29998075	-1.999155	2.6076671	16.52354	13.1760369	0.642	-1.788818	13.2
Nigeria	2018 [YR2018]	38094429	-2.101823	2.5865513	12.0947316	17.5109443	0.195	-0.679725	15.5
Nigeria	2019 [YR2019]	27712083	-1.920183	2.564872	11.396795	19.802951	0.514	-0.379752	14.2

Sierra Leone	2002 [YR2002]	8882211	-0.688648	4.3567488		29.8363772	0.831	21.02789	8.55
Sierra Leone	2003 [YR2003]	1082465 9	-1.080389	4.6296772		31.9846666	0.622	4.36764	13.9
Sierra Leone	2004 [YR2004]	1350948	-0.513328	4.3809448		29.1173728	4.222	2.028765	16.5
Sierra Leone	2005 [YR2005]	489996	-0.47925	3.8207027		29.2997771	5.497	0.587582	17.6
Sierra Leone	2006 [YR2006]	1057838	-0.302184	3.2005014		25.047411	3.123	0.941041	16.9
Sierra Leone	2007 [YR2007]	984419	-0.06083	2.7144845	11.6499745	24.6918055	4.423	5.164377	15.6
Sierra Leone	2008 [YR2008]	1871108	-0.238069	2.3750213	8.20461493	25.6942849	2.119	2.924546	13.5
Sierra Leone	2009 [YR2009]	3226534	-0.288516	2.2430773	7.46916667	27.9367615	4.5	0.899229	13.5
Sierra Leone	2010 [YR2010]	3756905	-0.236645	2.2525672	7.19353613	34.4825862	9.248	2.999993	16.8
Sierra Leone	2011 [YR2011]	4981008	-0.168445	2.2745943	6.78819444	64.4502537	32.3	3.924104	16.3
Sierra Leone	2012 [YR2012]	4118539	-0.279945	2.2500193	6.58835962	60.3687918	19	12.6191	32.9
Sierra Leone	2013 [YR2013]	4007621	-0.174718	2.2302448	5.51827137	58.8260439	8.732	18.05331	28.6
Sierra Leone	2014 [YR2014]	2894528	-0.10404	2.207086	4.64546205	52.4257559	7.479	2.274394	30.8
Sierra Leone	2015 [YR2015]	2574066	-0.102517	2.1814287	6.69367928	47.4400673	5.984	-22.3121	19.4
Sierra Leone	2016 [YR2016]	3448753	-0.159926	2.1646201	10.8832859	54.5019093	3.769	3.784444	24.9
Sierra Leone	2017 [YR2017]	6004555	-0.035861	2.1540694	18.2198092	48.2949347	11.12	1.972229	26.2

| Sierra Leone | 2018 [YR2018] | 3222247 | -0.085298 | 2.1366363 | 16.0327899 | 39.2285313 | 6.131 | 1.27739 | 17.5 |
| Sierra Leone | 2019 [YR2019] | 3200610 | -0.052845 | 2.1090382 | 14.8030586 | 37.9437143 | 8.4 | 3.057634 | 18.2 |