Effect Of Foreign Aid on Sectoral Growth in Ghana

Samuel Obeng Marfo, Emmanuel Asumadu Agyemang

University Of Ghana, Ghana

DOI: https://doi.org/10.51244/IJRSI.2025.120800304

Received: 31 Aug 2025; Accepted: 06 Sep 2025; Published: 08 October 2025

ABSTRACT

Every country wants to achieve substantial growth in the economy. This is because the growth in the economy should have an effect in the lives of the wealthy and the poor; from the president of the country, to the parliamentarian right down to the farmer in a village in the remotest part of the country. In Ghana, although there have been studies on economic growth and foreign aid, a few number of these studies have looked at the effectiveness of foreign aids in the agricultural sector that can lead to economic growth in recent times. The key objective of this study is to examine the effects of foreign aid on economic growth in Ghana looking at three key sectors of the economy. This research is important as it brings to light how effective foreign aid is on the growth of the economy in the country. The sample period 1990-2015 is used as a result of the fact that prior to the 1990s era, the Ghanaian economy was barely liberalized whilst data is available for just up to 2015 from the World Development Indicator (WDI) data source. The key findings of this work is that foreign aid has a positive and significant influence on the services sector in both the short and long run. However, foreign aid does not have a significant impact on agricultural sector in the short run but in the long run, it has a significant impact on the agricultural sector. Additionally, foreign aid has no impact on the industrial sector in the short run but it has an insignificant negative relationship in the long run. As recommendations, national agencies should opt for grants and other technical development instead of loans to grow the service sector and agricultural sector. The industrial sector should also be looked at through innovation and technology. It can be concluded that, the growth in Ghana's industrial sector cannot be achieved without the domestic revenue mobilization to boost up the growth of the sector. The over-reliance of many sectors of the economy usually results in low productivity and off target achievement in the country leading to small productivity and output.

Keywords-Economy, Industry, Agricultural, Sector, Ghana, Foreign Aid

CHAPTER ONE

INTRODUCTION

Background of Research

Every country wants to achieve substantial growth in the economy. This is because the growth in the economy should have an effect in the lives of the wealthy and the poor; from the president of the country, to the parliamentarian right down to the farmer in a village in the remotest part of the country. To achieve this, there was the need to generate enough funds for all sectors of the economy. But as the country grew in terms of population, there was the dependency on foreign aid for those who could not generate sufficient funds internally to achieve growth in the economy. This gave rise to the need to look for other sources of funds either internally or externally (Appiah-Konadu et al, 2016).

Osei et al. (2013) stressed that the typical economic growth story of the country started with the first two-and-a half decades right after independence had fluctuations in the economic growth of country which were significant. Killick (2010) added that this was then trailed by the country going through the structural adjustment era. During that period, Ghana witnessed more stable and improved growth after the country had embraced multiparty democracy.

The World Bank (2017) asserted that the economy of Ghana was able to expand for the third, successive quarter and this was in March 2017. There was an increase of 6.6% from 4.4% which was recorded for 2016. The sector of the economy that recorded the highest growth was in the industrial sector with a growth of

11.5%, compared to 1.8% in 2016. This they attributed to contributions which were significant from petroleum and mining. The next sector to also grow was the agricultural sector which grew by 7.6%, indicating an increase compared to 5% from 2016. Also, this growth was attributed to the good performances in the sub sectors which are crops, fisheries, and cocoa.

Nonetheless there were some sectors which saw a decline. The services sector slowed down to 3.7% from 6.6% which was recorded for 2016. This was also attributed to the slower growth in information, finance and communication.

Chee-Keong and Chan (2011) asserted that financial development is a vital factor in the promotion of economic growth in developing countries. Adu et al. (2013) found also a positive and statistically significant effect of financial development on growth. According to a report by the Bank of Ghana (2016), the public debt to GDP ratio was over 70%, therefore in a bid to narrow the fiscal gap, there would be the reliance on foreign inflows in the form of budget support.

Ekanayake and Chatrna (2010) added that the key role of foreign aid which is seen in the stimulation of economic growth is to supplement the domestic sources of finance which include savings. This at the end of the day is able to increase the amount of capital stock and investment. However, Appiah-Konadu et al (2016) sounded a word of caution that if a large percentage of foreign aid was rather loans and not grants, the same foreign aid could have effects which are adverse for domestic savings in the long-run. It could also have adverse effects on even the foreign exchange and fiscal gaps in the long-term and generally, for the macroeconomic performance. On this same topic of whether foreign aid could have a positive impact or negative one, Martins (2011) found out that most aid was spent and about two-thirds of the associated foreign exchange was used in the financing of imports.

Adedokun and Folawewo (2017) asserted that foreign aid in theory has an expectation which is to serve as a means to transfer capital from economies which are developed to developing ones. In doing this, the likelihood was that aid would stimulate economic and social reforms as there was the provision of funds for development projects. The projects could be in the areas of infrastructure, technologies, health and education. Aid would also revitalize economies which were also crises stricken and at the end of it all result in economic growth

Research Problem

In many Sub Saharan African countries, there have been significant increases in foreign inflows, nevertheless economic growth achieved by such countries has not been satisfactory. For instance, Selaya and Thiele (2010) found a significant positive effect of aid on growth, which was driven by the impact on growth in industrial and service sectors, although there was no impact on agricultural sector.

Fuchs, Dreher, and Nunnenkamp (2014) did a survey provided to 22 Development Assistant Committee (DAC) members. The purpose was to find out the determinants of the generosity of donors. They identified some elements like creation of an aid agency which is independent, terror incidents, colonial history and imports from countries which were developing. Some of these rationales behind the giving of aids lead to development in economic growth.

Jones and Tarp (2016) asked the question if foreign aid causes harm to the institutions of recipient governments and on the basis of careful use of the data which was available, they concluded on three things. The first being that there was however a small positive net effect of total aid on political institutions with the second being that the aggregate net positive effect was driven by inflows of governance aid which was stable. The final thing was that there was no systematic negative effect of aid on political institutions of the respective countries. These findings were consistent with the finding of Kersting and Kilby (2014) which was that aid promoted democracy. However Appiah-Konadu et al. (2016) alluded to this assertion by indicating that aid and interest payment on external debt had which was impact on negative on growth. Foreign aid which was envisioned to promote economic development ended up causing harm to the economy of the respective country. Ekanayake and Chatrna (2010) found that foreign aid had a positive effect on economic growth in African countries. According to them this was not of any surprise since Africa was the major recipient of foreign aid than any other region.

The actual role of foreign capital inflow has been an area of controversy although there have been studies on the effect of foreign aid on the growth of the economy using indicators such as capital and labour (Tsikata, 1998; Boakye, 2008; Sakyi, 2011; Appiah-Konadu et, al, 2016). The results from these studies have generated some debates since they could not conclusively ascertain that foreign aid was effective in generating growth. As Addison et al. (2017) opined, the debate on this should and will continue but this can continue when there is a strong body of evidence to back these arguments.In Ghana, although there have been studies on economic growth and foreign aid, a few number of these studies have looked at the effectiveness of foreign aids in the agricultural sector that can lead to economic growth in recent times. Another gap in literature is that in these studies, all the sectors were lumped up into one making the results general. The studies did not show how the foreign aid affected the sectors of the economy such as the agricultural sector, the industrial and the services sector individually.

This study will look at how foreign aid is able to affect the agricultural sector, the industrial and the services sectors of the economy.

Research Objectives

The key objective of this study is to examine the effects of foreign aid on economic growth in Ghana looking at three key sectors of the economy. The key objective has been broken down into three specific objectives which have been enumerated below.

1. To find out the effect of foreign aid on agricultural sector in Ghana.
2. To ascertain the effect of foreign aid on industrial sector in Ghana.
3. To ascertain the effect of foreign aid on services sector in Ghana.

Research Questions

At the end of the study, the subsequent questions will be answered. This will serve as a guide for the research.

1 What is the effect of foreign aid on agricultural sector in Ghana?
2 What is the effect of foreign aid on industrial sector in Ghana?
3 What is the effect of foreign aid on services sector in Ghana?

Significance of the Research

Research on growth have looked at indicators such as capital, government expenditure and labour and how they have been influenced by aid which is foreign. These studies have brought divergent views and the arguments have been going on for some time. This research is important as it brings to light how effective foreign aid is on the growth of the economy in the country. This work depends on data that have been collected by the agencies and ministries with regards to the aid that they have received over a number of years.

The results are of importance to the governmental bodies and agencies that provide aids to the agricultural sector, the services sector and the industrial sector of the economy. Practitioners and stakeholders in the sectors of agriculture, industry and the services will be interested in the results of this work. Furthermore the gap in literature on the effectiveness of aid which is foreign on these sectors will be filled. The results will be of use to world of academia.

Research Limitations

This research is limited to only Ghana first and foremost and also limited to only three sectors of the economy of the country. Therefore, the results cannot be generalized to represent the whole economy of the country. Secondly, this study is time and resources bound. Apart from this, this research is also limited by model that will be used to test the aid- growth theory in Ghana. Another limitation of this work is the dependence on secondary data (the time series) because of the nature of this study. It would not be appropriate to use primary data taking into consideration the vast nature of the project and the time it would have taken to collect data over a number of years.

Chapter Outline

The layout of this study shows how this current study is well thought-out into five main chapters. The very first chapter is the general introduction. The discussions under this chapter entails the background of the study, the statement of problem, the objectives and research questions. Other key themes include the significance of the study, the limitations of the study and the outline of the chapters of the study. The second chapter is based on the review of relevant literature which was on the theories of aid and growth and an empirical review of related works.

The third chapter discusses the methodology of this research, the study area and the models which would be used for the study and the time series data. The fourth chapter presents the findings of the work and discusses how similar or different the work is and the final chapter gives a summary of the findings, the conclusions, and proposes some recommendations for further study and policy making.

REVIEW OF LITERATURE

Introduction

Reviewing relevant literature helps one to have an overview of what other researchers have said on the subject matter (in this case on foreign aid and economic growth) in addition to gaps that have been noticed. This chapter looks at the definitions of economic growth and foreign aid, economic growth in Ghana and the aid-growth functions. This review discusses the works which support the relationship between foreign aid and growth as well as researches which have brought out contrary evidence. It also discusses theories on the subject matter and also the trends of economic growth in Ghana.

It is imperative for the major terms to be defined. One of such terms is economic growth which is simply growth or an increase in the economy of a country. It is the utmost powerful instrument to reduce poverty and improve the quality of life in countries which are developing. Growth could also generate virtuous circles of prosperity and opportunity for a country (Department for International Development, 2007). Sub-Saharan Africa has experienced a relatively rapid economic growth, with an average of about 5% a year and this has been for over a decade (World Bank, 2013).

Foreign aid has been defined based on the forms that it comes in. The first form is the official development aid from central governments which is normally given to countries which are developing. The second one is the official assistance which is also given to developed countries. Another form is the aid given to lower levels of governmental aid from non- governmental organizations (Zhou, 2015). The sources of aid can be from official sources and semi-official sources which are the local government and the NGOs who are actively engaged in aid activities by making use of official development aid monies (Zhou, 2015).

The Aid- Growth Theory

The first study on aid-growth was developed by Harold and Domar in 1930s and 1940s which later became theories. One of the findings of their work was the role of physical capital accumulation to determine economic growth. The conclusion was that foreign aid had a key role to fill the saving gap for countries which are developing. The gap in saving was also seen as the key problem for investment in countries which were developing. From the neoclassical theory by Solow in 1956, there was the suggestion that foreign aid was able to promote economic growth. This was because it supplemented domestic savings and foreign exchange constraints of recipient countries.

Rostow in 1963 was able to illustrate that developing countries who were in the first stage of development needed foreign capital to be able to “kick start” their economy. Rostow developed growth stages theory and added that countries which were developing could then "take-off' to a stage of growth which was self-sustaining. In 1966 which was three years later, Chenery and Strout (1966) brought up this idea into a theoretical framework, which was the "two-gap" theory. It should be stated that this model was able to incorporate the growth process of the growth model from Harrod-Domar. It considered the level of investment in physical capital and the incremental capital output ratio (ICOR) which had been the key driving force for growth (output).

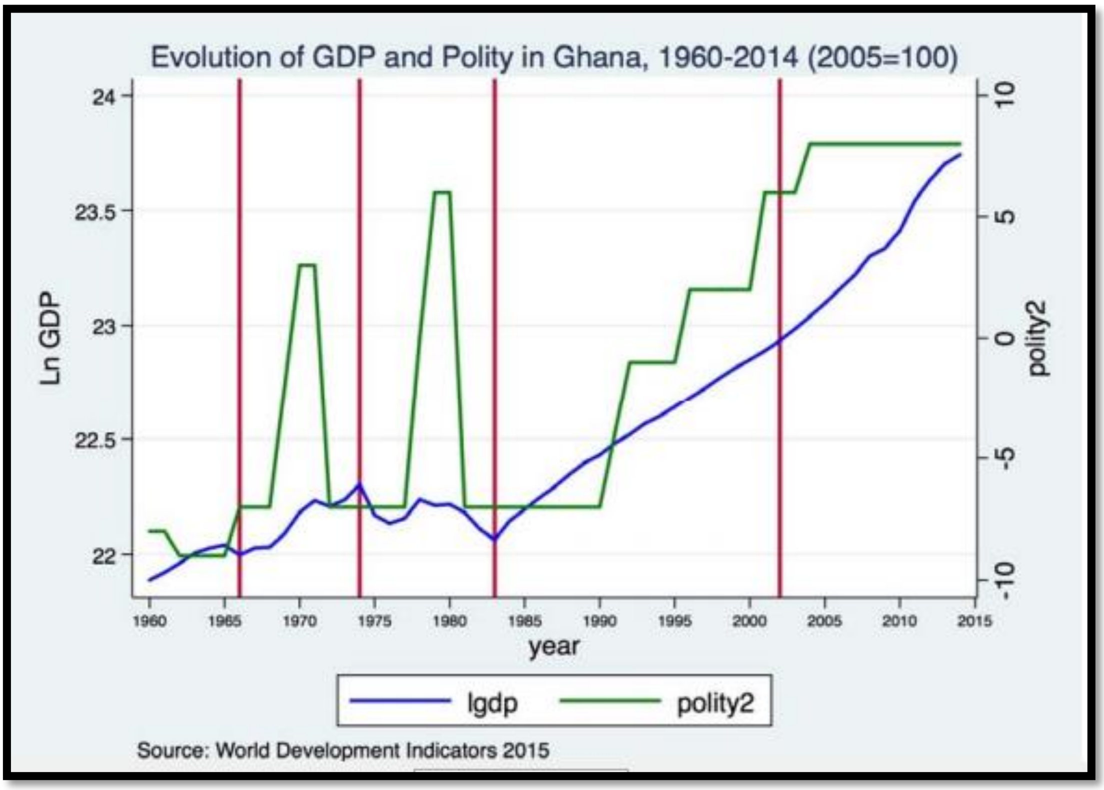
The two-gap model was able to give an illustration that aid inflows would supplement domestic savings and foreign exchange earnings one-for-one. This suggested a form of mutual relationship, where there are benefits. As a result, more aid inflows would lead to higher investment and in the long run to higher growth. There have been some criticisms with the major one being the principles which underlies the two-gap model.

Economic Growth in Ghana: Trends

Kar et al. (2013) found four breaks in the economic growth over the period which covered the immediate post-independence period namely the 1966, 1974 and 1983.

Osei et al. (2015) explained that the red vertical lines in figure 2.1 were a reflection of the periods when the breaks in growth have been identified. According to the figure, with the exception of the break that happened in 1974, all the breaks which have identified were associated with an increase in the growth of the economy (Osei et al., 2015).

Figure 2.1: Economic Growth for Ghana (Source: World Development Indicators, 2015).



Between the 1960's and the early part of 1980's, the real GDP growth had fluctuated a lot around zero. Osei et al (2015) explained that the real GDP growth over this period had an average of about 1.1%. And this also translated into a per capita growth which was negative (-1.3%). There was an explanation for this trend. At this period, there was an unstable political climate that was marked by government overthrow which was regular. Predictably, the real GDP did not change much. From the year 1983 onwards, the trend had a positive change. However it should be stated that there was a noticeable reduction in the fluctuations in real GDP growth as well as a positive per capita GDP (Killick, 2010; Jedwab & Osei, 2012).

Osei et al. (2015) added that in 1983, as part of efforts for improving the state of the economy, the government that was in power, the PNDC government adopted the Structural Adjustment Programme (SAP) from the World Bank. Capital inflows came with the adoption of the SAP. This was mostly from partners who were either multilateral or bilateral (Killick & Malik, 1992). Killick (2010) noted that the immediate policy objective of the government was for the restoration of the macroeconomic stability. This caused sanity being brought to the exchange rate and the fiscal of the government under control.

Osei et al. (2015) added that a blend of these policy measures and an increase in the foreign aid inflows were significant to change the fortunes of Ghana. This then led to the positive GDP growth. This continued right through to the late 1990s. Since 2000, the growth situation has seen an improvement. From the year 2000 to 2012, the country witnessed an increased acceleration in the growth rate (about 6.5%). In 2014, there seemed to be a slowdown (under 5%).

Economy of Ghana- A Current Overview

Currently, the economy of the country has been strengthened and this has been due to relatively sound management, a business environment which is very competitive and sustained reductions in poverty levels. In the recent years, the economy has suffered the consequences of fiscal policy which has been seen as loosed, a budget that is high and current account deficits, and a currency that is depreciating. The economy of the country is a market-based one having policy barriers which is relatively few in terms of trade and investment as compared to the other countries in the region. Also, the country is gifted with natural resources (CIA World Factbook, 2017).

Figure 2.2 gives an overview of the GDP annual growth rate of Ghana which in January 2015 was 5.4 and then a year later reduced to 3.9. As of January 2017, it increased again to 4.5.

Figure 2.2: Annual Growth rate of Ghana (source: Ghana Statistical Service, 2017 & Trading Economics.com, http://tradingeconomics.com)

The total value of goods and services that has been produced in Ghana which ended in June 2017 saw its biggest growth which has happened in quite a while. According to the Ghana Statistical Service, GSS (2017), the year -on- year growth was 9% which has been the largest increase in GDP growth over the past two years.

The Ghana Statistical Service, GSS (2017) attributed the expansion to substantial growth in some sectors of the economy, which are the mining and quarrying sector, oil and gas production. These two sectors together recorded growth of 188% (GSS, 2017). Additionally, the year-on-year inflation from the perspective of the

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

producer for all industry was 6.6% as of August 2017. This rate obtained was 4.6 percentage points higher than the rate that was recorded in July 2017. The second component is business investment and this includes the construction and inventory levels (http://myjoyonline.com. 2017).

The third driver of growth in Ghana is Government spending and it is made up of the largest categories in the form of Social Security benefits, medicare benefits and defense spending. The fourth component is net trade and in this case, the export of a country is able to add to GDP meanwhile imports rather subtracted from it (http://myjoyonline.com. 2017).

The GDP growth rate is able to measure how fast the economy is growing. The GDP growth rate of Ghana has been driven by the four constituents of GDP with the main driver being consumption for personal use. With regards to the GDP composition by industry, Agriculture accounted for 19.5%, while industry was 24% and Services was 56.4% for the year 2016 (CIA World Factbook, 2017).

Table 2.1 below gives an overview of some of the components of the economy with concentration on the GDP of Ghana. One could see that there is a positive growth in all the GDP which were recorded.

Table 2.1: GDP components of the economy

Ghana GDP	Last	Previous	Highest	Lowest	Unit	
GDP Growth Rate	2.50	2.00	7.40	-2.20	percent	[+]
GDP Annual Growth Rate	9.30	9.00	25.00	-3.80	percent	[+]
GDP	42.69	37.54	47.81	1.22	USD Billion	[+]
GDP per capita	1707.70	1686.00	1707.70	701.53	USD	[+]
GDP per capita PPP	3980.20	3954.52	3980.20	1919.60	USD	[+]
GDP From Agriculture	7790.18	7567.00	7790.18	5322.00	GHS Million	[+]
GDP From Construction	3036.96	2950.00	3036.96	1016.30	GHS Million	[+]
GDP From Manufacturing	2451.89	2387.00	2451.89	1801.30	GHS Million	[+]
GDP From Mining	2375.07	2661.00	2834.00	497.40	GHS Million	[+]
GDP From Services	18746.84	17734.00	18746.84	8690.40	GHS Million	[+]
GDP From Transport	3837.80	3754.00	3837.80	2357.20	GHS Million	[+]
GDP From Utilities	308.38	319.00	319.00	224.40	GHS Million	[+]

Source; Ghana Statistical Service and trading economics.com.

Foreign Aid: The Types and Forms Available

Zhou (2015) opined that the aid that has been given to foreign countries were of many types with each aid having a specific purpose. There were aid that were given for humanitarian purposes while aid could also be given to the military of a country. Also, there is official aid and aid given for official development. Aid could also come from corporations, private foundations and political parties. Additionally, aid comes from other semi-official sources and from non-governmental sources. There is also the tied aid (Bjørnskov, 2014). The official development assistance (ODA) is the biggest in terms of scale (Zhou, 2015). Grants and loans are some of the forms of foreign aid. Another form is technical assistance which is non-financial assistance that is provided by international specialists. There can be information sharing and expertise, skills training, instruction, transmission of working knowledge among others (Bjørnskov, 2014).

The argument here is that no matter the country, as long as it is a developing one, it can receive aid. For instance, China which is a developing country, has been able to receive an enormous amount of ODA principally from the Western developed countries and international agencies, in addition to other official aid which is to be used for development (Zhou, 2015).

Official Development Aid (ODA)

ODA is a special type of funding source which has been recognized internationally. There are three basic criteria that must be met according to OECD (Browne, 1990). The first is that aid funds should come from the financial budgets of the government of the donor country and should be executed by governmental institutions of the donor country. Secondly, aid should be able to promote socioeconomic development in the country that receives it and further goals which is related to the people's welfare (Zhou, 2015). After all, what is the use of an aid when the people for whom it is intended for do not benefit from it.

Thirdly, some aid monies come from donor countries flow through non-governmental organizations (NGO) to recipient countries. Nonetheless, the funds which have been raised by these NGO through other private channels have not been incorporated in calculations for ODA.

Another example is project aid which is aid that is given by donors to recipients for a specific purpose such as building materials for a new school in an underprivileged country. Another one is programme aid. For this type of aid, it could be given to a specific sector of the recipient country. For instance it could be funding that is given to the agricultural sector or the industrial sector of a country. Aid could also come in the form of support of the budget. This is a form of programme aid channelled into the financial system of the recipient country (Bjørnskov, 2014).

Other Inter-governmental Aid

It is made up of cross-border aid payments such as humanitarian assistance, other official flows and other forms of payments (Browne, 1990). Aid for humanitarian purposes is to relieve the sufferings of the civilian population after a natural disaster has occurred. This could also be termed as emergency aid. It is used for providing the basic needs of refugees (shelter, food and water) (Bjørnskov, 2014). Further examples of the official capital flows are the grants, bonds, intergovernmental transfers and financial transfers which are official types of aid (Zhou, 2015).

Non-governmental Aid

Principally, it is divided into two types namely the private aid and foundation donations (Browne, 1990). The private aid came from private individuals, which flowed into the recipient countries using channels which were non-governmental. Normally it was NGOs who were responsible for implementing them (Zhou, 2015). Private aid is the oldest form of aid and also consistently in recent years it has risen.

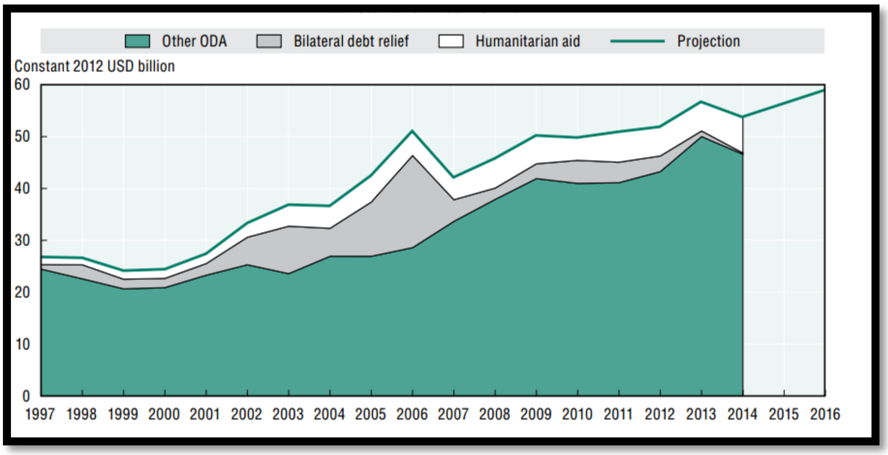
Foreign aid in other Sub Saharan Countries

From the African Economic Outlook (2016), there has been a rise in net ODA from a low of USD 21 billion

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

(at constant 2012 values) to USD 50 billion in 2013 which was its peak. This has been illustrated in Figure 2.3. From the OECD, in 2014, the total net ODA to Africa decreased by USD 3 billion. The value of the assistance fell from of 2.63% of the GDP for the African recipients to below 2% by 2014.

Figure 2.3: Net official development to African countries (Source: African Economic Outlook, 2016).



The amount of aid which donors could allot to a country has also been considered as a good predictor of ODA (African Economic Outlook, 2016:65). Within Africa, East and West Africa have been noted to be the leading recipients of ODA from all recorded donors. Ethiopia was the highest recipient with USD 3.6 billion, followed by Kenya with USD 2.7 billion and closely followed by Tanzania with USD 2.6 billion in 2014. These three countries topped the list in East Africa. For the West African countries, Nigeria was the leader with an ODA of USD 2.5 billion. Coming to other parts of Africa who had major ODA in 2014, Egypt was the first with USD 3.5 billion, followed by Morocco with USD 2.2 billion and finally Mozambique with an amount of USD 2.1 billion. These seven countries which have been stated above accounted for 36% of total ODA to Africa (African Economic Outlook, 2016:67).

Foreign aid in Ghana

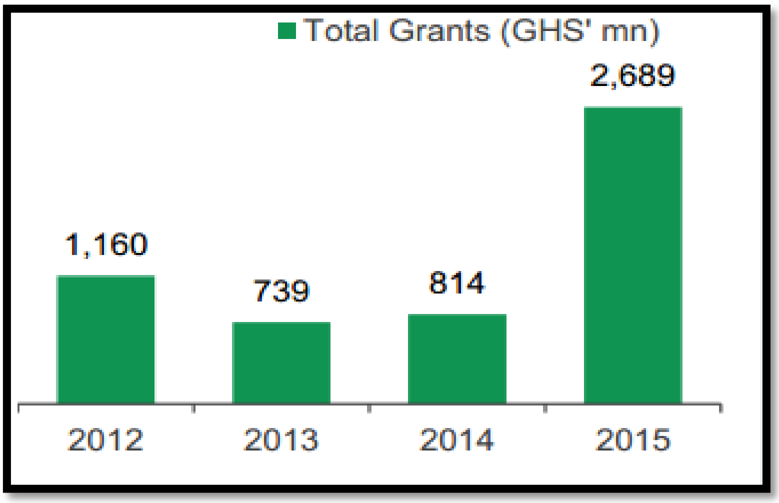
According to the USAID Ghana Report (2012), USAID/Ghana joined other donors to sign the Government of Ghana/Development Partners Compact 2012–2022 in implementing the agenda for development. GoG proposed to direct the application of ODA and other forms of development finance and cooperation in the areas in the figure 2.4 below.

Figure 2.4: Priority Areas for ODA (Source: USAID Ghana Report, 2012)

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

Ghana has also received foreign aid in terms of grant. Figure 2.5 below gives an overview from 2012 to 2015 where the total grants received in 2015 was 2,689,000,000 dollars.

Figure 2.5: Total grants received in Ghana (Source: Ministry of finance, Ghana, 2016).



China is one of the development partners for the country. It seems that at first the foreign aid that was given were loans which was interest free before it became concessional loans and non-concessional loans. It could be seen that this aid started from 1972. The biggest loan was given to the energy sector followed by the roads and highway sector.

Sectors of the Economy that Promotes Growth in Ghana

Agricultural sector

Agriculture is able to account for nearly one-quarter of GDP and is the employer of more than half of the workforce who are mainly small landholders. Some of the agricultural products of the country are cocoa, rice, cassava, shea nuts, peanuts, bananas, corn and timber. Some of the commodities of exports for the country are oil, gold, cocoa, tuna, timber among others while some of the commodities of imports are capital equipment, foodstuffs, refined petroleum. The country was able to earn $13.73 billion in 2016 and $13.47 billion in 2015 from imports. The external debt as of the end of 2016 was $21.17 billion (CIA World Factbook, 2017).

Industrial Sector

The industries in the country range from those in the mining, petroleum, light manufacturing, lumbering, aluminum smelting, cement, small commercial ship building and food processing. The industrial production growth rate which was recorded in 2016 was -0.5% (CIA World Factbook, 2017).

The expansion of the blossoming oil industry has been able to boost the economic growth, but recent oil prices crash was able to reduce by half 2015 oil revenue. Regarding the production at Jubilee (the offshore oilfield), it is currently able to produce roughly 110,000 barrels daily. Additionally, the first gas processing plant at Atuabo is producing natural gas from the Jubilee field. This has been able to provide power to several of thermal power plants (CIA World Factbook, 2017).

According to a news item on myjoyonline.com (2017), the industry sector had a growth rate of 19.3%, the services sector had a negative growth of- 5.6%, while Agricultural sector had 3.4%. All these were recorded for the second quarter of 2017.

Services Sector

The services sector also accounts for about half of GDP of the country. Powell (2015) added that the government had keenly encouraged the development of this sector in the country. Services account for almost

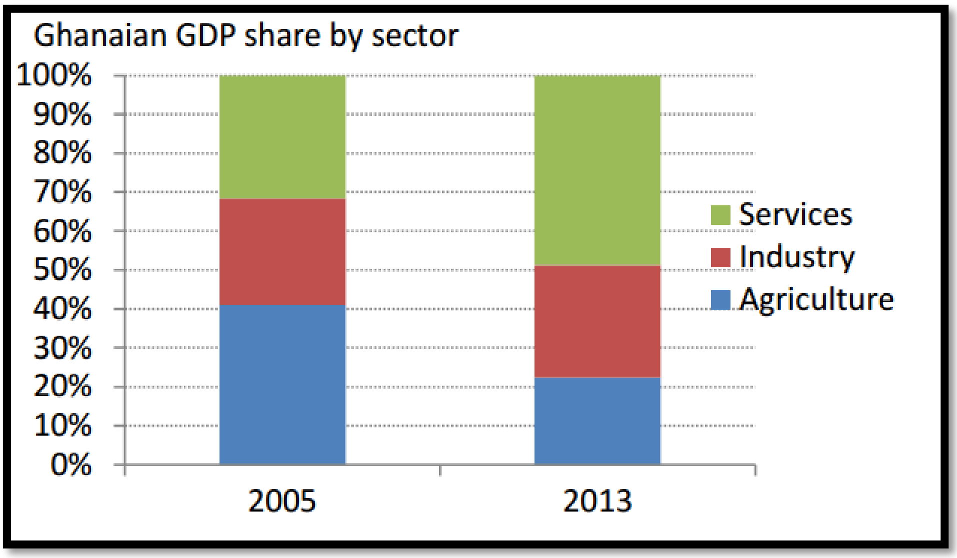
ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

half of GDP and hence has a considerable share of trade. On the other hand, several factors have limited the impact of the service sector on the economy.

Powell (2015) opined that the services sector share of GDP grew from 32.2% to 48.8% during 2005–13 in figure 2.6 below. It was then able to overtake agriculture as the largest section of economy. The services sector is also a vital source of jobs, which has been able to account for 43.1% of employment in the year 2010 which was eight years ago. The commercial services exports and imports accounted for 15.9 and 17.3% respectively of total goods and services export and import in 2012 in the country.

During the year 2005 to 2012, the country posted continuous services trade deficits and in 2011, this peaked at $1.4 billion (Powell, 2015).

Figure 2.6: GDP Share by sector (Source: World Bank, World Development Indicators).



Other Sectors of the Economy

The Mining and Quarrying sub-sector also had a record of being the highest yearly producer price inflation rate of 8.3%. This was trailed by the Manufacturing sub-sector which had 7.5%. The Utilities sub-sector on the other hand had the lowest yearly producer inflation rate of 1.3%. All these were obtained for 2017 (http://myjoyonline.com).

Aid–Growth Functions Used in Similar Studies in Ghana

In Ghana, one of the models in literature for Aid-growth equation specification is the Aggregate Production Function (APF) as used by Boakye in 2012. This was premised on the neoclassical growth model, where labour and capital inputs were able to explain largely the economic growth patterns for a country. Nevertheless, there were some explanatory variables which were significant to derive changes in the output. The determinants of growth in any country are the growth model based on aggregate production function (APF):

$Y_t = f(A, L, K)$

Where Y is real GDP, L *and* K, are labour and capital respectively and A is an index of technological progress.

These variables have been well thought-out and selected on the basis of their foundations in theory besides characteristics of the country which were specific (Boakye, 2012). There was one important assumption which underpinned the APF and this was that, along with "conventional inputs" of labour and capital which were used in the neoclassical production function. There was also "non-traditional inputs" such as foreign aid and government expenditure which may be added in the model so that they could capture their contribution to the growth of the economy.

Selaya and Thiele (2010) used panel data and aid-growth econometric specification to control for the effects of changes in the real exchange rate (RER). They were able to estimate some required measures of value added in the tradable or the exportable and the non-tradable sectors. Selaya and Thiele (2010) built these measures with data from the World Development Indicators from the World Bank on sectoral real Value Added. They created proxies to measure growth in the tradable (exportable) sector. Firstly, they created the proxies for non-services GDP and the second proxy for the sum of Agricultural and Industrial Value Added. Appiah-Konadu (2016) on the other hand used the Autoregressive Distributed Lag (ARDL) approach to co-integration on time series data for Ghana.

Aid –growth: Other Sectors of the Economy

Foreign Aid on Agricultural Sector

One of the studies that would be discussed is the work by Kaya et al. (2008). They employed an econometric model and used a cross-sectional time-series data to analyse the impact of agricultural aid on agriculture in countries which were developing. One of the significant findings of their research was that there was a positive relationship between growth in the agricultural output and agricultural assistance for development (in this case, rural). The relationship was also statistically significant. And this finding is very significant for this current project since it also seeks to assess the effect of foreign aid on agriculture in Ghana.

Alabi (2014) investigated the impact of foreign agricultural aid on agricultural GDP and productivity in Sub-Saharan Africa. He chose the data which spanned eight years (2002-2010) and employed a Generalized Method of Moments framework. One of the findings of the study was that the sectoral aid allocation to agriculture on an average was 7%. In 2002, this grew from 18 million USD to more than twice the amount which is about 47 million USD as of 2010. Another finding was that foreign agricultural aid had a positive impact on agricultural GDP and agricultural productivity. And this impact was also statistically significant at 10% significance. There were other parameters which were used in the model such as the transparency index and the governance index. The study revealed that the transparency index had a relationship which was positive with foreign agricultural aid. It also had a relationship which was positive with agricultural GDP, and agricultural productivity. However these relationships were not significant.

Another interesting study was done by Ighodaro and Nwaogwugwu (2013) who conducted a study in Nigeria to ascertain the effectiveness of foreign aid on the growth of the agricultural sector. They used the ARDL and the ECM approach and quarterly data that covered the period 1981 to 2009 which is close to 28 years. One of the significant outcomes of their research which was contrary to expectation was that the parameter estimate of foreign aid had a relationship which was negative with agricultural output. This impact was seen in both the short and long run. It should be stated that the relationship was insignificant. This finding was interesting because previous studies form other authors have shown a positive relationship. Another interesting outcome of their research was that, when it came to variables such as savings and technological trend, they rather had relationship which was positive with agricultural output both in the short run and long run. The relationship was also significant statistically.

Foreign Aid on Industrial Sector

Selaya and Thiele (2010) found that aid had a positive marginal effect on growth of output, at the aggregate level. This was for the tradable sector (industrial sector) and the relationship was significant. This finding was robust when it was subjected to diverse specifications as well as different conditioning factors. There was one explanation and that was the existence of capacity which had been termed as idle in the countries at the receiving end was able to help to promptly meet the increase in aggregate demand caused by aid inflows. Because of this idleness, there was no upward pressure on the real exchange rate. The findings suggested that aid may not cause Dutch disease type structural problems. Also, the marginal effects of aid in countries with policies which have been termed as 'bad' and 'weak' characteristics were close to zero as well as insignificant in most of the manipulations.

Foreign Aid on Services Sector

Selaya and Thiele (2010) found that aid had a positive marginal effect on growth of output, at the aggregate level. This was for the services sector and the relationship was significant.

One of the sectors in the services that would be looked at is the educational sector. Riddell and Zarazu (2016) asserted that there was a positive contribution that aid made to education in countries which were aid-recipient. According to them, the most noticeable effect has been made to expand enrolments particularly in terms of basic education.

Related Empirical Studies

This section looks at related works which either agrees with the aid-growth theory or disagree with this theory based on empirical studies.

Studies That Found a Positive Relationship Between Aid and Growth

Feeny and McGillivray (2010) found out that aid had a positive impact on real per capita income growth for small island states. This impact was also significant statistically. Even though there were diminishing returns in their analysis, these effects set in when aid was above 35% of GDP. Also, it was noticed that positive results were obtained when aid exceeded this level in only four of twenty eight small island states (Feeny & McGillivray, 2010, p. 907). And this was small as compared to the remaining twenty four island states.

Another study done by Javid and Qayyum (2011) sought to examine the effectiveness of aid. Their empirical analysis was based on the Autoregressive Distributed Lag (ARDL) approach to co-integration and they used the data for over 48 years (1960 – 2008). The empirical finding of the study was that foreign aid and real GDP had a relationship which was negative. There were some interesting results that came out of this study. When the aid-GDP alone was introduced into the growth equation, it showed a positive coefficient in the long run, although this relationship was insignificant. However in the short run, the relationship was negative and coefficient were significant but weak. Meanwhile, aid policy interactive term had a positive and the coefficient was also significant both in the short run and the long run. Javid and Qayyum (2011) continued that the bilateral aid was significantly positive in the short run while multilateral aid was insignificant. The aid interactive term was positive in both cases. The results supported strongly the view that foreign aid did have a positive impact on economic growth.

Njoupognigni and Ndambendia (2011) used dynamic panel data methods study of thirty six sub Saharan African countries. The authors found out that foreign aid and direct investment which were foreign had impact on economic growth and this impact was positive. Nonetheless, the suggestion they gave was that in these countries it was better to rely on domestic sources or on the internal factors instead of relying on foreign capital inflows.

Arndt et al. (2015a) concluded that recent empirical studies provided support which was consistent that aid has had a positive average effect on growth. This was for an extended number of years. When a series of simulations was done, they found out that the average internal rate of return was more than the 10% level. The conclusion that aid was ineffective had weaker support in terms of literature. Therefore, the view that aggregate aid was actively harmful on the average did not find endorsement in academic research of research.

Studies That Found a Negative Relationship Between Aid and Growth

There has been an emergence of a fourth generation of who have decidedly chosen to come out boldly to support pessimistic aid-growth from studies that they have carried out.

This duty was steered by Rajan and Subramanian (2005). Their argument was that a great increase in aidwould in turn lead to Dutch Disease effects. This would then weaken any potential impacts which are of benefit on growth. It should be stated that this evidence which has been stated has been met with decidedly mixed reaction. Fielding (2010) analysed 65 developing countries for over 40 years. He was able to provide evidence on the absence of Dutch disease type of problems which has been caused by aid. In explaining this results, Addison et al. (2017) added that the expectation for small island states, to be specific those in the Pacific who had an aid dependence which was high, would be chiefly susceptible to effects of the Dutch Disease.

On the other hand, Fielding (2010) was able to find out that aid was associated with real exchange rate appreciation. This was only for three out of ten Pacific economies which were chosen and used for the study. The implication of this was that characteristics for instance increased trade openness or greater government effectiveness could significantly mitigate any effect of aid which is adverse. In the analysis of the effect of aid on growth, Rajan and Subramanian (2005) argued in favour of the instruments of the supply side for aid in long run cross-section analysis. They concluded that the results obtained were not statistically significant and there was no positive effect of aid in the data used.

Doucouliagos and Paldam (2008) also used the meta regression analysis methods for studies on aid and growth. They also came to the conclusion that aid was not effective. Nevertheless, Mekasha and Tarp (2013) were able to show that there are limitations in the analysis. Rather, the meta evidence rather supported the effectiveness of aid. Nowak-Lehmann et al. (2012) claimed that aid was ineffective using estimates from a panel time series analysis. But a replication study by Lof et al. (2015) showed that their results were distorted. Finally in conclusion, Addison et al. (2017) argued that if there was one universal conclusion from literature that came from several disagreements in the aid-growth regressions, it was to restraint against drawing conclusions which were unqualified.

Issues Coming Out From Aid- Growth Empirical Studies

One of the issues is the donor measure of aid which is normally allocated to a country where there may be an overstatement in the amount actually received by, or available to spend in, the recipient country (Addison et. al, 2017). There were some discrepancies between the amounts that are stated and the amount actually given. And based on the form of aid being given (as discussed above), such discrepancies could be predominantly obvious. Additionally, for any kind of aid there is a certain percentage of administrative costs that is used to pay for project management costs and daily expenditures of the foreign aid agencies (Zhou, 2015). Another issue is on the usage of the aid given, where how aid is used has the capacity to influence any potential effect on growth (Addison et. al, 2017).

Serieux (2011) suggested that up to half of aid which came to SSA countries may effectively be used in financing debt servicing costs or to accumulate reserves. The implication was that the aid was not available for financing investment in these countries. Therefore, there would be a reduction in the effectiveness in aid-growth regressions. Nonetheless, this did not imply that the aid given was not used well.

Synopsis of Second Chapter

The second chapter has delved into the literature on economic growth and foreign aid and the theories, models and functions surrounding the two concepts. However one thing that stood out from this was that literature on the effect of foreign aid on a sectoral basis for Ghana seems to be lacking in literature.

METHODOLOGY

Introduction

This section provides a general overview of the methodology used for the research work, it discusses how data for this study was collected and analysed in order to examine and provide answers to the research questions which have been formulated in the preceding chapters to arrive at the findings. The key objective of this study is to examine the impact of foreign aid (Official Development Assistance) on sectorial growth in Ghana. In order to understand and establish a reliable result, the study adopts the quantitative research method using statistical analysis to provide answers to the research questions.

Research Design

The research design of any study is basically the framework that outlines the inter-relationship between the various activities required to effectively address the central aim of the study (Buame, 2010). It also ensures that the research questions are adequately responded to (Buame, 2010). Similarly, Bryman (2004) explains that research designs establish the nexus between empirical data and its logical conclusions which are related to the research questions of the study and include specific data collection and analysis techniques employed. This study employs an exploratory case study design and is a longitudinal study of the impact of foreign aid on the growth of the various sectors of the Ghanaian economy. For the study, a quantitative approach will be used to collate, aggregate and analyse data as well as to present the findings made.

Data

In this study, historical data was used to determine the impact of Official Development Assistance (Foreign aid) on sectorial growth in Ghana between 1990 and 2015. The sample period 1990-2015 is used as a result of the fact that prior to the 1990s era, the Ghanaian economy was barely liberalized whilst data is available for up to 2015 from the World Development Indicator (WDI) data source. Only secondary data was used for the study. Data included foreign aid and international trade statistics of Ghana during the sample period. The sources of data included International Monetary Fund (IMF) reports, Bank of Ghana (BoG) reports and the Ministry of Finance data base on foreign aid.

Theoretical Conceptualization of Credit Constraint in the Agriculture Sector

A basic theoretical model is able to show the relationship between Agriculture' optimization behaviour, and credit market imperfections in the money market. The model also demonstrates how binding credit constraints can lead to productivity differentials between Agricultural sector with credit constraint and another sector that have access to credit. Assume a farmer who lives in the study area with fixed land illustrated by A, in the short run and other farm inputs such as fertilizer, pesticides, access to viable seeds. Let assume the production function in Agricultural sector is given as

$Q = AK^{\alpha} L^{\beta,}$ where

Q = the total output produced from the Agriculture sector

A = the land used in production in the short run

K = capital input used for production

L = Labour input used in production.

Estimation Model

To be able to answer the research questions as well as obtain the objectives of the study, various econometric models would be employed in the study. The first empirical estimation model to be employed is the Auto-regressive Distributed lag model (ARDL). Due to the nature of the data and the study on one particular unit herein acknowledged as Ghana, the study employs a time series estimation model using the ARDL estimation procedure.

An ARDL process follows the estimation model as:

$$Y_t = a_1 Y_{t-1} + a_2 Y_{t-2} + a_3 Y_{t-3} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where

Y_t Is the dependent variable at a particular time (t).

a_1 Is the coefficient of the independent variables at the particular time (t).

Y_{t-1} Can be determined using the Auto-correlation function of the lag variable.

Using the general model of equation one, the study can be estimated using the model above in equation one (1). The empirical data for this study can be estimated using the model with the function: To find out the effect of foreign aid on agricultural sector in Ghana.

Transforming the model to find out the impact of foreign aid on the Agriculture sector will make the equation simplified in the form:

$Q = AK^{\alpha} L^{\beta,}$ ………………………………………………………………………….... (2)

$$AGRIC_t = a_t + B_t Techno_{t-1} + B_t Capt_{t-1} + B_t Lab_{t-1} + B_t F.AID_{t-1} + \varepsilon_t \dots\dots\dots\dots\dots (3)$$

(ii) To ascertain the effect of foreign aid on industrial sector in Ghana.

$$INDUS_t = a_t + B_t Techno_{t-1} + B_t Capt_{t-1} + B_t Lab_{t-1} + B_t F.AID_{t-1} + \varepsilon_t \dots\dots\dots\dots\dots (4)$$

(iii) To ascertain the effect of foreign aid on services sector in Ghana.

$$SERV_t = a_t + B_t Techno_{t-1} + B_t Capt_{t-1} + B_t Lab_{t-1} + B_t F.AID_{t-1} + \varepsilon_t \dots\dots\dots\dots\dots (5)$$

Explanation of Variables

Dependent Variables

Agriculture Production: Agriculture production refers to the rearing of farm animals and the cultivation of crops within a particular location which has the potential to provide food for the households and surplus for foreign exchange.

Industrial sector: Industrialization is the transformation of raw materials into finished products through the use of technology and high capital acquisition.

Service sector: This refers to the use of human effort and capacity to assist in the production process and offering of efforts for the various sectors of the economy. The service sector deals in the use of the labour for productivity.

Table 3.1: Description of Variables and expected signs

Variables	**Description**	**Measurement A priori**	**Sign**
Technology	Usage of technology	(1000 per mobile usage)	+
Capital	Domestic finance	GHS million cedis	+
Labour	Employed population	Adult working population	_
Foreign aid	Grants and loans	GHS million	+

Source: Authors own computation, 2018.

Independent Variables

Technology: This refers to the use of sophisticated machinery in the production process of a particular industry. It deals with the use of modern systems of production.

This is other than the crude and indigenous ways of dealing with production.

Capital: This refers to the use of initial requirements for a production process to begin. Capital in business consists of any amount that is initially required for the commencement of a business entity.

Labour: Labour refers to the human efforts offered towards production.

Foreign aid: This refers to the Official Development Assistance received from International Organizations or Governments used to pursue a particular purpose as indicated by the donor. Foreign aid normally consists of grants or loans that come from one government to another.

Ethical Consideration

In an attempt to safeguard the authenticity of the study, it was necessary that some ethical considerations were observed. The following ethical issues were considered strictly in the course of the study. These include acknowledgment of data sources, privacy and confidentiality, plagiarism and fabrication of data. Again, the researcher provided all the sources of data with all the needed information that might be needed for the regression analysis.

Conclusion

This chapter concentrated on the methodology and the data for the study. The chapter again highlighted the definitions of the concepts, theoretical conceptualization, the models and precedent literatures based on empirical estimations and data sources. Different econometric models and estimation procedures are employed to achieve the objectives of the study.

RESULTS AND DISCUSSION

Introduction

This chapter gives an overall of the descriptive statistics of the data. The chapter is subdivided into four distinct parts. The first section provides a descriptive analysis of the variables which were used in the model. This was followed by the next section which presents the results of the diagnostic tests. The discussion of the empirical findings has been presented in the subsequent sections. This is followed by the conclusion in Section 4.5.

Descriptive Statistics of Variables

Table 4.1 shows the summary statistics of the variables. The summary statistics comprises the mean, median, maximum and minimum values in addition to the P-values of the whole variables used for the study. The result of the study indicated shows that, over the period of study, the Agriculture value is represented by 32.4% implying that the Agriculture level of goods and services over the period of study is generally high in the country. Labour productivity has the lowest mean value of 1.44 whiles the level of Gross Domestic Product (GDP) has the highest value of mean with an equivalent value of 14623.82. There exists relatively high variability in the variables. However, the variability of the variables are low compared with the mean of the variables, except the variability in the Agriculture.

Again, real output (GDP) had a maximum value of 44,465.65 which was the highest among the variables whilst technology obtained the maximum value of 2.082300 which was the lowest among the variables. Most of the variables are positively skewed with the exception of labour productivity which exhibits negative skewness implying that it has a long left tail. As shown in table 4.2, the p-values of the Jacque Bera statistic,

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

Agriculture, GDP and foreign aid are normally distributed at 5%, 10% and 1% levels of significance respectively whilst technology usage and interest rate are not normally distributed based on their p-values.

Table 4.1 Summary statistics of variables (1985-2016)

	AGRIC.	GDP	F.AID	LAB	TECH.
Mean	32.4656	14623.82	46.741	1.4443	24.33258
median	13.4635	12700.3	13.8392	1.22508	21.71
Maximum	124.354	44,465.65	833.333	2.0823	47.88
Minimum	0.23463	6250.73	0	0.113	9.6
Standard Deviation	38.0985	7088.589	147.9	0.47409	10.96432
Skewness	1.02435	1.007608	5.08316	-0.3437	0.704026
Kurtosis	2.35846	3.1643	27.5626	2.89789	2.660341
Jarque-Berra	5.87865	5.280451	912.791	0.62366	2.709891
Probability	0.03254	0.071345	0	0.73211	0.257961
Sum	1054.284	453338.3	754.31	38.5732	14443
Sum Sq. Dev.	48914.17	1.51E+09	3606.49	6.74274	3606.491

Source: Authors computation using STATA, 13.

Regression Results

The empirical analysis of the various regression results of the service sector and the industrial sector shown in the various tables below with the analysis explained and well defined.

Table 4.2 Regression of variables on the service sector in Ghana

	(1)
VARIABLES	Service
Foreign aid	0.3250**
	(1.207)
Finsecdevpt	-0..4267
	(10.20)
Inflation	0.317

	(3.232)
Trade openness	0.167**
	(3.629)
Oilrent	.01048***
	(29.66)
GDP	-10.65
	(25.64)
Constant	-0.1075
	(271.0)
Observations	31
R-squared	0.755

Standard errors in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$)

Source: Authour's construct (2018)

Foreign aid and Services Sector

The impact of foreign aid on the service sector is very significant. Table 4.2 shows that there is an impact of foreign aid on the service sector. And this impact is significant. A unit increase in foreign aid in Ghana leads to 32.5 percent increase in the service sector enrolment and productivity. This is true for the case that, most of foreign aid received comes with the conditionality of institutional development and service sector capacity building. This makes most sectors redundant compared to the service sector which has now become a driving force for development and economic expansion. This supports the work of Selaya and Thiele (2010) and Riddell and Zarazu (2016). Ghana's service sector has received considerable amount of aid through the education sector and human resource capacity building. Foreign aid has been a boost to the service sector over the past decades due to the importance placed on human resource capacity building across the world. Ghana is no exception as the economy continues to receive foreign aid that seeks to promote and expand the service sector. This confirms a study by Bräutigam and Knack (2004) who observed that sub-Saharan Africa receive foreign aid a lot and one of the major reasons for the increment in foreign aid was for increasing productivity in the service sector in various institutions.

Financial Sector Development

The development of the financial sector in Ghana and across the world has been a major objective of many institutions. Table 4.2 shows that, the development of the financial sector has no impact on the service sector of Ghana. This means that, many developed financial institutions prefer to invest in the manufacturing sector such as the extraction of raw materials compared to investing in the human resource sector of the economy.

Table 4.2 shows statistically no significant impact of the financial sector development on the service sector. This means that, the financial sector in the country does not influence the level of activities of the service sector in Ghana.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

Trade Openness

Trade openness refers to the international exchange of good and services between Ghana and the rest of the world. Trade openness also has statistically significant impact on the performance of the service sector. A unit increase in trade leads to 16 percentage increase in the level of service sector performance. Due to international trade and openness in the economy, there has been significant impact of trade on the various service sectors of the country. Trade involves exchange of expert and technical advices on business transactions. This means that, trade openness leads to improvement in the service sector performance of the country. Guerrieri and Meliciani (2005) investigated how some countries have become specialised in exporting precise producer services, predominantly communication, financial and business services. The study confirms their findings that the ability of a country to develop a competitive service economy depended on the structure of its manufacturing sector. This is against the background that there are some manufacturing industries which are more intensive users of these services. Furthermore, a virtuous cycle exist as the same service producers are intensive users of these producer services. In conclusion, information and communication technologies had an impact on trade performance of these producer services. And this impact is significant.

Gross Domestic Product

GDP refers to the total level of goods and services which have been produced in a country over a specified period of time. GDP of the country has statistically no significant impact on the service sector of Ghana. The GDP of Ghana which is usually denoted as national income affects many aspects of the economy. It is used to finance all the expenditures of the country include the health sector, education, manufacturing and Agricultural sector. Table 4.2 shows that the GDP of Ghana does not have any significant impact on the service sector of the country. Konan and Maskus (2006) observed that when there is a reduction in the service barriers, it led to a relatively large welfare gains and low adjustment costs. The result was that services liberalization led to an increase in economic activity in all the sectors. This was able to raise the real returns to both capital and labour. One outcome of this is the potential importance which was found in deregulating services provision for economic development.

Table 4.3 Regression of variables on Agricultural sector

	(1)
VARIABLES	Agriculture
Foreign aid	1.39e-09
	(1.50e-09)
Finsec devpt	0.0384
	(0.124)
Inflation	-0.0254
	(0.0394)
Oilrent	-0.210
	(0.362)

Trade openness	-0.00548
	(0.0443)
GDP	0.494
	(0.313)
Constant	-1.913
	(3.306)
Observations	31
R-squared	0.287

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Source: Authour's construct (2018)

Table 4.3 shows the time series regression of the various variables on the Agricultural sector. It should be stated that two of the variables namely trade openness and inflation are significant at 95%. However on the overall, foreign aid has no statistically significant impact on the Agriculture sector in Ghana. This is because most foreign aids received in the country goes to the service sector compared to the traditional Agricultural sector of the country. The trade openness, inflation rate, democracy and Gross Domestic product do not all have any significant impact on the level of Agricultural production in the country. This does not corroborate the findings of Kaya et al. (2008) although it supports the findings of Sarris and Shams (1991). It does not support the findings of Ighodaro and Nwaogwugwu (2013) who found a negative relationship between foreign aid and agriculture for Nigeria.

One of the reasons that could be given according to Sarris and Shams (1991) is what the structure and performance of the agricultural sector has been in the area of rural poverty reduction. It also links with agricultural assets and social conditions and this in turn leads to women in development. Support services from the Government, agricultural credit availability and marketing, the role of grassroots and non-governmental groups' impact on the rural poor and therefore requires government attention. Wholesale prices of the different staple food crops on the market vary significantly each year. There are wide variations in terms of price across the then different regions, and even between local areas. Price instability is truly evident in this country. Additionally, the current system of food marketing has a serious impact on small food producers who may not have access to sophisticated means of marketing. Other factors could be that for any kind of aid there is a certain percentage of administrative costs that is used to pay for project management costs and daily expenditures of the foreign aid agencies (Zhou, 2015).

Foreign Aid

The lags of foreign aid show how the independent variables influence the dependent variable at certain time periods. Foreign aid statistically influences the level of agricultural production in Ghana in the long run. However, this is not so in the short run. This is shown in the lags 3 and 5 at a significant level of 10 percentage points. The increase in foreign aid influences Agricultural production in the long run but as has been stated, it is not so in the short run. This shows that the continuous increase in Agricultural support occurs in the long run but not in the short run of foreign aid support. This is shown in table 4.4. Table 4.4 again

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IX September 2025

shows that financial sector development in the long run also influences the level of Agricultural productivity in the long run. In the long run, financial sector development significantly impact on the Agricultural sector.

Table 4.4 Lags regression of foreign aid on Agriculture sector in Ghana

	(1)
VARIABLES	Agriculture
L. Foreign aid	0.47409
	(3.3909)
L2.Foreignaid	1.5809
	(3.9309)
L3.Foreignaid	-0.8409*
	(4.3309)
L4.Foreignaid	-2.9709
	(4.8309)
L5.Foreignaid	0.10808*
	(5.0709)
L. Finsec devpt	-0.253
	(0.217)
L2.Finsecdevpt	0.388*
	(0.198)
L3.Finsecdevpt	0.0774
	(0.238)
L4.Finsecdevpt	-0.133
	(0.198)
L5.Finsecdevpt	-0.222
	(0.196)
L. Trade openness	-0.0283
	(0.0830)
L2.Trade openness	-0.0275
	(0.0844)
L3.Trade openness	-0.111

	(0.0979)
L4.Trade openness	0.0250
	(0.0943)
L5.Trade openness	0.0857
	(0.0783)
Constant	4.780
	(2.940)
Observations	26
R-squared	0.769

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Source: Authour's construct (2018)

Joint Significance of Foreign aid on Agricultural sector

In the long run, the foreign aid into the country has a significant impact on the level of Agricultural production of the country. This is represented by a joint significance test of 2.26 percentage points. This shows that foreign aid jointly influence the level of Agricultural production in Ghana and this supports the work of Kaya et al. (2008) and Ighodaro and Nwaogwugwu (2013).

Foreign Aid and Industrial Sector

Table 4.5 shows that none of the variables significantly influences the level of industrial productivity in Ghana. Foreign aid has no significant impact on the industrial sector of Ghana. Since the industrial sector of the country is characterized by high level of investment, it is usually undertaken by foreign direct investors compared to the foreign governments who give grants for government supportive programs.

Table 4.5 Regression of variables on the industrial sector

	(1)
VARIABLES	Industry
Foreign aid	0.18808
	(3.8208)
Finsec devpt	-3.318
	(3.164)
Inflation	-0.849
	(1.002)
Trade openness	-1.004

	(1.125)
Oil rent	-3.036
	(9.198)
GDP	-3.222
	(7.951)
Constant	224.0**
	(84.05)
Observations	31
R-squared	0.237

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Source: Authour's construct (2018)

Table 4.6 shows that the industrial sector is only influenced by the long run trade openness in the country compared to foreign aid. In both the short run and long run, foreign aid has no impact on the industrial sector. To be more specific, in the long run, the relationship is even negative but it is not significant.

Table 4.6 Lags of regression on the industrial sector of Ghana

	(1)
VARIABLES	Industry
L.Foreignaid	-.014507
	(9.4108)
L2.Foreignaid	1.3107
	(1.0907)
L3.Foreignaid	-4.2808
	(1.2007)
L4.Foreignaid	1.5407
	(1.3407)
L5.Foreignaid	-1.747
	(1.4107)
L.Finsecdevpt	-1.075

	(6.007)
L2.Finsecdevpt	4.762
	(5.479)
L3.Finsecdevpt	2.654
	(6.589)
L4.Finsecdevpt	9.330
	(5.484)
L5.Finsecdevpt	-9.031
	(5.426)
L.Tradeopenesss	-5.780**
	(2.302)
L2.Tradeopenesss	4.493*
	(2.339)
L3.Tradeopenesss	-6.721**
	(2.714)
L4.Tradeopenesss	2.788
	(2.616)
L5.Tradeopenesss	0.223
	(2.170)
Constant	258.6***
	(81.52)
Observations	26
R-squared	0.731

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Source: Authour's construct (2018)

Openness to trade influences the industrial sector in the long run due to the huge capital involved. At the initial stages of industrial production, trade does not influence the level of industrial growth but in the long run trade influences the industrial sector. This results do not corroborates the findings of Selaya and Thiele (2010) found that aid had a positive marginal effect on growth of output, at the aggregate level for trade.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The economic impact of economic growth and development transcends just increased in income but also leads to improved welfare of the citizens of the country. The growth in the economy should have an effect in the lives of the wealthy and the poor; from the president of the country, to the parliamentarian right down to the farmer in a village in the remotest part of the country. Foreign aid generally over the past years has been on the rise among West African countries but its impact based on sectorial analysis has not been clearly understood. Scores of literature of foreign aid usually lump of the impact of foreign aid on growth of the economy without considering the sectorial analysis of the various economies.

Summary

The economy of Ghana was able to expand for the third, successive quarter in March 2017, with an increase of 6.6% from 4.4% in 2016. The sector of the economy that recorded the highest growth was in the industrial sector with a growth of 11.5%, compared to 1.8% in 2016. In many Sub Saharan African countries, there have been significant increases in foreign inflows, nevertheless the economic growth achieved by such countries has not been satisfactory. The studies did not show how the foreign aid affected the sectors of the economy such as the agricultural sector, the industrial and the services sector individually. This study revealed that in the first year foreign aid has a major impact on service sector. This is statistically significant at 1 percent but as time progresses beyond the first year into the subsequent years, foreign aid's impact on the service sector loses its value.

Financial sector development has a statistically significant impact on the economy during the 5th year of aid recipients. It shows a very strong significant statistically at 5% and this is in the long run. Trade openness on the other hand did not have statistically significant impact on the economy's service be it in the long run or short run. Furthermore, foreign aid has an impact on the service sector at the early years of aid receipt but it role declines. This is statistically significant at 5% and 10% respectively in the next period. Trade openness also has statistically significant impact on the industrial sector. This is shown by a 5 percent significant level from the table above. Financial sector development however does not have any impact on the industrial sector of the country. The study also shows that foreign aid does not have any major impact on the Agricultural sector of Ghana in the early years of operation but tends to have a significant impact on the economy during the 3rd year of production.

This is however statistically significant at 10 percent confidence interval. The trade and financial sector development have no impact on the level of agricultural growth in Ghana. The study shows that foreign aid may not be necessarily needed to promote the growth of the various sectors of the country such as the service sector, agricultural sector and industrial sector.

With agriculture, it does not have an overall effect although it affected only two variables namely trade openness and inflation.

Conclusions

It can be concluded that, the growth in Ghana's industrial sector cannot be achieved without the domestic revenue mobilization to boost up the growth of the sector. The over-reliance of many sectors of the economy usually results in low productivity and off target achievement in the country leading to small productivity and output.

Recommendations

The study shows that foreign aid may not be necessarily needed to promote the growth of the various sectors of the country such as the service sector, agriculture sector and industrial sector.

First, Agricultural sector development; growth of today faces new difficulties even though history and theory have suggested a distinguished role for agricultural growth in reducing poverty in poor agrarian economies. It is therefore recommended that, instead of strict reliance on other countries for the Agriculture sector development, it is advisable for the government to self- finance most of the Agricultural productive ventures in other to boost the agricultural sector than to rely on the foreign governments who gives foreign aids with stringent measures on its usage. There is an application that is developed by ESOKO where with an SMS a farmer can know the price of staple foods on the market and so he/she can decide to sell when the price is right and have profits. Farmer groups can also come together and decide to sell their produce and they can be able to raise enough funds without depending on loans. Also, as has been already stated, agencies that negotiate for ODA should rather take grants instead of going for loans.

Secondly, industrial sector development through innovation and technology. This can be done by increasing the innovation capacity of regions. Achieving this can be by working both on the demand and the supply side of the system. This will be done so that there can be an increase in investment for both private and public sector. Secondly, there is the need to integrate technology policy and industrial policy. This can be done by encouraging expenditure on activities which are related to innovation within mainstream industrial policy programmes. This will promote the sector than to rely on the foreign aid for industrial sector development. Also, in terms of ODA, the agencies and ministries should opt for grants as much as possible or if possible interest free loans which can be paid back within the shortest possible time.

Not only this but also, improving the knowledge base of the economy; There is evidence that the perception of innovation, well established in the manufacturing sector (which is part of industrial sector), cannot be transferred to the service sector. The two sectors are different. Following the example of German innovation where surveys are analysed in order to support the conceptual findings and to identify potential improvements. There is the need to look at including knowledge-intensive business services which should be of exact importance for innovation processes. The service sector can be boosted through innovation through human capital development and boost in education sector. These are means of improving the service sector of the Ghanaian economy.

ACKNOWLEDGEMENT

I am indebted to my supervisor, Dr. Emmanuel Sarpong-Kumankoma for his timeless corrections, dedication and direction during the supervision of this work.
A special appreciation also goes to the main respondents especially Eric of Ministry of Finance (MoF), who played a significant role by giving me with the data needed to complete my research (study).
Finally, I will like to acknowledge everyone who contributed in one way or the other to help finish this study. You are all deeply appreciated.

REFERENCES

1. https://www.myjoyonline.com (2017). Ghana's GDP records 9% growth in second quarter 2017. Posted on 27th August 2017 https://www.myjoyonline.com/business/2017/September-27th/ghanas-gdp-records-9-
2. Addison T, Morrissey O & Tarp F. (2017).The Macroeconomics of Aid: Overview. The Journal of Development Studies, 53, (7), 987–997, https://doi.org/10.1080/00220388.2017.1303669
3. Adedokun A. J. & Folawewo A. O. (2017). Aid selectivity practice and aid effectiveness in sub-Saharan Africa. Journal of Economic and Social Development. 4(2), 23-39.
4. Adu G., Marbuah G., & Tei Mensah J. (2013). Financial development and economic growth in Ghana: Does the measure of financial development matter? Review of Development Finance. 3, 192–203.
5. Adu, G. (2011). Natural resource abundance and economic growth: the case of Ghana.
6. Africa Center for Economic Transformation (2009). Chinese Loan given to the Ghanaian government. Published by the Ministry of Finance, Ghana (2009).
7. African Economic Outlook (2016). Sustainable Cities and Structural Transformation. 15th Edition.
8. Alabi R. A. (2014). Impact of Agricultural Foreign Aid onAgricultural Growth in Sub- Saharan Africa A

Dynamic Specification. AGRODEP Working Paper 0006.
9. Appiah-Konadu P, Shitsi J. F, Abokyi E, & Twerefou D K. (2016). The Effect of Foreign Aid on Economic Growth in Ghana. African Journal of Economic Review, 4(2), 248- 261.
10. Arndt, C., Jones, S., & Tarp, F. (2010). Aid, growth, and development: Have we come full circle? Journal of Globalization and Development, 1(2), 27. doi:10.2202/1948-1837.1121
11. Arndt, C., Jones, S., & Tarp, F. (2015a). What is the aggregate economic rate of return to foreign aid? World Bank Economic Review, 30, 446–74 doi:10.1093/wber/lhv033
12. Bjørnskov, C. (2014). Types of foreign aid. Available at SSRN 2134772
13. Bräutigam, D. A., & Knack, S. (2004). Foreign aid, institutions, and governance in sub-Saharan Africa. Economic development and cultural change, 52(2), 255-285.
14. Browne, S. (1990). Foreign Aid in Practice, Pinter
15. Central Intelligence Agency, CIA (2017). World fact book. Ghana's economy. Available at https://theodora.com/wfbcurrent/ghana/ghana_economy.html (accessed on5/01/18)
16. Centre for Policy Analysis (2010). Ghana. The Dutch Disease in an emerging oil economy. Selected Economic Issues. No. 20, 1-24.
17. Chee-Keong, C., & Chan, S., (2011). Financial development and economic growth: a review. African Journal of Business Management 5 (6), 2017–2027. Conference paper. 1-44 pages.
18. Dartey-Baah K, Amponsah-Tawiah K. & Aratuo D. (2012). Emerging "Dutch disease" in emerging oil economy: Ghana's perspective, Society and Business Review, 7(2), 185 – 199. Doi:10.1108/17465681211237637
19. Department of International Development, DFID (2007). Growth; building jobs and prosperity in developing countries. 1-25 pages. Published by DFID.
20. Doucouliagos, H., & Paldam, M. (2008). Aid effectiveness on growth: A meta-Study. European Journal of Political Economy, 24, 1–24. Doi:10.1016/j.ejpoleco.2007.06.002
21. Ebrahim-Zadeh C. (2003). Dutch Disease. Too much wealth managed unwisely, Finance and Development, 40,(1)
22. Ekanayake E. M & Chatrna D. (2010).The effect of foreign aid on economic growth in developing countries. Journal of International Business and Cultural Studies. Pp 1-13
23. Feeny, S., & McGillivray, M. (2010). Aid and growth in small island developing states. Journal of Development Studies, 46, 877–896. doi:10.1080/00220381003623889
24. Fielding, D. (2010). Aid and Dutch disease in the South Pacific and in other small island states. Journal of Development Studies, 46,918–940. doi:10.1080/00220381003623855
25. Fuchs, A., Dreher, A., & Nunnenkamp, P. (2014). Determinants of Donor Generosity: A Survey of the Aid Budget Literature. World Development, 56, 172-199.
26. Ghana Statistical Service (2017). Ghana Annual Growth Rate. Republic of Ghana. 1-8 pages.
27. Girma H (2015). The impact of foreign aid on economic growth: Empirical evidence from Ethiopia (1974-2011) using ARDL approach. Journal of Research in Economics and International Finance. 4, (1), 1 - 12. DOI:10.14303/jrief.2014.044
28. Guerrieri, P., & Meliciani, V. (2005). Technology and international competitiveness: The interdependence between manufacturing and producer services. Structural change and economic dynamics, 16(4), 489-502.
29. Harrod, R. F. (1939). An Essay in Dynamic Theory. The Economic Journal, 49,145–33 https://tradingeconomics.com. Ghana GDP annual growth. Available at
30. http://www.worldbank.org/en/country/ghana/overview#1(accessed on 2/11/17)
31. https://tradingeconomics.com/ghana/gdp-growth-annual
32. Ighodaro C. A. and Nwaogwugwu I. C. (2013). Effectiveness of Foreign Aid on the Growth of the Agricultural Sector in Nigeria. Ethiopian Journal of Economics. 23 (2), 131-146
33. Javid M, & Qayyum A (2011). Foreign aid and growth nexus in Pakistan: the role of
34. Jedwab, R. & Osei, R. D. (2012). Structural change in Ghana, 1960-2012. IIEP Working Paper. Washington, DC: George Washington University, Institute for International Economic Policy
35. Jones, S., & Tarp, F. (2016). Does foreign aid harm political institutions? Journal of Development Economics, 118, 266–281. doi:10.1016/j.jdeveco.2015.09.004
36. Kar, S., Pritchett, L., Raihan, S. & Sen, K. (2013). 'Looking for a break: Identifying

37. Kaya O., Kaya I. and Gunter L. (2008). The Impact of Agricultural Aid on Agricultural Sector Growth. Selected Paper prepared for presentation at the Southern Agricultural EconomicsAssociation Annual Meeting, Dallas, TX, February 2-6, 2008. 14pgs
38. Kersting, E., & Kilby, C. (2014). Aid and democracy redux. European Economic Review, 67, 125–143. doi:10.1016/j.euroecorev.2014.01.016
39. Killick, T. & Malik, M. (1992). 'Country experiences with IMF programmes in the 1980s'. The World Economy, 15(5), 599-632.
40. Killick, T. (2010). Development Economics in Action: A Study of Economic Policies in Ghana (2nd ed.). London: Routledge.
41. Konan, D. E., & Maskus, K. E. (2006). Quantifying the impact of services liberalization in a developing country. Journal of Development Economics, 81(1), 142-162.
42. Lof, M., Mekasha, T. J., & Tarp, F. (2015). Aid and income: Another time-series perspective. World Development, 69, 19–30. doi:10.1016/j.worlddev.2013.12.015
43. Macroeconomic policies, PIDE Working Papers
44. Martins, P. M. G. (2011). Aid absorption and spending in Africa: A panel cointegration approach. Journal of Development Studies, 47, 1925–1953. doi:10.1080/00220388.2011.579115
45. Mekasha, T. J., & Tarp, F. (2013). Aid and growth: What meta-analysis reveals. The Journal of Development Studies, 49, 564–583. doi:10.1080/00220388.2012.709621
46. Ministry of Finance (2016). Ghana’s turnaround story. Republic of Ghana, 1-36.
47. Njoupougnigni, M. & Ndambendia, H. (2011). Foreign aid, foreign direct investment and economic growth in Sub Saharan African countries: Evidence from pooled Mean Group Estimator (PMG). International Journal of Economics and Finance, 2, 39-45.
48. Nowak-Lehmann, F., Dreher, A., Herzer, D., Klasen, S., & Martínez-Zarzoso, I. (2012). Does foreign aid really raise per capita income? A time series perspective. Canadian Journal of Economics, 45, 288–313. doi:10.1111/j.1540-5982.2011.01696.
49. Osei, R. D., Ackah, C., Domfe, G. & Danquah, M. (2015). Political settlements, the deals environment and economic growth: The case of Ghana. ESID Working PaperNo. 53. Manchester, UK: University of Manchester. Available at: www.effectivestates.org.
50. Powell J. (2015). Factors affecting growth in Ghana’s services economy. Executive Briefings on Trade. U.S. International Trade Commission (USITC), October.
51. Rajan, R. G., & Subramanian, A. (2005). Aid and growth: What does the cross countryevidence really show? (NBER Working Paper 11513). Cambridge, MA: National Bureau of Economic Research.
52. Riddell A. &, Zarazu M. N. (2016).The effectiveness of foreign aid to education. What can be learned? International Journal of Educational Development. 48, 23–36.
53. Sakyi, D. (2011). Trade openness, foreign aid and economic growth in post-liberation Ghana: An application of ARDL bound test. Journal of Economics and International Finance, 3, 146-156.
54. Selaya, P., & Thiele, R. (2010). Aid and sectoral growth: Evidence from panel data. Journal of Development Studies, 46, 1749–1766. doi:10.1080/00220388.2010.492856
55. Serieux, J. (2011). Aid and Resource Mobilisation in Sub-Saharan Africa: The Role of Reverse Flows. Journal of Development Studies, 47, 1080–1107. doi:10.1080/00220388.2010.509789
56. Solow R. M. (1956). A contribution to the empirics of economic growth. Quarterly Journal of Economics, 70, 65–94.
57. Springer-Verlag Berlin. Pp 29-58.
58. transitions in growth regimes'. Journal of Macroeconomics, 38, 151-166.
59. Tsikata T. M (1998). Aid effectiveness: a survey of recent empirical literature, IMF paper on policy analysis and assessment.
60. USAID (2012). Country development cooperation strategy. 2013–2017. USAID Publication. 1-66 pages.
61. World Bank (2017). Ghana: overview of the country. Available at
62. World Bank. (2013). Africa Development Indicators 2012/13. Washington, DC: World Bank. doi: 10.1596/978-0-8213-9616-2.
63. Zhou H (2015). Foreign Aid in China. Social Sciences Academic Press (China) and