The role of the EU's ODA in fostering economic growth in Sub-Saharan African countries

by

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Abstract

The aim of this thesis is to analyze the role of the European Union's (EU) Official Development Assistance (ODA) in fostering economic growth of the Sub-Saharan African (SSA) countries. The EU was selected as the donor given that it is the major aid contributor to this region.

Aid, in the form of ODA, and its effectiveness have attracted considerable attention, both in terms of academic publications and policy debate. The emerging consensus seems to be that ODA should lead to economic growth if utilised well, but this might not be the case due to several factors including the governance situation in the recipient country.

This thesis tests the hypothesis that there is a positive relationship between the level of EU ODA and economic growth, keeping other factors that affect growth constant in a sample of 20 SSA countries. Besides assessing the theoretical relationship between economic growth and ODA, this thesis considers also other important elements, including the quality of ODA, aid effectiveness and aid harmonization, as well as the effects on economic growth of political stability, macro-economic stability and disaster proneness in the recipient country.

In testing the main hypothesis of the thesis, a panel data regression approach is utilised. A chapter is dedicated to explain the methodology, the regression model and the sources of data. In brief, the panel method uses information for each country and for each year covered, thereby obtaining a large number of data points and increasing the degrees of freedom. The software package used for this purpose is STATA14.

In order to delve deeper into the results produced by the regression analysis it was decided that some case studies be conducted on a sample of six SSA countries included in the regression. These were chosen to represent the lower end of the income per capita scale and the upper end, such as to determine commonalities and differences between them. Furthermore, to examine whether foreign aid has an adverse or positive impact on the capital accumulation determinants of growth and on per capita GDP growth, this chapter presents a descriptive and empirical assessment on 18 SSA countries, whereby a savings, investment and economic growth equation are carried out in order to assess the impact of ODA. In the economic growth equation, ODA has a positive and significant impact on ODA but with diminishing returns in the long-term. Meanwhile, in the savings equation, ODA has a negative impact on the savings ratio and in the investment equation ODA has a positive impact with a diminishing one in the long-term.

The main conclusions that can be derived from these case studies is that ODA does indeed have a positive impact on economic growth as hypothesized but there may be other factors impacting namely the political and macro-economic stability in the recipient country.

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1. INTRODUCTION

1.1 Objective of the thesis

Since it was introduced, the concept of development assistance was heavily debated with regards to its efficiency and purposes, producing a wide array of academic and political standpoints. Interest in Official Development Assistance (ODA) has increased markedly since 2000, when the United Nations Millennium Declaration explicitly recognized the role of ODA in the development process and committed industrialized countries to not only adhere to their promises but also to grant more ODA in order to reach the Millennium Development Goals (MDGs) by 2015. The International Conference on Financing for Development held in Monterrey, Mexico in 2002 reiterated this view and again stressed the need for an increased amount of ODA if the set targets were to be reached (UN, 2002). These international agreements have helped to increase the political momentum for aid following a substantial weakening during the 1990s. Subsequently, in 2008, at the World Economic Forum Annual Meeting, world leaders reached a consensus that recognized the fight against poverty as the ultimate objective. This gave rise to a multitude of promises being made aimed at getting the world back on track to meet the MDGs through an increase in ODA granting.

With the finishing line of the MDGs approaching, several organizations have started assessing the progress made in a number of areas concerning the MDGs. In fact, the UNESCO has reported that albeit the fact that significant progress has been made in a number of areas concerning the MDGs, this progress has been uneven. This is especially so for the Sub-Saharan African countries, where some of the MDGs are

reported as being off track. This led to a situation whereby on one hand, ODA again lost some of its importance in its fight against poverty and to its impact on economic growth, while on the other hand, it has been subjected to criticisms regarding its actual genuine level. This latter school of thought contend that ODA plays an important role in complementing the efforts of countries to mobilize public resources domestically especially in the poorest and most vulnerable countries with limited domestic resources. In fact this is mainly why they believe that ODA donors should provide a focused and scaled-up assistance to reaffirm commitments made, including the commitment to achieve the target of 0.7 per cent of gross national income for ODA to developing countries and 0.15 per cent to 0.2 per cent of gross national income for ODA to least developed countries. Under this viewpoint, ODA is presented as a learning concept that is open to dialogue and change, with lessons to learn.

The European Union (EU) can also adhere to this description whereby, despite the fact that it is the largest aid donor in the world, promises of commitments to ODA are not kept and very little progress in the development of recipient states has been recorded. Furthermore, an issue of concern on this matter is that there is currently an ongoing debate on whether ODA from the EU Member States is in reality inflated with the inclusion of debt cancellation, funds for refugees and grants for foreign students studying in Europe. Accordingly, this thesis studies the ODA that is granted by the EU Member States as well as to the allocation of this ODA to the recipient countries such as to determine whether aid is progressive or regressive. Besides the distribution of the ODA commitments between EU Member States is also studied, in order to understand whether the richer donors are paying more ODA or not. This overall assessment of the quality of aid indicators leads to the objective of the thesis, which focuses primarily

on the role of this EU's ODA in fostering economic growth of Sub-Saharan African countries.

1.2 Background

In 2000, when the MDGs were initially launched, they were criticized as being too modest. The different targets to be achieved by 2015 were devised basically by projecting into the future the progress rates of the social indicators registered in the 1990s and 1980s. No additional effort or acceleration was actually proposed so as to be able to achieve the MDGs. Just delivering and keeping the momentum were considered as enough to achieve such goals. Against this background, the EU set the targets of increasing the aid budget to 0.7 per cent of gross national product by 2015, with a shared interim goal being 0.56 per cent by 2010. These commitments have since been reiterated on many occasions, amongst which by the European Council in June 2008. Since the Gleneagles summit, the G8 has also repeatedly pledged ambitious levels of aid to help achieve the MDGs and it reinforced its commitment again in Hokkaido in July 2008. In addition, the UN Secretary General has convened a High Level Event which took place in New York in September 2008.

In addition, since the run-up in 2004 to the High Level Forum of Paris, the EU has expanded twice. In 2004, 10 Central European Eastern (CEE) countries who had previously been recipients of EU development assistance via the Poland and Hungary Assistance for the Restructuring of the Economy (PHARE)[1] joined the EU. The

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[1] The term PHARE - Poland and Hungary Assistance for the Restructuring of the Economy - initially described as the international efforts to provide economic support to the emerging Polish and Hungarian democracies - is the EU's main financial instrument for accession of the Central and Eastern European countries. It was launched as a specific EC programme, initiated by Council Regulation No. 3906/89. Its funding is used to channel technical,

enlargement of the EU from 15 to 28 Member States affected the role adopted by the EU in its development policy and implied also an increase in promises for the overall EU aid. It is important to highlight the efforts made by these Member States, which were not present in Paris, but which have subsequently endorsed the principles of the Declaration. Moreover, the new EU MS, together with the other 15 EU MS, have adopted the European Consensus on Development and the EU Code of Conduct on the Division of Labour. They have also adopted substantial targets for scaling up their aid, and have already collectively doubled their aid since accession. Each enlargement of the EU has influenced the geographical focus of EU development policy, both because of different priorities of the new CEE states and the issue of aid diversion to new and poorer states.

However, despite this increase in ODA promises, there have been consecutive drops in the volume of development aid from the international community. Several growth assessment reports are reporting that the international donor community clearly has difficulty in meeting its commitments with regards to ODA granting. The EU is part of this negative trend. While some Member States have maintained or improved on their good record, the overall trend is downwards. Michel (2007), the EU's Development Aid Commissioner stressed the point that the EU is already the biggest importer from the developing world and the world's most open market for developing countries. However, he added that Member States have a new two-fold challenge to take up, given that Member States are being requested to respect the promises made on ODA, as well as ensuring that more ODA is being provided. In addition, the EU's

economic and infrastructural expertise and assistance to recipient states. The PHARE Programme is the European Union's initiative which provides grant finance to support its partner countries to the stage where they are ready to assume the obligations of membership of the European Union.

Development Aid Commission stresses the point that the aid effort must be spread fairly amongst the donors. This is mainly because as was reported by Annan (2007) there is a twofold challenge to take up, whereby there is first and foremost the need to request the commitment made for increased and better aid, while at the same time striving to spread fairly the effort. The importance of these actions is further enhanced when one takes into account the fact that as stated during the EU-Africa Summit (2007), African countries are extremely off track to meet the MDGs in full and therefore this implies that European countries must keep their promises and thus respect their commitments.

According to Eurostat (2015) between 2004 and 2014, the share of GNI spent by the EU on ODA grew on average by 1.9 per cent a year. However, this was insufficient to meet the goal of 0.7 per cent of GNI by 2015 even though there were some short-term developments. Between 2010 and 2012, the ODA of EU Member States decreased from 0.44 per cent to 0.39 per cent, in the face of continued budgetary constraints resulting from the economic crisis. However, statistics indicate a slight growth of 0.02 percentage points from 2012 to 2013 attributable to a large extent to the wide agreement for raising development aid in almost all Member States. However, from 2013 to 2014, no increase in ODA can be observed. Thus, this implies that without substantial additional efforts by most Member States, the EU's long-standing collective commitment to dedicating 0.7 per cent of its GNI to ODA in 2015 is unlikely to be met. The EU had already missed its collective interim target of dedicating 0.56 per cent of its GNI to ODA in 2010, since it registered a share in that year of 0.44 per cent.

In addition, according to the 2014 CONCORD Aid Watch Report, in 2013, approximately €5.2 billion of the aid reported by EU countries was 'inflated'. Aid organizations along the years are appealing to the EU to stop inflating its aid statistics and to agree to a rigorous annual timetable by which it can meet its aid goals. Costs to cover debt relief and payments to cover housing of refugee claimants in Europe should not be included in ODA figures, as many EU nations have done. The alliance argues that such assistance is not new aid and should not be included as such. *'Figures provided in recent years were distorted and over-flattering. The official figures still fail to provide citizens with a true picture of their government's contribution.'*

Furthermore, according to the CONCORD NGO confederation for relief and development, in 2010, 45 per cent of the ODA data granted by the EU was allocated to least developed countries, 8 per cent to other low-income countries, 33 per cent to lower middle-income countries and 14 per cent to upper middle-income countries. Here a problem emerges given that with the graduation of countries to lower middle income countries and upper middle income countries status, it has been argued that a higher proportion of the world's poor now live in these countries and not in least developed countries (Summer, 2011). According to Eurostat statistics, between 2000 and 2010, 13 least developed countries and other low-income countries graduated to lower- or upper middle income status. Thus, it follows that by giving the majority of ODA only to the poorest countries, the poorest population is being ignored. This means that there must be an enhanced approach that takes into account the per capita income of each country in order to determine what is needed. An analysis of how is ODA being allocated is needed in order to determine whether it is reaching the poorest segment of the population or not.

1.3 Importance of the subject

With 2015 marking the transition from the MDGs to the Sustainable Development Goals (SDGs), the United Nations Educational Scientific and Calculator Organization (UNESCO, 2015) have reported that despite the global financial crisis, economic growth was generally strong and robust. It is estimated that one billion people rose out of extreme poverty. Overall, DCs recorded a positive growth in the income distribution of the bottom 40 per cent. There were positive results also in the mortality rate for the children aged 5 years old and for education enrolment rates. The incidence of preventable diseases such as AIDS, malaria, and tuberculosis was reported as falling and the share of those people with access to clean water and better sanitation also recorded an increase.

However, UNESCO reports indicate that progress has been uneven, with pronounced disparities in non-income indicators between the bottom 40 and the top 60 per cent. According to statistics from the World Bank (PovcalNet), with an estimated 900 million people in 2012 living on less than $1.90 a day - the updated international poverty line - and a projected 700 million in 2015, extreme poverty remains unacceptably high. Poverty has also become more concentrated in Sub-Saharan Africa and South Asia. Therefore, addressing poverty and mitigating the vulnerability of falling back into poverty have become more pressing issues, in particular for those countries where the bottom 40 per cent saw their incomes decline. Furthermore, it should be noted that according to the Global Monitoring Report for 2015, current poverty is less responsive to growth in the narrowly diversified natural-resource-based economies and fragile and conflict-affected states. This is mainly due to the fact that in these countries, the availability of jobs, which is the main channel through which

growth uplifts the poor, is more limited. In the fragile and conflict-affected states the poverty problem is even more complex. Conflicts, whether they arise because of contested natural resource wealth or are politically motivated, inevitably disrupt or even reverse growth, and the impact of conflict is often felt long after peace is restored.

A further challenge is the possibility that future growth may not reach the poor as readily as in the past. As reported by the World Bank (2015) data indicates that global poverty fell by about 1 percentage point a year in response to the average annual GDP growth rate of 4 percent. So, even if the growth rate still averaged 4 per cent from now to 2030, it is rather impossible that poverty would continue falling by 1 percentage point a year. Now it is to be noted, that as discussed by Battistin et al. (2009), the distributional pattern of household income and consumption puts a relatively high proportion of the population near the median income or consumption value, with small proportions at extremely high or low values. Thus, this implies that when the global poverty rate was 36 per cent in 2000, at the start of the MDGs, many poor people were just below the poverty line, leading to a large percentage point reduction in poverty for a given distribution neutral increase in GDP. With global poverty incidence at 12.8 percent in 2012, the same distribution-neutral increase in GDP will lead to less poverty reduction. Poverty's responsiveness to distribution-neutral growth will continue to decline as the 3 per cent target is approached since higher rates of income growth will be needed, and the distribution of that growth will need to be more favorable to those with the lowest incomes.

Given these unaddressed issues, it follows that additional efforts are needed to promote broad-based growth and income-earning opportunities that benefit the poor with a

particular emphasis on the bottom 40 per cent. While development progress was impressive, it has been uneven and a large unfinished agenda remains. Three key challenges stand out: the depth of remaining poverty, the unevenness in shared prosperity, and the persistent disparities in non-income dimensions of development. Poor countries depend on foreign aid for much of their basic needs—food, primary education, health care, and minimal levels of public investment in infrastructure. Therefore, to address these challenges, the Global Monitoring Report (2015) is arguing that there must be a shift from *'billions in ODA to trillions'* to *'unlock, leverage, and catalyze domestic public resources and private capital flows'.* Hence, this shows the importance of the subject chosen for this thesis.

1.4 Hypothesis to be tested

In the post-war literature, aid was central to development discussions within the 'capital bottleneck theories' (Meier and Stiglitz, 2001). In these studies, capital scarcity was considered as a major contributory factor to economic backwardness. External finance was seen as a way out of poverty and stagnation by providing DCs with the needed and scarce investment goods. Early research on aid, dating back to the 1950s, was consistent with the optimism of aid effectiveness. It actually provided a conceptual foundation for this optimism, whereby aid was analyzed in the context of the two-gap model of aid. Under this model, it was assumed that a one dollar of foreign aid will increase savings and investment and therefore lead to increases in growth. If foreign aid was found to have a positive association with savings, it followed that aid impacts favourably on economic growth.

However, the post 1990s line of thinking started introducing the concept that aid effectiveness may depend on specific circumstances in recipient countries. This research developed the argument in favour of the fact that aid works but only when policies are right. The impact of aid is linked to economic policies and the institutional environment in the recipient countries or to external conditions these countries are confronted with. A number of alternative views emerged from the post 1990s analysis focusing mainly on the fact that aid has decreasing returns, aid effectiveness is influenced by external and climatic conditions, aid effectiveness is influenced by political conditions, and aid effectiveness depends on institutional quality.

Against this background, and keeping other things that affect economic growth constant, this thesis tests the hypothesis that there is a positive relationship between the level of EU ODA granted to SSA countries and these countries' economic growth. Having tested this hypothesis, this thesis will analyze the quantity of EU ODA and the allocation of EU ODA, which are both not captured in the regression analyses, in order to determine whether it is in fact progressive or regressive, that is, reaching the most in need or not.

1.5 Brief comments on the methodology

In testing the main hypothesis of the thesis, a panel data regression approach is used. This approach utilises information for each country and for each year covered, thereby obtaining a large number of data points and increasing the degrees of freedom. As argued by Frees (2003), unlike regression data, with panel data one can observe subjects over time. Furthermore, unlike time series data, with panel data one can observe many subjects. Observing a broad cross-section of subjects over time enables

the study of dynamic, as well as cross-sectional, aspects of a problem. In addition, panel data was preferred over a cross-sectional analysis given that certain economic aspects, such as economic growth and poverty persistence are inherently longitudinal.

The software package used for analysis of the panel data set is STATA14. This is a commercial and general-purpose statistical software and includes data management, statistical analysis and graphics. This software package was chosen on the basis that is advertised as having three major strengths, namely, data manipulation, statistics and graphics. In fact, according to Baum (2009) Stata is an excellent tool for data manipulation, including moving data from external sources into the program, cleaning it up, generating new variables, generating summary data sets, merging data sets and checking for merge errors, collapsing cross–section time-series data on either of its dimensions, and reshaping data sets from 'long' to 'wide'. Furthermore, Stata's regression capabilities are full-featured, including regression diagnostics, prediction, robust estimation of standard errors, instrumental variables and two-stage least squares, seemingly unrelated regressions, vector autoregressions and error correction models. In addition, Stata graphics are excellent tools for exploratory data analysis.

The thesis covers 20 low-income SSA countries for the period 2000-2014. Although the low-income countries all around the world face similar economic and developmental problems and have been subject to the same development assistance programs for many decades substiantial differences exist between different geographical groups. Therefore, this explains why only 20 countries were chosen, in order to have a more homogenous sample. The focus in this study is ODA originating from the EU given that the EU is a major aid contributor to the SSA countries. In

addition, the focus is the SSA region, given the fact that as indicated by the World Bank statistics, despite solid development gains in this group of countries, progress has been uneven and significant challenges remain. ODA includes all types of official financial aid flows with concessional financial terms from all donors, that is, only loans that have a grant element of at least The sources of data for the analysis are the World Bank Development Indicators, PovcalNet by the World Bank, the International Monetary Fund (IMF), the OECD Creditor Reporting System, and the Development Assistance Committee.

1.6 Layout of the thesis

This thesis is broken down into nine chapters, where the first introduces the topic and talks about the research objectives. The second chapter delves into the literature where a definition of poverty is primarily provided and thereafter the focus is on the theoretical relationship between official development assistance, economic growth and poverty. The literature review provides an overview of the various schools of thoughts pertaining to aid effectiveness. The themes considered in the literature review include the quality of ODA, referring to aid effectiveness and aid harmonization, as well as the effects on economic growth of governance, economic instability and disaster proneness in the recipient country. Chapter three provides an insight into the SSA economy and chapter four provides an analysis of the EU's role in poverty alleviation in recent years. Chapter five presents an analysis of the performance in ODA granting focusing on the allocation as well as on the distribution of the financial burden of ODA. Chapter six describes the methodology to be used for the empirical analysis and the regression equation adopted. The results as well as the diagnostic tests are presented in Chapter seven, followed by Chapter eight delves deeper into the analysis by

presenting a case study for six SSA countries, three of which are on the low-income end and the other three on the upper end. Furthermore, this chapter presents an empirical investigation on 18 SSA countries in order to assess the impact of ODA on capital accumulation and per capita GDP growth. A summary of the results is provided in the concluding chapter, that offers also recommendations and briefly stressing on the limitations as well as the scope for future research.

2. LITERATURE REVIEW

2.1 Introduction

Aid and its effectiveness have attracted considerable attention in the economic development literature, both in terms of publications and policy debates. Increased emphasis is being placed on poverty reduction in policy debates, and the international community has come to expect much of foreign development aid in recent years, especially since the adoption of the Millennium Development Goals (MDGs) and more recently of the Sustainable Development Goals (SDGs). According to the 2015 CONCORD Aid Watch Report, *'aid will remain a key development flow for years to come because it can reach farther than any other flows and is more flexible, predictable and accountable'*. Aid is also bound to play an enabling role in many issues of the development agenda and is presented as *'a way to leverage private resources for development'*. However, what constitutes development? Does development imply economic growth and an alleviation of poverty? Traditionally, it was recognized that rapid growth is bad for the poor, because they would be bypassed and marginalized by the structural changes of modern growth. (Todaro, M. P. and

Stephen, C. Smith, 2003) A way of understanding the relationship between aid, economic growth and poverty is to look at the research literature on aid effectiveness, which presents us with a mixed picture where we have those arguing in favour, those viewing aid as a distortion and those that consider aid to be effective only when there are certain conditions in place.

Against this background, this chapter presents a literature review on the macroeconomic impact of aid follows, with a focus on Official Development Assistance (ODA), and the related factors that affect ODA absorption capacity. The purpose of this chapter is to present the different theories on economic growth that evolved over time with the objective of understanding how foreign aid may contribute to a country's development.

In the post-war literature, aid was central to development discussions within the so-called capital bottleneck theories (Meier and Stiglitz, 2001; Chenery and Strout, 1966). In these theories, capital scarcity was considered as a major contributory factor to economic backwardness. External finance was seen as a way out of poverty and stagnation by providing developing countries with much needed and scarce investment goods. Strongly influenced by the experience of European reconstruction following the Second World War, early growth models stressed the role of capital and capital formation in development (Papanek, 1972). Growth was seen to require real resources for the production of capital goods, that is, goods such as industrial plant, machinery, and social overheads that were not for immediate consumption, but could increase the production potential in future periods. However, as underdeveloped countries were seen to be capital deficient, it followed, almost axiomatically, that unlocking development required in turn the overcoming of this main constraint to growth.

This idea originates in fact in Keynes argument in the 1930s whereby theory implied that governments could stimulate development by financing investments. The logic of this development theory was simple: investments are determined by savings and savings are determined by per capita income. Since poor countries have low incomes and accordingly, low savings, they are caught in a vicious circle of poverty. Consequently, they experience a low-level equilibrium trap whereby higher income does not lead to increased savings but only results in higher population growth. Thus, it was argued that investment financed by foreign aid would dissolve the vicious circle and connect developing countries to the virtuous circle of productivity and growth. According to Barro and Sala-i-Martin (1995), if one wants to understand why countries differ dramatically in standards of living, then one has to understand why countries experience sharp divergences in long-term growth rates. Barro et al. (1995) argue that understanding the determinants of aggregate economic growth is the key to understanding how to increase the standards of living of individuals in the world and, thereby, to lessen world poverty. Given that the focus of this thesis is the role of the European Union's Official Development Assistance (ODA) in addressing poverty of the Sub-Saharan African (SSA) countries, then this chapter through the use of the production function will present the theories underpinning economic growth and what affects growth theoretically. What follows next is a brief definition of what constitutes ODA followed by a description of the aggregate production function. The different growth theories are presented in order to evaluate the impact of foreign aid and whether it actually provides capital with higher marginal productivity or increases the marginal productivity of existing capital, thus leading to a higher steady state level of

development permanently and consequently economic growth. Therefore, this chapter will be assessing the impact of ODA on growth through three channels:

1. The impact on total factor productivity

2. Shifts in the level of capital per unit of labour

3. Improvements in the marginal productivity of capital

2.2 Official Development Assistance

According to the Organization for Economic Cooperation and Development (OECD), ODA consists of grants or loans to developing countries by the official sector. Official sources comprise bilateral transfers that arise from governments, and multilateral transfers that arise from international agencies. What is commonly known as 'aid' is that part of these official transfers that normally includes an element of 'concession'. These grants or loans should have the promotion of economic development and welfare as the main objective and should have a concessional financial term, thereby having a grant element of at least 25 per cent. Official sources comprise bilateral transfers that arise from governments, and multilateral transfers that arise from international agencies. Furthermore, the OECD adds that technical co-operation is also included under aid, while grants, loans and credits for military purposes are excluded. This concept of ODA has led to several different viewpoints, varying from those in favour of it and those that view it as a distortion to effectiveness.

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community has come to expect much of foreign development aid in recent years, especially since the adoption of the Millennium Development Goals (MDGs) and more recently of the Sustainable Development Goals (SDGs). According to the 2015 CONCORD Aid Watch Report,

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Aid is also bound to play an enabling role in many issues of the development agenda and is presented as *'a way to leverage private resources for development'*. (Todaro, M. P. and Stephen, C. Smith, 2003)

In addition, this leads to another important question, why do countries give aid? According to Chenery and Strout (1966) donors and recipient countries agree that the primary objective of foreign aid granting should be social and economic development measured by per capita income, rather than colonial relations. Griffen and Enos (1970) maintained that it is political motives of powerful countries that describe the flow of foreign aid to less powerful countries. They go on to state that in granting assistance, economic efficiency or social justice or any other criterion is subordinate to the national interest. Economic aid is merely another instrument of foreign policy like diplomacy, cultural exchange, export of ammunitions, military intervention and war. Alesina and Dollar (2000) analysed the question that either good economic policies, which leads to the economic development of masses, or political and strategic interests of the aid giving countries is objective of aid flow. They concluded that aid is given on the basis of poverty levels of recipient countries, strategic interest, colonial history, trade and political institutions. Moreover, authors also found different factors for bilateral and multilateral aid. Easterlay (2003) states that developed countries don't

only give aid to help poor countries to reduce poverty; however, it is also given to reward allies.

According to Todaro and Smith (2003), donors often have political interest, such as possibilities of affecting the politics of the receiving country, control former colonies and/or control terrorism for their aid. The major donor in absolute numbers, the US, has been involved in bilateral aid since the 1940s with the Marshall Plan. Their focus was in the 1960s South and Southeast Asia, in the 70s Latin America, Middle East in the 80s and since the 1990s their focus has been on Islamist countries in order to prevent terrorism. Donors' economic motivations are things such as future trade partners or tying aid to trade. Japan directs most of its aid towards neighbouring countries, where they also have private investments and possibilities of expanding trade. When donors turn grants into loans or tie aid to exports receivers have accumulated large repayment burdens which can lead to debt overhang (Todaro & Smith, 2003).

In addition, in assessing the differences in traits and behaviour of donors, studies indicate that wars and terrorist attacks played a major role. Meernik et al. (1998) reported early evidence that the end of the cold war meant a declining importance of security concerns, a significant decline in aid transfers and an increased emphasis on poverty in allocation decisions. Boschini and Olofsgård (2007) find too in their analysis that the cold war may explain the decline in aid volumes, but argue that it changed relatively little in allocation practice. Berthélemy and Tichit (2004) argue that the geopolitical concerns of aid allocation during the cold war have been replaced not by increased poverty but by trade relationships. Easterly (2007) finds that the

cold war changed little in terms of sensitivity to democracy, and Neumayer (2003a) finds it had no effect on the relationship with human rights.

2.3 Economic growth theories

According to Barro et al. (1995) the process of economic growth of a country depends on the shape of the production function. Economic growth theories have different production functions and a different set of assumptions. This section presents primarily the Harrod Domar model of growth and then the Neo-classical growth model developed by Solow (1956) and Swan (1956). The impact of foreign aid is considered in each model. An implicit assumption in these growth models is that the developing countries are assumed to be savings constrained.

2.1.1 The Harrod-Domar growth model

According to Rostow (1960), the transition from underdevelopment to development can be described in terms of a series of stages through which all countries must proceed, that is,

- the traditional society,
- the preconditions for take-off into self-sustaining growth,
- the take-off,
- the drive to maturity, and
- the age of high mass consumption.

Rostow's argument was based on the fact that the advanced countries had all passed the stage of 'take-off' into 'self-sustaining growth'. The underdeveloped countries that were still in either the traditional society or the "preconditions" stage had only to follow a certain set of rules of development to take off in their turn into self-sustaining

economic growth. One of the principal strategies of development necessary for any take-off was the mobilization of domestic and foreign saving in order to generate sufficient investment to accelerate economic growth.

To explain the economic mechanism by which more investment leads to more growth Rostow used the Harrod-Domar growth model. One of the most fundamental strategies of economic growth in the Harrod-Domar model is simply to increase the proportion of national income saved. The main obstacle to or constraint on development, according to this theory, is the relatively low level of new capital formation in most poor countries. This model was developed in the aftermath of the Great Depression, as a dynamic extension of Keynes' general theory, with the aim to discuss the business cycle in the US economy. Since at that time, unemployment was very high, the focus of the model was on the relationship between investment in the physical capital and output growth. The main assumption of the Harrod-Domar model is that capital and labour are pure complements, that is, that they cannot substitute for each other in production.

Advocates of the model applied the model to poor countries to determine a 'required' investment rate for a target growth rate. The difference between the "required" and actual investment rate is called the financing gap. That is, the amount of foreign investment needed to achieve the target growth. The Harrod-Domar model thus proposes the following linkage, where foreign aid leads to investment, which in turn leads to growth. However, is this linkage evident in the real world? The economist William Easterly (2001) tested this model for a sample of 88 countries on which data were available spanning the period 1965 to 1995. If one follows Rostow's model, then

the first link between aid and investment should have a particular pattern. There should primarily be a positive statistical association between aid and investment, and secondly, aid should pass into investment at least one for one. On the first test, only 17 of the 88 countries passed. Just 6 of these 17 countries also passed the second test. Why do we see these results? Poor countries have little incentive to invest. Foreign aid would be more beneficial if used to buy more consumption goods. The next question Easterly addresses in his study is whether investment has a quick growth payoff, as the Harrod-Domar model assumes. To answer this question, he observes data on growth and investment for 138 countries, implementing again two tests. Primarily countries should display a positive statistical association between growth and last year's investment and secondly, the investment-growth relationships should be in what he calls "usual range" to give reasonable financing gaps. The conclusion was that only 4 countries passed both tests, and overall, in his empirical exercise, Easterly found that only one country that passed all four tests. Therefore, no evidence was found supporting the Hrarrod-Domar model.

Properties of the Harrod-Domar model

The Harrod- Domar model is based on the simple fixed-coefficient production function of the Leontief type. In this case, K and L are always used in fixed proportion to produce different levels of output. The Harrod-Domar model was developed during the forties to explain the relationship between growth and unemployment in advanced capitalist societies. The central focus of the model is on the role of capital accumulation in the growth process. This is why the model has been extensively used in the low-income countries to examine the relationship between growth and capital re-quirements, with the production function being as follows:

Equation 1

$$Y = F(K, L) = \min(AK, BL)$$

The rate of economic growth is the product of the investment-output ratio and the output-capital ratio. Net investment spending adds to the nation's stock of capital, increases the economy's productive capacity and raises its potential level of income. The change in productive capacity will depend on the level of investment and the potential social average productivity of new investment (Brue, 1994:491). The Harrod-Domar model doubts whether annual investment growth would automatically be sufficient to maintain full employment. If investment failed to grow at the required rate, the economy would recede. On the other hand, if the growth of investment spending exceeded the required rate, demand-pull inflation would result. The essential result of this theory is that the economy will be prone to instability (Brown, 1988: 374). The emphasis in this growth model in order to generate economic growth and development, is based on increased levels of savings and investment. Although these factors cannot be ignored by developed economies, they are considered as given. However, in a developing economy, capacity building is the order of the day and high levels of savings and concomitant investment are still very important prerequisites for economic growth and development.

This model can be shown simply as follows, whereby we have a two-sector economy (households and firms) and therefore leading to the following national income equation,

Equation 2

$$Y_t = C_t + S_t$$

where Y_t = GDP, C_t = consumption and S_t = Saving. It is assumed that all savings are invested such that, $S_t = I_t$. For an economy to grow net additions into capital, stock is required through investment. The net addition into capital stock (K) over time is given by following equation,

Equation 3

$K_t+1 = I_t + (1-\delta)K_t$

where δ is the rate of the depreciation of the capital stock. The capital output ratio *(K/Y = v)* is assumed to be fixed. Given that saving is some proportion of the GDP *(S_t = sY_t)* and *(K = vY)*, we can write the equation as follows

Equation 4

$vY_{t+1} = sY_t + (1-\delta)vY_t$

By dividing both sides by *v* and by subtracting Y_t from both sides of this equation, it follows that

Equation 5

$Y_{t+1} - Y_t = (s/v - \delta)Y_t$

In addition, by dividing by Y_t to both sides the following equation is derived

Equation 6

$[Y_{t+1} - Y_t]/ Y_t = (s/v - \delta)$

where $[Y_{t+1} - Y_t]/ Yt$ is the GDP growth rate.

Since $G = [Y_{t+1} - Y_t]/ Y_t$, then this equation follows, $G = (s/v - \delta)$. This equality states that growth is determined by the saving rate (s) and capital to output ratio (v). The higher the saving rate and the lower the capital to output ratio and depreciation rate, the faster will an economy grow. This implies that,

Equation 7

$G = (s/v - \delta)$

where G is the GDP growth rate, s is the fraction of the GDP which is saved, v is capital to output ratio and δ is rate of depreciation for capital stock. This equality states that growth is determined by the saving rate (s) and capital to output ratio (v). The higher the saving rate and lower the capital to output ratio, the faster will an economy grow.

The impact of foreign aid in the Harrod-Domar model

Therefore, in the Harrod-Domar model, to reach equilibrium, the assumption of the fixed capital to output ratio requires that capital and output should grow at the same rate, implying there is a linear relationship between capital and output. Therefore, using the fact that under the Harrod-Domar model, we know that

Equation 7

$g = s/v$

Hence the fundamental `trick' of economic growth, as Todaro (1994) calls it, is simply to increase the proportion of national income saved. This would imply that countries which are able to save a higher proportion of income could grow at a much faster rate than those that saved less. Moreover, this growth would then be self-sustaining.

On the basis, of the above formulation, a country can fix a target rate of income growth, in this case g, and hence determine the level of investment required to achieve that rate. If the domestic savings generated cannot meet the required investment to achieve the targeted growth, then a savings constraint is said to exist. This is a particular feature of most poor developing countries which have a relatively low level of investment due mainly to their inability to generate sufficient domestic savings, such as through taxation. In fact, it is often found that private capital in any single industry in a poor

country is unlikely to be financially attractive or successful because of the small size of the market for its products. A reason for less private capital inflows, especially foreign direct investment, would be because of limited opportunities for profit that sustains the level of investment (Cairncross, 1962). Hence, given that domestic savings are low and prospects for private foreign investment bleak, the rationale for foreign aid is justified to substitute for these deficiencies. This would relieve the country from a capital bottleneck. Denoting *a* as the proportion of foreign capital inflows in the form of foreign aid to national income, the targeted growth rate will be given by:

Equation 8

$g = (s + a)/v$

which will be higher than the growth rate available by domestic savings only. Thus, this justifies one of the reasons for massive capital transfers and technical assistance from developed to the developing world due to the capital bottleneck faced by these countries.

Rosenstein-Rodan's (1961) used the above procedure to determine the allocation of foreign aid in the less developed countries. He calculated the amount of foreign capital transfer in view to reducing the time it takes to achieve `self-sustaining' growth. To Rosenstein-Rodan foreign aid enables the recipient country to make so-called *"transition from stagnation to self-sustaining economic growth"*. According to the argument raised, this can only be achieved by the recipient's own effort otherwise foreign aid will be wasted. The main aim of development aid is to enable the recipient country to achieve steady growth. In Rosenenstein-Rodan's study to ascertain the length of time for the less developed countries to reach `self-sustaining' growth, it is assumed that there is a divergence between the 'ex-ante' savings and investment. The

capital flow requirements of the underdeveloped countries over a certain period in relieving the savings constraint is calculated from the Harrod-Domar as follows:

Equation 9

$$I = v\Delta Y$$

and assuming that the gross national product increases by *r* per cent and that the capital-output ratio, *v*, to be constant,

Equation 1

$$\Delta Y = rY$$

Substituting equation 11 into equation 10 yields

Equation 2

$$I_t = vrY_t$$

where t is a time subscript. Hence, it follows that

Equation 3

$$\sum I_t = vrY_t$$

And the savings function is specified as

Equation 4

$$S_t = bY_t - d$$

so that the marginal propensity to save, *b*, is greater than the average propensity to save, *(b- d/Y_t)* where *d* is a constant. Aggregate savings so will be given by:

Equation 5

$$\sum S_t = b \sum Y_t - \sum d$$

and *d* can be determined by putting t = 0, thus

Equation 6

$$S_0 = bY_0 - d$$

Implying that,

Equation 7

$$d = (b - \frac{S_0}{Y_0})Y_0$$

where S_0/N_0 is the average propensity to save in the initial period. Substituting the value of *d* in the savings function we get

Equation 8

$$\sum S_1 = b \sum Y_1 - \sum d$$

Equation 9

$$\sum S_1 = b \sum Y_1 - tY_0(b - \frac{S_0}{Y_0})$$

At any time *t* the amount of foreign capital inflows needed to meet the gap between investment and domestic savings to achieve the targeted growth is given by $F_t = I_t - S_t$. Hence, the total capital inflow, E F, will be given by

Equation 10

$$\sum F_t = b \sum I_t - \sum S_t$$

and substituting for E I, and E S, yields

Equation 11

$$\sum F_t = vr \sum Y_t - (b \sum Y_t - tY_0(b - S_0/Y_0))$$

Equation 12

$$\sum F_t = (vr - b) \sum Y_t + tY_0 (b - S_0/Y_0))$$

Rosenstein-Rodan argues that recipient countries should make some so-called efforts for a self-sustaining transition, implying that recipient countries should, among one of the `efforts', save more from the increased income arising from `outside capital', otherwise foreign aid will be wasted. He further argues that:

> *"A marginal savings rate considerably higher than the average is the main lever of economic development of underdeveloped countries. Once the level of self-sustaining growth is reached, with average savings of 12-15 per cent, the marginal savings rate need no longer be higher than the average. "*

> *(1961, pp. 117)*

The idea is that aid should continue until a certain level of income is reached in the developing countries so that they can mobilise a level of capital formation sufficient for self-sustaining growth. The ratio of foreign capital inflows, F_t/Y_t, is given by $1_t/Y_t$ - S_t/Y_t or F_t/Y_t = vr - (b - d/Y_t). To achieve self-sustaining growth the country's marginal propensity to save needs to be higher than the required investment rate. The implication of the Harrod-Domar model is quite straight forward, foreign aid will enable higher growth as long it is flowing in. Growth will fall back to its previous level once foreign aid is removed, unless the marginal propensity to save matches the required investment rate which it will when the country is in its self-sustaining stage. Thus, to reach equilibrium the following condition must be met:

Equation 13

$n = G = (s/v - \delta),$

which is a very remote assumption in the long-run. If $n > G$, the result will be continuously rising unemployment. On the contrary, if $G > n$, the capital stock will become idle and the growth rate will slow down to $G = n$ (Snowdon & Vane 2005).

Hence, the fundamental solution for economic growth, as argued by Todaro (1994) is simply to increase the proportion of national income that is saved. This in fact implies that those countries that are able to save a higher proportion of income could grow at a much faster rate than those that saved less and this growth would then be self-sustaining. Economists have used this model to predict the required rate of investment and gap between saving and required investment, for the given growth rate. They argued that GDP growth is determined by the availability and productivity of capital. Domestic saving determines the level of investment in terms of capital and which in turn determines the attainable growth rate related to the capital. According to the Harrod-Domar model, if the domestic savings are low then aid will fill this saving-investment gap. Easterly (2003) argued that this assumption of the saving-investment gap that aid is used for investment and not for consumption, will be valid only when there is a shortage of domestic capital for investment and when there is a positive return on investment. However, if the cause of the low investment is poor incentives to invest, then aid finances non-investment rather than investment itself. This model assumes only a savings constraint on growth, which was further expanded by Chenery and Strout (1966) as a two-gap model with the additional gap besides that of investment-saving gap being the import-export gap. Chenery and Strout (1966) argued that import capacity acts as another potential constraint on growth (Hansen & Tarp, 2000). In their argument, the increase in investment assumes that country needs to import capital goods besides consumption goods, but if the export earnings are low due to constraints, then aid can fill this import-export gap.

2.1.2   The Neoclassical Production Function

The dissatisfaction with the Harrod-Domar model gave birth to the neo-classical growth theory, where a neo-classical (Cobb-Douglas) production function was used instead of Leontief. Perfect substitutability between factors was assumed. No fixed capital to output and labour ratio were assumed. The major contributor to this theory was Robert Solow (1956), where in this model, saving, population growth and technological progress are considered as exogenous. The aggregate output function at time t with labour and capital is as follows,

Equation 14

$Y_{(t)} = K_{(t)} \alpha (A_{(t)} L_{(t)}) 1-\alpha$

where, Y is output, K is capital, L is labour input and A is a measure of technology or total factor productivity [Mankiw, Romer, Weil (1992)] and implies that given same amount of capital and labour, a country can produce more output than other country because its economy is less distorted and government is more efficient (Barro et al, 1994).

According to Barro et al (1995) a production function, F(K, L, T), is neoclassical if the following properties are satisfied:

- There are constant returns to scale. The function F(·) exhibits constant returns to scale. That is, if we multiply capital and labour by the same positive constant, λ, we get λ the amount of output: *F(λK, λL, T) = λ · F(K, L, T) for all λ > 0 (1.4)* This property is also known as homogeneity of degree one in K and L. It is important to note that the definition of scale includes only the two rival inputs, capital and labour. In other words, we did not define constant returns to scale as *g*

- Positive and diminishing returns to private inputs, implying that the neoclassical technology assumes that, holding constant the levels of technology and labour,

each additional unit of capital delivers positive additions to output, but these additions decrease as the number of machines rises. The same property is assumed for labour.

- Follows the Inada (1963) condition, which refers to the characteristic that the marginal product of capital (or labour) approaches infinity as capital (or labour) goes to 0 and approaches 0 as capital (or labour) goes to infinity.

- Essentiality, where the assumption of essentiality is added to the definition of a neoclassical production function. An input is essential if a strictly positive amount is needed to produce a positive amount of output. The three properties of the neoclassical production function also imply that output goes to infinity as either input goes to infinity.

Under the neoclassical model, L and A are assumed to grow exogenously at rates *n* and *g* respectively,

$L_{(t)} = L_{(0)}$

$A_{(t)} = A_{(0)}$

Therefore, effective units of labour $A_{(t)} L_{(t)}$, grows at rate of *(n+g)*. The model assumes that total savings are invested. The increase in output is only possible with an increase in capital over the period of time. Defining k as stock of capital per effective unit of labour, then this implies that,

Equation 15

$k = K/AL$

and **y** as the level of output per effective unit of labour,

$y = Y/AL$, then per capita change in capital will be defined as follows,

Equation 16

$$k._{(t)} = sy_{(t)} - (\delta + n+g)\, k_{(t)}$$

Equation 17

$$k._{(t)} = sk_{(t)}\, \alpha - (\delta + n+g)\, k_{(t)}$$

where s is a fraction that is saved from output and δ is an exogenous constant rate of depreciation for capital. The model assumes diminishing marginal returns to inputs and in aggregate constant returns to scale for the output.

The Solow model's ingredients

Building on the original work of the fixed-factor proportions model of Harrod (1939) and Domar (1946) and the dual-sector model of Lewis (1954), Solow (1956) presents a simplified model of economic growth that serves as the point of departure for most later growth theories. The model specifies a neoclassical production function, where physical capital, labour and an exogenous technology influence the level of output. According to Sorenson et al. (2010) the neo-classical model or Solow growth model shows how the long-run evolutions of income and consumption per worker are affected by a country's rate of savings, investment and the growth rate of its population. The basic Solow model is built around two equations, a production function and a capital accumulation equation. The production function is assumed to have the Cobb-Douglas form and is given by

Equation 18

$$Y_t = A_t K_t^{\propto} L_T^{1-\propto} \quad 0 < \propto < 1$$

where K_t is capital input and L_t is labour input, whereby an increase in A_t which is a measure of productive efficiency, results in higher output without leading to an increase in the inputs.

A simple proportional savings function is assumed as in the Harrod-Domar model:

Equation 19

$S=sY \qquad 0<s<1$

The supply of labour, L, grows at an exogenous constant proportional natural rate n, implying that,

Equation 20

$$\frac{\dot{L}}{L} = n$$

where a dot over the variable denotes a change in the variable. Thus, by ignoring technical progress, the production function takes the form

Equation 21

$Y = F(K, L)$

and is assumed to satisfy the following conditions:

* For all K > 0 and L > 0, F(.) exhibits positive and diminishing marginal products with respect to each input: $F_K > 0$ and $F_{KK} < 0$ and $F_L > 0$ and $F_{LL} <. 0$.

* F(.) exhibits constant returns to scale, making output homogeneous of degree one in capital and labour.

Since equation 31 is homogeneous of degree one, it can be written in the intensive or per capita form

Equation 22

$y = f(k, 1)$

where y= Y/L, per capita income (or average product of labour); k= K/L, the capital-labour ratio. The intensive form is assumed to follow the Inada Conditions', following Inada (1963):

* f(k) = 0 when k = 0

- f'(k) > 0, implying that marginal product of capital is positive for all levels of capital-labour ratio.

- F''(k) < 0, that is, the marginal product of capital diminishes as capital per labourer increases.

- At very high levels of the capital-labour ratio, the marginal product of capital becomes very small, that is,

$$\lim_{k \to \infty} f'(k) \to 0$$

- As the capital-labour ratio tends towards zero, the marginal product of capital tends towards infinity:

$$\lim_{k \to 0} f'(k) \to \infty$$

Investment is assumed to be non-depreciating and is equal to the change of the capital stock and all saving is invested:

Equation 23

$$\dot{K} = S = sY$$

where $\dot{K}$ = dk = 1, dividing (equation 33) by L on both sides yields:

$$\frac{\dot{K}}{L} = \frac{sY}{L}$$

or

Equation 24

$$\frac{\dot{K}}{L} = s.f(k)$$

To change equation 33 in terms in per capita terms and taking into account the fact that $k = K/L$, and that K and L are growing at the same rate, then the growth rate of k will be zero (that is, $\dot{k}/k = 0$). If the proportionate rate of growth of K, $\dot{K}/K$, is greater

than the proportionate rate of growth of the labour force, $\dot{L}/L$, then the L capital-labour

ratio will be growing, $\dot{k}/k > 0$. Similarly, if $\dot{K}/K < \dot{L}/L$ then $\dot{k}/k < 0$. Consequently, it

follows that the rate of growth of the capital-labour ratio must equal the rate of growth

of the capital stock minus the rate of growth of the labour force:

Equation 25

$$\frac{\dot{k}}{k} = \frac{\dot{K}}{K} - \frac{\dot{L}}{L}$$

Since $\dot{L}/L$ = n and is constant, hence

$$\frac{\dot{k}}{k} = \frac{\dot{K}}{K} - n$$

And thus, multiplying both sides by $k = K/L$

Equation 26

$$\dot{k} = \frac{K}{L} - nk$$

or

Equation 27

$$\frac{\dot{K}}{L} = \dot{k} + nk$$

Substitute equation 37 in equation 34 then it follows that

Equation 28

$$\dot{k} = s.f(k) - nk$$

This is the fundamental equation of the neo-classical growth model.

It is to be noted that the Solow model does not attempt to explain fluctuations in these

variables. However, in order to ascertain the growth components accurately, this model

will be presented in a way that allows the assessment of what happens if these parameters change, that is, in case of a one-off increase in a variable.

Two well-known features of the Cobb-Douglas production function are as already mentioned the:

- Constant returns to scale, where a doubling of inputs leads to a doubling of outputs:

Equation 29

$$A_t \, (\mu K_t)^\alpha (\mu L_t)^{1-\alpha} = \ \mu^\alpha \mu^{1-\alpha} Y_t = \mu Y_t$$

- Decreasing marginal returns to factor accumulation, that is, adding extra capital while holding labour input fixed yields ever-smaller increases in output:

Equation 30

$$\frac{\partial Y}{\partial K} = \propto A_t K_t^{\alpha-1} L_t^{1-\alpha}$$

Equation 31

$$\frac{\partial^2 Y}{\partial K} = \propto (\propto -1) A_t K_T^{\propto-2} L_t^{1-\propto} < 0$$

The marginal product of labour, MP$_L$ is defined as the derivative of f with respect to L, that is, by how much Y will approximately increase when L increases by one unit. Meanwhile, marginal product of capital, MP$_K$ is defined as the derivative of f with respect to K, with MP$_L$ and MP$_K$ depending on both L and K. Thus, this implies that since f is increasing in L, MP$_L$ must be positive for all values of L and K. Furthermore, MP$_L$ is assumed to be decreasing in L, where the more work that is used, the lower the marginal product of labour. Thirdly, MP$_L$ is assumed to be increasing in K implying that the more capital, the higher the marginal product of labour. In the same way, MP$_K$ must be positive for all values of L and K. MP$_K$ is assumed to be decreasing in K and increasing in L.

Implications of the Solow growth model

According to Cordina (2004b) as consumption and physical capital rise in the course of economic growth, the marginal utility of consumption and the marginal product of capital decline, progressively leading to smaller rates of consumption growth. This process goes on until a steady state of zero consumption and output growth is reached, ignoring the effects of total factor productivity growth. This important result yields the notion of convergence whereby poor economies growth faster than rich ones in a process of catching-up. (Barro and Sala-i-Martin (1995). According to this model, the economy would not continue to accumulate physical capital per capita once that its marginal product falls to just cover the depreciation rate, the rate of utility discounting and population growth. The steady state consumption permitted by the steady state capital stock would provide just sufficient saving to keep per capita physical capital constant in view of depreciation and population growth. Thus, according to this model, economies which achieve a high per capita income level and which are consequently expected to grow fast for long periods are those characterised by deep parameters involving a low population growth rate, low physical capital depreciation, and a low rate of future utility discounting.

According to the Solow growth model, countries tend to converge to a steady state over time. As already mentioned in the Solow model, with regards to the capital-output ratio the equation is as follows,

Equation 32

$$\frac{\dot{K_t}}{K_t} = \frac{s}{x_t} - \delta$$

With the adoption of logarithms, it follows that,

Equation 33

$$\log x_t = \log \frac{K_t}{Y_t} = \log K_t + \log \frac{1}{Y_t} = \log K_t + \log Y_t^{-1} = \log K_t + \log Y_t$$

Taking derivatives with respect to time then,

Equation 34

$$\frac{\dot{x}_t}{x_t} = \frac{\dot{K}_t}{K_t} - \frac{\dot{Y}_t}{Y_t}$$

By using the equation related to output growth

Equation 35

$$\frac{\dot{Y}_t}{Y_t} = g + \propto \frac{\dot{Y}_t}{Y_t} + (1-\propto)n$$

and the equation for capital growth

Equation 36

$$\frac{\dot{K}_t}{K_t} = \frac{s}{x_t} - \delta$$

another equation can be derived for the dynamics of the capital-output ratio:

Equation 37

$$\frac{\dot{x}_t}{x_t} = \frac{\dot{K}_t}{K_t} - \frac{\dot{Y}_t}{Y_t}$$

Equation 38

$$\frac{\dot{x}_t}{x_t} = (1-\propto)\frac{\dot{K}_t}{K_t} - g - (1-\propto)n$$

$$= (1-\propto)\frac{s}{x_t} - \frac{g}{1-\propto} - n - \delta$$

This implies that the growth rate of x_t depends negatively on the value of x_t and when x_t is over a certain value, it will tend to decline, and when it is under that value it will tend to increase. Thus, the capital-output ratio exhibits convergent dynamics, whereby

it tends to converge to a specific long-run steady-state value. This long-run value, x^* is the value consistent with $\frac{\dot{x}}{x} = 0$. This implies that

Equation 39

$$\frac{s}{x_t} - \frac{g}{1-\propto} - n - \delta = 0$$

This solves to give

Equation 40

$$x^* = \frac{s}{\frac{g}{1-\propto} + n + \delta}$$

$$= (1-\propto)\frac{s}{x_t} - \frac{g}{1-\propto} - n - \delta$$

By $\frac{g}{1-\propto} + n + \delta$ thus leading to:

Equation 41

$$\frac{\dot{x}_t}{x_t} = (1-\propto)(\frac{g}{1-\propto} + n + \delta)(\frac{1}{x_t} \frac{s}{\frac{g}{1-\propto} + n + \delta} - 1)$$

$$\frac{\dot{x}_t}{x_t} = (1-\propto)(\frac{g}{1-\propto} + n + \delta)(\frac{x^*}{x_t} - 1)$$

$$\frac{\dot{x}_t}{x_t} = (1-\propto)(\frac{g}{1-\propto} + n + \delta)(\frac{x^* - x_t}{x_t})$$

This equation states that each period the capital-output ratio closes a fraction equal to $(1-\propto)(\frac{g}{1-\propto} + n + \delta)$ of the gap between the current value of the ratio and its steady-state value.

Convergence under the Solow growth model

The assumption of the diminishing marginal returns to capital under the Solow growth model, gave rise to the debate of convergence. Convergence implies that given the same structural parameters for preferences and technology, poor countries tend to grow

faster than rich countries (Barro et al., 1995). Moreover, diminishing marginal returns to capital implies that in long run every country tends to reach at steady state according to their saving and population growth rates, independent of their initial conditions and that only sustainable steady state growth rate is zero. In other words, the assumption of diminishing marginal returns to capital implies that k will converge to a steady state value which is referred to as k*. Steady state is a state where all variables grow at a constant (possibly) zero rates. Thus, steady state growth rate is by definition, constant (Xavier Sala-i-Martin, 1994). In other words,

Equation 42

$sk^* \alpha = (\delta + n+g) \, k^*$

At steady state it follows that,

Equation 43

$k^* = [s/(\delta + n+g)] \; 1/(1-\alpha)$

As shown in the below equation, given constant growth rates for technology and labour input in the Solow model, all variations in output growth are due to variations in the growth rate of capital input:

Equation 44

$$\frac{\dot{Y}_t}{Y_t} = g + \propto \frac{\dot{K}_t}{K_t} + (1-\propto)n$$

This implies that for output growth to be constant there must be a constant capital growth. In addition, these growth rates for capital and output must be the same such that the capital-output ratio is constant along a constant growth. Therefore, the capital accumulation equation should be as follows:

Equation 45

$$\dot{K}_t = sY_t - \delta K_t$$

and furthermore, by dividing across by K_t on both sides, it follows that,

Equation 46

$$\frac{\dot{K}_t}{K_t} = s\frac{Y_t}{K_t} - \delta$$

This implies that the growth rate of the capital stock depends negatively on the capital-output ratio $\frac{K_t}{Y_t}$. So for the capital stock to be growing at a constant rate, then $\frac{K_t}{Y_t}$ must be constant, which can only be so if the growth rate of K_t is the same as the growth rate of Y_t. Accordingly, the steady-state growth rate must satisfy

Equation 47

$$\frac{\dot{Y}_t}{Y_t} = g + \propto \frac{\dot{Y}_t}{Y_t} + (1-\propto)n$$

Implying that dividing $\propto \frac{\dot{Y}_t}{Y_t}$, then the following is obtained:

Equation 48

$$(1-\propto)\frac{\dot{Y}_t}{Y_t} = g + (1-\propto)n$$

So, the steady-state growth rate is

Equation 49

$$\frac{\dot{Y}_t}{Y_t} = \frac{g}{1-\propto} + n$$

In addition, with the Solow model it is possible to determine that one cannot conclude that policies based only on encouraging capital deepening are capable of boosting the growth rate in the long-run. Diminishing marginal productivity of capital implies that steady growth cannot be maintained based on capital deepening alone. Ultimately, it is technological progress that offsets the effects of diminishing marginal returns and

thus allows capital deepening to play a role along the steady growth path. Then, if the capital-output ratio is defined as:

Equation 50

$$x_{t=} \frac{K_t}{Y_t}$$

Implying that the production function can be expressed as:

Equation 51

$$Y_{t=} A_t(x_t Y_t)^{\propto} L_t^{1-\propto}$$

Since $K_{t=} x_t Y_t$ then dividing both sides by $Y_t^{\propto}$, then,

Equation 52

$$Y_t^{1-\propto} = A_t x_t^{\propto} L_t^{1-\propto}$$

Thus, taking both sides of the equation to the power of $\frac{1}{1-\propto}$

Equation 53

$$Y_{t=} A_t^{\frac{1}{1-\propto}} x_t^{\frac{\propto}{1-\propto}} L_t$$

So, output per worker is

Equation 54

$$\frac{Y_t}{L_t} = A_t^{\frac{1}{1-\propto}} x_t^{\frac{\propto}{1-\propto}}$$

This equation tells us that all fluctuations in output per worker are due to either changes in technological progress or changes in the capital-output ratio. Since A_t is assumed to grow at a constant rate each period, this means that the interesting dynamics for output per hour stem from the behaviour of the capital-output ratio.

GDP per capita is used and not GDP itself since per capita to determine the prosperity of a nation and thus the Solow equation is defined in terms of output per worker $y \equiv Y/L$, and capital per worker, $k \equiv K/L$. This therefore means that $y_t = A$. Thus, assuming that A stays constant, an increase in output per worker can only come from an increase in capital per worker. However, as already mentioned there are diminishing returns to capital, whereby each additional unit of capital provided to a single worker increases the output of that worker by less band less. Capital accumulation occurs through savings. Assuming individuals save a constant fraction, s, of their income, and the economy is closed, so that savings, sY_t, equal investment, I_t, and the only use of investment in this economy is to accumulate capital, the change in capital stock per period, $K_{t+1} - K_t$, is equal to the amount of gross investment, sY_t, less the amount of depreciation that occurs during the production process, δK_t, thus

Equation 55

$K_{t+1} - K_t = sY_t - \delta K_t$

where $0 < s < 1$. The Solow model assumes that the labour force growth rate is equal to the population growth rate which is given by the parameter $n.+L_{t+1}=(1+n)L_t$

This implies that

Equation 56

$(1+n)k_{t+1} =(1- \delta)k_t + sB$

Capital per worker in the next period, k_{t+1}, depends on capital per worker in the last period less any decrease caused by depreciation, $(1-\delta)k_t$, plus any addition made through savings per worker sB. Population growth, n, exerts a downward pressure on per capita capital stocks, since the larger the rate of population growth, the lower is per capita capital stock in the next period.

The evolution of income in the Solow model is therefore one where at the initial level of the capital per worker, k_0, the amount of investment per worker, sB exceeds the amount needed to keep the capital per worker constant, $(n+\delta)k_t$, so that capital deepening occurs leading to an increase in capital per worker. This increase will continue until the so called steady state is reached at the point where k is equal to k^*, at which point, sB is equal to $(n+\delta)k_t$, such that the capital per worker, k, is equal to 0. This is the steady state point where the capital per worker remains constant as shown in Figure 1.

Figure 1. Dynamics of the Solow model
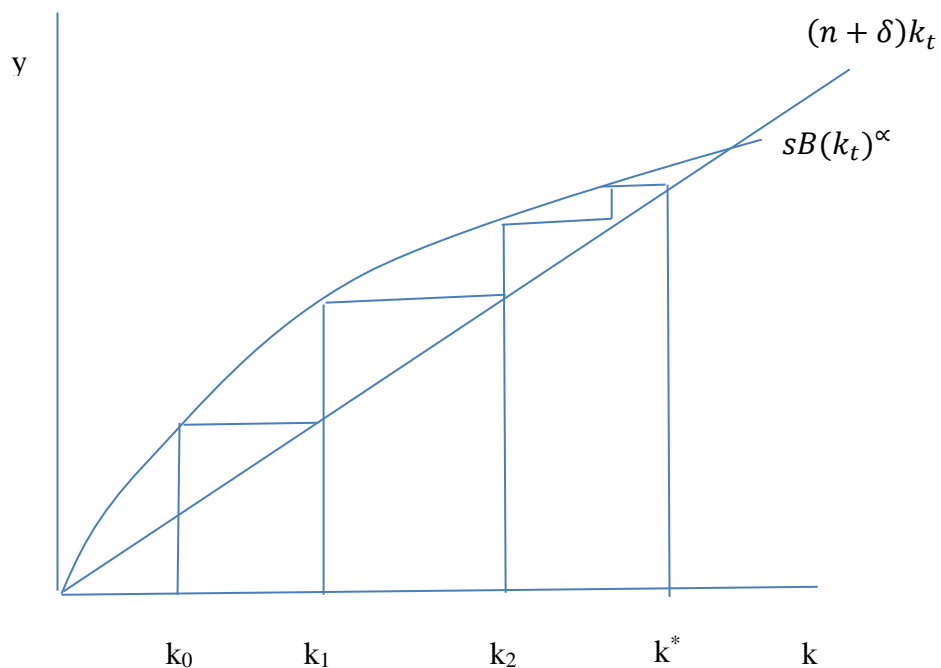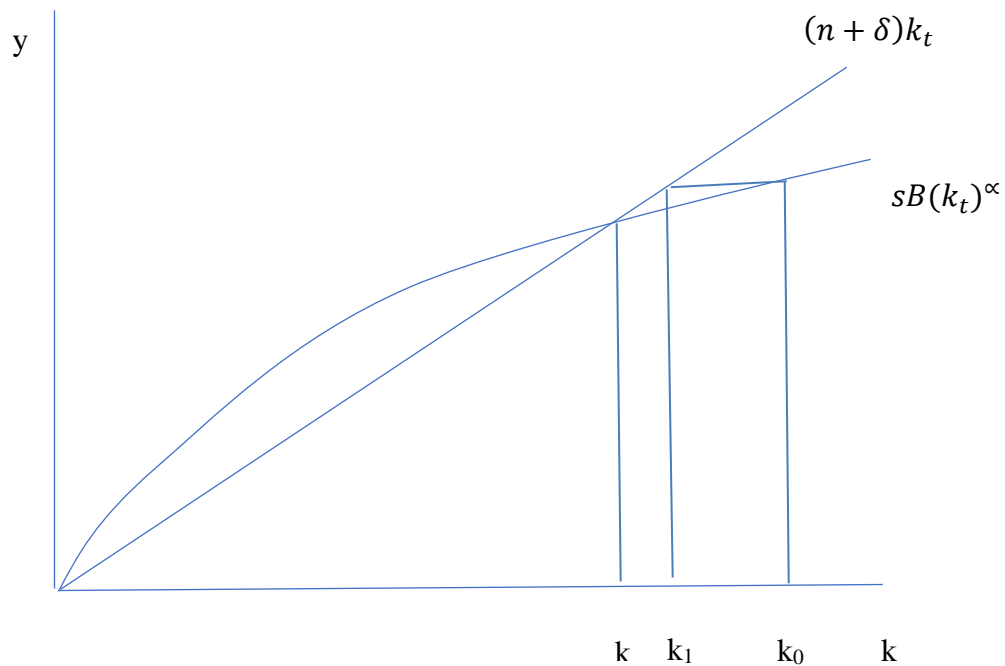
Impact of aid on the neo-classical economy

In order to be able to understand correctly the impact of aid, this section will examine the role that capital and consumer goods have to play and the impact of aid on the long-term economic growth.

Aid in the form of capital goods

To assess the impact of aid we assume that foreign aid is in the form of a grant and is a flow. In the existing literature most of the studies have used the neo-classical model to deal with international capital flows, mainly private, for example Borts (1964), Oniki and Uzawa (1965), Negishi (1965), and Kemp (1968). Eaton (1989) overviews some of these models in a simplified way. Crouch (1973) considered the impact of foreign aid in a static neo-classical growth model. In this section, the analysis first presents a case where the donor country gives aid in the form of capital goods. Figure 2 considers the case where, A, the amount of the aid is tied to the capital sector. The

capital-labour ratio rises from k_1 to k_2. Aid-supported per capita income and per capita consumption are y_2 and $a_1 z_1$, respectively. The economy stays at this point as long as aid flows in. As soon as aid stops, the economy shrinks back to x because the capital requirement to keep the capital-labour ratio constant exceeds per capita saving. Hence, the impact or benefits of aid prove to be transitory during which the recipient has temporarily enjoyed higher consumption per capita.

Figure 2. The impac tof foreign aid in the neo-classical model
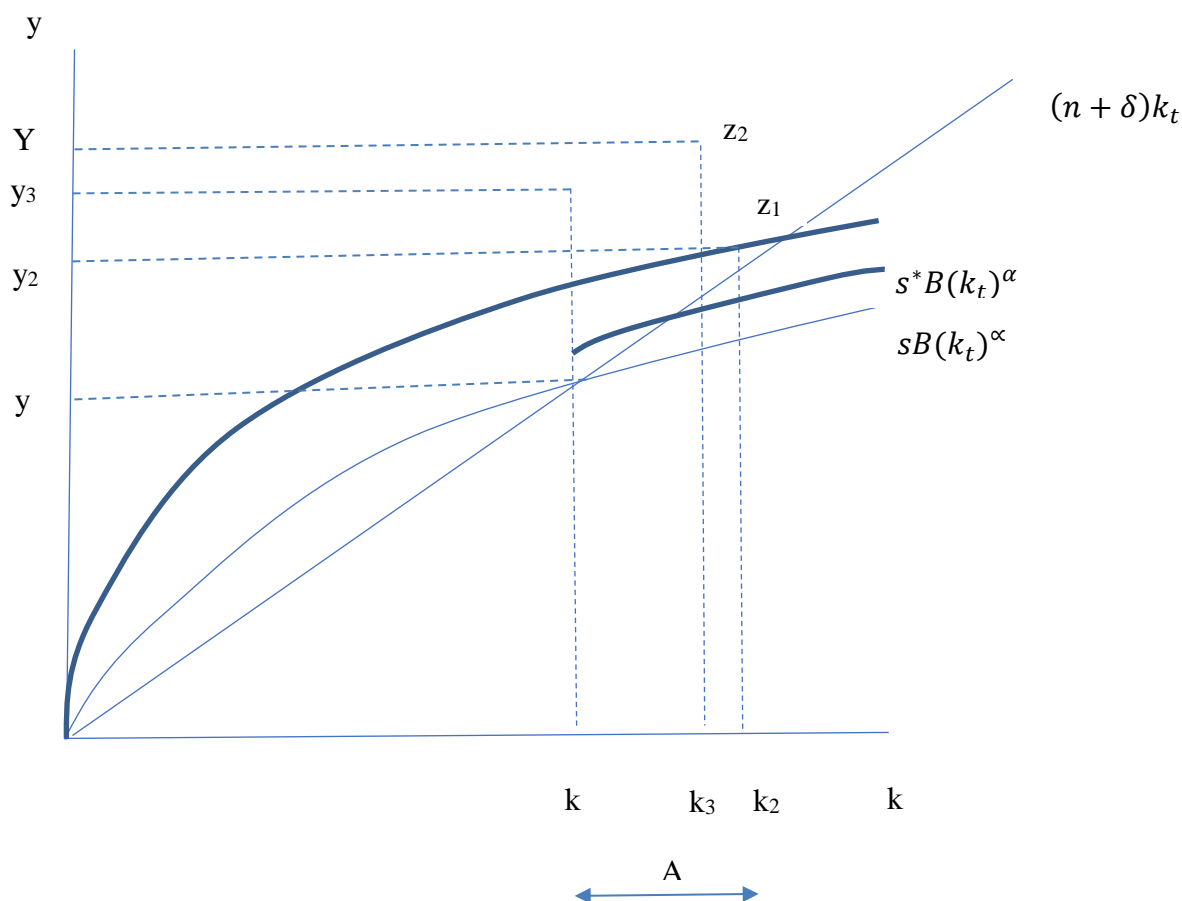
Aid in the form of consumer goods

In the case of a donor giving an equal amount of grant aid in the form of consumer goods, then income per capita records an increase leading to a shift in the aid-supported production function. Thus, this impacts the saving per capita also. Given that this leads

to a situation where the saving per worker exceeds the capital requirement, the capital-labour ratio also increases and as long as aid is received, then this further increases the income per capita to and the consumption per capita. As soon as aid is no longer given then all the ratios drop back to their non-aid levels.

Impact of aid on the long-term economic growth

Therefore, income per capita and saving per capita are higher when aid is allocated in the form of consumer goods rather than capital goods. In addition, it is to be noted that if the recipient increases its propensity to save, a higher income per capita can be reached in the short-run. A rise in the saving rate would, however, reduce current consumption per capita during part of the transition period. The outcome will therefore depend on how households weigh today's consumption against the path of future consumption.

Crouch (1973) has attempted an exercise by modifying the assumptions of the neo-classical model and from which long-run benefits are perceived. Crouch has adopted a different assumption to population growth, such that the growth rate of population n is not exogenous but a function of income per capita. The saving per capita is also not constant but reflects the behaviour of the growth rate of the population. Crouch (1973) showed that given these conditions, the possibility of a steady-state growth equilibrium exists at three different levels of the capital-labour ratio, with only two of them being stable (at k_1 and k_3). Steady-state growth at k_2 is unstable, where the slightest divergence from k_2 sends k to either k_1 or k_3. Developing countries are characterised to be at a steady-state growth at k_1, where this is often referred to in the development literature as a low-level equilibrium trap [Lewis (1954), Liebenstein (1957) and Nelson

(1960)] and implies that a `big push' or `minimum critical effort' is required to achieve high levels of output per worker permanently. Hence, if foreign aid in the form of grants of capital goods then this imposes a limit on the ability of increasing the country's capital-labour ratio, implying that the benefits of aid will be transitory. However, if the capital-labour ratio were to be above this limit then this would help the country to 'take-off' to finally reach a higher output with a higher level of income per capita. Hence if enough capital is pumped into the economy, higher per capita income levels can be reached permanently. In the case of a substantial amount of aid, then the saving per capita curve could be raised also, and it would once more allow the recipient country to 'take-off'. With aid support, a higher capital-labour ratio would be attained. However, if aid is no longer given then the economy would only fall back into steady-state growth. Permanent benefits are hence possible in these circumstances. The increase in the investment rate leads to a situation whereby at the current level of capital stock, investment per worker exceeds the amount required to keep capital per worker constant, and therefore the economy begins capital deepening again, which continues until a new steady-state is reached, which is association with a higher per capita output. A permanent increase in the saving rate thus produces a temporary increase in the growth rate of output per worker (Solow, 1987). The output per worker begins to rise above the path it was on and then gradually settles into a higher path parallel to the first. A change in the saving rate has a level effect but not a growth effect. It changes the economy's balanced growth path and thus the level of output per worker but it does not affect the growth rate of output per worker on the balanced growth path. In the model of Solow no other change will lead to growth effects other than technological progress, which is exogenous.

Crouch's conclusion was that for foreign aid (either in the form of consumer or capital goods) to have long-run beneficial effects on the development of the recipient there must be a low-level equilibrium trap and that aid must be above a critical minimum. These are accordingly necessary and sufficient conditions for permanent benefits to occur in a neo-classical framework. An extension to the Solow model has been developed using Ramsey (1928) methodology that incorporates endogenous determination of the saving rate. The specification of consumer behaviour is a key element in this kind of optimisation model. The model was subsequently refined by Cass (1965) and Koopmans (1965). Many authors have elaborated on this model, for example Romer (1986), Lucas (1988), Grossman and Helpman (1992) and Barro and Sala-i-Martin (1995). In this model, the households choose consumption and saving to maximise their dynastic utility subject to an intertemporal budget constraint. The households' pattern of per capita consumption is mostly found to depend on the interest rate, the discount rate and the willingness to substitute intertemporally. In other words, if households have a strong preference for smoothing consumption over time, thereby having a high willingness to shift consumption from the future to the present, the low rate of investment would imply that the transition to the steady-state would take a longer time than if the households are more willing to postpone consumption. In this model even though saving is endogenously determined, it does not eliminate the convergence property to the steady-state as in the static model. The effect of foreign aid whether tied to capital goods or untied would yield the same results as before.

Labour efficiency and aid

It has been assumed so far that the level of technology is constant over time and following this all per capita variables were constant in the long-run. This assumption is too extreme given the high levels of innovation and improvements in the efficiency of labour. Developed countries' per capita growth would have been difficult to maintain by only accumulating capital per worker in the presence of diminishing returns. Technological improvements allow a country to neutralise or avoid diminishing returns effects on growth, hence enabling the country to grow in per capita terms. Many donor countries give foreign aid in the form of technical assistance for improving labour efficiency. This form of technical assistance can have considerable positive effects on growth in the long run. This type of aid includes scholarships, expert advice, access to sophisticated equipment to carry out research and so on. To illustrate how it can raise the recipient's long run growth rate, it is assumed that foreign aid is associated with labour-augmenting technological progress. The production function Y= F(K, L) becomes

Equation 57

$Y = F[\ K, L. A(t)]$

where A(t) is the technology index given by e^{x1} which starts growing at a constant rate *x* from the time the aid is obtained, assuming before that x was zero, following the methodology adapted from Barro and Sala-i-Martin (1995). Maintaining that all saving is invested:

Equation 58

$K = s.\ F[\ K, L. A(t)]$

Dividing both sides by L:

61

Equation 59

$$\frac{\dot{K}}{L} = s.F[k, A(t)]$$

Substituting equation 72 into equation 37 and rearranging terms to get

Equation 60

$$(\dot{k}) = s.F[k, A(t)] - nk$$

Comparing equations 38 and 73, it can be seen that output per capita now depends on the level of technology, A(t). Dividing both sides of equation 73 by k to get the growth rate of k, the following equation is derived:

Equation 61

$$\varepsilon_k \frac{\dot{k}}{k} = s.\frac{F[k, A(t)]}{k - n}$$

In equation 74 the average product of capital, *F[k, A(t)]/k* increases over time because of the growth in A(t) at the rate x. Given that *s* and *n* are exogenous, equation 74 implies that the average product of capital is constant in the steady state. Under constant returns to scale the average product of capital equals *F[1, A(t)/k]* and is therefore constant only if x and A(t) grow at the same rate, i. e. $\varepsilon_k^* = x$. Since K and A(t) grow at the same rate, then it follows that the production function in intensive form is,

Equation 62

$$\hat{y} = F(\hat{k}, 1) = f(\hat{k})$$

where $\hat{y} = Y/L. A(t)$ and $\hat{k} = K/L. A(t)$. Thus, the dynamic equation for $\hat{k}$

Equation 63

$$\varepsilon_k = s.\frac{f(\hat{k})}{\hat{k}} - (n + x)$$

Therefore, since the steady-state growth of $\hat{k}$ is zero, the steady-state value $\hat{k}^*$ satisfies the condition

$$s.\frac{f(\hat{k})}{\hat{k}} = (n + x)$$

Therefore, all the variables that are present in the equation, capital stock, income, consumption (saving) are now growing at this new rate. Hence foreign aid in this form is able to have beneficial effects in the long-run as long as technical assistance is flowing in the economy. If foreign aid is not given any longer, then growth will shrink back to its former level. Thus, for permanent effects to occur, the recipient should find ways to assimilate and learn in the process so that when aid stops, the economy can still grow. The recipient country of aid should therefore make the technology aspect as indicated by Barro and Sala-i-Martin (1995) 'endogenous', such that it is generated within the economy, thus leading to long-run beneficial effects. However, this conclusion assumes that developing countries have such technological potentials which in reality may not be the case.

2.1.3   Concluding remarks

Aid effectiveness has attracted considerable attention in the economic development literature, both in terms of publications and policy debates. The emerging consensus would seem to be that aid does have a positive impact on growth but its effectiveness should be improved. Increased emphasis is being placed on poverty reduction in policy debates, and the international community has come to expect much of development

aid, especially since the adoption of the Millennium Development Goals at the United Nations Millennium Summit in September 2000. Early research on aid, dating back to the 1950s, was consistent with the optimism of aid effectiveness and was actually the founder of this optimism. Aid was analysed in the context of the two-gap model of aid, which itself was very much of the Harrod-Domar growth tradition. These early models implicitly assumed that one dollar of foreign aid will increase savings and investment by one dollar and therefore lead to increases in growth. If foreign aid was found to have a positive association with savings, it followed that aid impacts favourably on economic growth. However, subsequent studies started painting a mixed picture. In fact, research indicates that there were two strands of reasoning: the one whereby aid has a positive impact and the one that indicates that aid does not (Papanek, 1972; Papanek, 1973; Mosley 1980, Mosley, Hudson and Horrell, 1987). Research on aid effectiveness in the late 1990s has been very important in shaping donor policy. This research was used to develop an argument in favour of the fact that aid works, but only when policies are right (Collier, Burnside and Dollar, 2001). Thus, the emerging consensus seems to be that aid in the form of ODA should lead to economic growth if utilised well, but this might not be the case due to several factors including the governance situation in the recipient country.

2.4 The donors' motivations

According to Todaro and Smith (2003), donors often have political interest, such as possibilities of affecting the politics of the receiving country, control former colonies and/or control terrorism for their aid. The major donor in absolute numbers, the US, has been involved in bilateral aid since the 1940s with the Marshall Plan . Their focus was in the 1960s South and Southeast Asia, in the 70s Latin America, Middle East in

the 80s and since the 1990s their focus has been on Islamist countries in order to prevent terrorism (Todaro & Smith, 2003). Donors' economic motivations are things such as future trade partners or tying aid to trade. Japan directs most of its aid towards neighboring countries, where they also have private investments and possibilities of expanding trade (Todaro & Smith, 2003). When donors turn grants into loans or tie aid to exports receivers have accumulated large repayment burdens which can lead to debt overhang4 (Todaro & Smith, 2003).

The empirical research that argued that aid works, with good policy, is then seen to result in aid allocation principles (Collier and Dollar 2002) and, it is thought, into policy implementations (Easterly 2003). It would be expected that this would lead to a greater

weight for policy in allocation decisions, but also a greater focus on poverty as aid is seen as a possible solution. This move from conditionality to selectivity was being discussed surprisingly early in policy circles (Hout 2007a), but it is unclear whether this move was rhetorical or actual. Hout (2007b) examines the allocations of the Netherlands, USA and World Bank and provides evidence that policy selectivity has not increased within the last few years. Looking at selectivity over a longer time horizon, Easterly (2007) finds increased poverty sensitivity to have happened after 'the McNamara revolution' of the 1970s, with little change since then. Regarding policy, he concludes that

> "The overall picture is that there is little evidence that donors are learning to be increasingly selective with respect to policies in the recipient countries."
>
> *(ibid. p.654)*

Nunnenkamp and Thiele (2006) report correlations and basic regressions from a similar exercise in support of the conclusion that aid is poverty but not policy-sensitive.

Specifically policy-insensitive are Japanese and French aid, with the US not fairing particularly well. The poverty focus is found particularly strong for Scandinavian countries, Germany, Holland and the UK.

Berthélemy and Tichit (2004) report the sign and significance level of the coefficients in their model for 18 bilateral donors. They find mixed evidence in support of the importance of recipient need, and find infant mortality to be a better predictor than income for many donors. Policy is significant for most donors, but the USA and Australia exhibit a special preference for democracy whereas France and Belgium both have a negative coefficient estimate. They do not report major differences in their Donor Interest variables, but state smaller donors focus regionally. Berthélemy (2006) divided donors into three categories on the basis of the estimated coefficient for the trade-aid relationship. Selfish donors (Australia, France, Italy, Japan and the UK) have a positive relationship between aid and trade whereas Altruistic donors (Austria, Denmark, Ireland, Netherlands, Norway and Switzerland) have a negative relationship.

Trade here is measured as the logged and lagged sum of imports and exports between the donor and recipient as a share of Donor's GDP. Alesina and Dollar (2000) report that for 3 donors their allocation is distorted by a single factor: for the USA it is Israel and Egypt, for France it is colonies and for Japan it is UN voting records. They find France and Japan to be insensitive to Poverty whereas the USA and the Nordic countries give more to poor, democratic and open countries.

The most robust finding when comparing donors is that Nordic donors are distinct. Alesina and Weder (2002) focus on the link between corruption and aid allocation over

the period 1975-1995, both in aggregate and by individual donors. Using the Tobit technique for individual donors, they find Nordic donors tend to give less to corrupt recipients, whereas for other donors there is no robust relationship. They postulated that

Nordic donors are freed from colonial ties and can thus be more sensitive to other considerations. Gates and Hoeffler (2004) explicitly test and confirm the idea that Nordic donors (Norway, Denmark, Sweden and Finland) are different, finding them to be more influenced by democracy and less influenced by trade, compared with other donors.

In addition, in assessing the differences in traits and behaviour of donors, studies indicate that wars and terrorist attacks played a major role. Meernik et al. (1998) reported early evidence that the end of the cold war meant a declining importance of security concerns, a significant decline in aid transfers and an increased emphasis on poverty in allocation decisions. Boschini and Olofsgård (2007) find too in their analysis that the cold war may explain the decline in aid volumes, but argue that it changed relatively little in allocation practice. Berthélemy and Tichit (2004) argue that the geopolitical concerns of aid allocation during the cold war have been replaced not by increased poverty concerns but by trade relationships. Easterly (2007) finds that the cold war changed little in terms of sensitivity to democracy, and Neumayer (2003a) finds it had no effect on the relationship with human rights. Moss et al. (2005) study the effect of Global War on Terror on US aid allocation using various variables thought to capture a priori expectations and find that essentially the effect of this war was to substantially increase the aid for four countries (Iraq, Afghanistan, Jordan and the Palestinian territories) which was financed mainly by an augmented aid budget but

also by reductions for three countries (Israel, Egypt and Bosnia and Herzegovina). Fleck and Kilby (2009) find that the Global War on Terror occurs at the same time that there is an increase in aid for the USA, a period which was also marked by a decrease in poverty sensitivity.

2.5 Aid harmonization and alignment

Aid harmonisation is another factor associated with aid effectiveness, in that very often donors do not coordinate and align their efforts, leading to fragmentation and high transaction costs. Against this background, in 2003 the Rome Declaration on Harmonisation identified the need to harmonise the operational policies, procedures and practices of donor institutions with those of partner country systems to improve the effectiveness of development assistance. According to Balogun (2005), in this declaration, 'ownership' refers to partner countries determining their own development priorities and coordinating development assistance accordingly. 'Alignment' involves development partners working in a way that is consistent with national development strategies, institutions, and procedures, and 'harmonization' implies that donors work collectively in coordinated pursuit of national development goals. Balogun argues that these three concepts of ownership, alignment and harmonization are thoroughly interlinked and mutually reinforcing. The more ownership that countries exercise over development agendas, the easier it is for development partners to harmonize their efforts and support in alignment with the goals established by the recipient countries. At the same time, the more donors have already harmonized aid and aligned with country systems, the easier it is for countries to assert ownership over the development process. With greater recipient country ownership of development assistance, the more it is aligned with national systems, and the better harmonized it is among donors, the

more effective it is expected to be in terms of delivering goods and services to citizens and facilitating national policy changes in pursuit of poverty alleviation and economic growth.

Balogun (2005) in his research concludes that increased aid effectiveness from harmonization and alignment is anticipated for three main reasons. First, harmonization and alignment should reduce transaction costs, which is mainly driven by the fact that as donors make use of *'common arrangements . . . for planning, funding . . . , disbursement, monitoring, evaluating, and reporting to government,'* as specified in the Paris Declaration, this will reduce the amount of time that national governments spend undertaking duplicate interactions with multiple donors, reducing the human and capital resources that go into these activities and freeing them up for other purposes (OECD 2003). Secondly, Balogun argues that the use of country systems that comes through alignment should lead to an improvement in capacity. In terms of relying on external implementation, procurement, financial management, audit, monitoring, and evaluation systems the use of country systems means that preexisting government bodies are being used less. Therefore, this impedes the development of technical skills within these national bodies and means that technical capacity levels will be inferior to the counterfactual case in which those systems had been when used to implement foreign-funded projects and programs. This is in line with the argument raised by Knack and Rahman (2007) when stating that the use of parallel donor-funded systems can reduce the quality of a national bureaucracy by siphoning off qualified staff. In addition, Balogun (2005) argues that parallel mechanisms rarely result in sustainable institutions and capacity—they are often tied to the life span of the development projects that led to their creation. When they disappear, the capacity they built may

remain in particular people, but it is quite possible that these individuals will not end up in the government institutions that take over responsibility for what the parallel mechanisms were doing. Third, harmonization among donors in the form of information-sharing, joint planning, joint policy dialogues with the government, and joint reviews of operations should lead to efficiency gains in terms of aid delivery and therefore in terms of service delivery. This communication can help to ensure that donors are not planning projects that unnecessarily overlap geographically or substantively or that unnecessarily exclude deserving geographic regions or important substantive reforms as was also analyzed by Ross (1990). Balogun argues that harmonization should reduce variability and uncertainty in overall aid flows as the different development partners can ensure that funds are transferred in a way that neither suddenly floods nor suddenly deprives countries of external funding. Greater certainty facilitates more effective national planning and budgeting processes. Balogun (2005) concludes that immediate benefits of increased aid harmonization and alignment are a reduction in transaction costs and a general increase in the efficiency of management of aid delivery for both donors and recipient governments. The increased efficiency benefits to partner governments are then assumed to feed through an increase in the quality of management of governments' own policy, planning and budgeting processes, which ultimately leads to faster economic growth.

According to Evans and Booth (2006) the most appropriate approach for assessing the impact of harmonization and alignment on development outcomes is through theory-based evaluation. Theory-based evaluation of harmonization and alignment seeks to follow the process through which inputs, such as on-budget projects, lead to direct outputs, such as reduced transaction costs and then to first-stage outcomes, in the form

of increased capacity of government agencies or improved government policies, which then should lead to second-stage outcomes, such as better service provision and more public investment, and therefore ultimately to positive development impacts in the form of reduced child mortality or increased gender parity in education. Evans and Booth argue that at each stage, a careful assessment of the counterfactual is needed, but it should not be assumed that harmonization automatically leads to the anticipated development outcomes. Rather, Evans and Booth highlight that it should be shown that harmonization has had the intended effect on intermediate outcomes, and that those outcomes have contributed to particular development outcomes.

The 2008 Survey on Monitoring the Paris Declaration (OECD, 2008), which assessed progress made in 55 partner countries and analysed the challenges in making aid more effective at advancing development, highlighted that unless partner countries and external partners seriously geared up their efforts, they will not meet their international commitments and targets for effective aid by 2010, as in fact was the case. The Survey indicated that 36 per cent of partner countries showed improvements in the quality of country systems for managing public funds. It was also found that donor technical co-operation was found to be more coordinated and aligned with the capacity development programmes of partner countries as the proportion of coordinated technical co-operation increased from 48 per cent in 2005 to 60 per cent in 2007, exceeding the 2010 target of 50 per cent. However, the evidence from the 2008 Survey indicated that the pace of progress was too slow thus leading to a situation whereby the 2010 targets for improving the quality of aid granted were not met. Accordingly, the Survey put forward three recommendations aimed at strengthening the capacity of aid to promote development. The recommendations indicated that governments and donors should

have worked together to: (i) systematically step up efforts to use and strengthen country systems as a way of reinforcing country ownership of aid; (ii) strengthen accountability for development resources; and (iii) curb the cost of delivering and managing aid (OECD, 2008).

According to Lawson (2010) the primary argument for better donor coordination is the concern that even as aid levels increase, aid effectiveness is becoming increasingly undermined by fragmentation. More donors are giving ODA than in past decades, and many donors are spreading their assistance across a growing number of recipients. Lawson (2010) argues that coordination advocates stress that this profusion of donor agencies in many developing countries causes problems for donors and recipients alike. Such problems include issues related to duplication, cross-purposes, loss of scale, administrative burden and an element of unclear leadership. By duplication, Lawson is referring to the fact that donors often focus on the same needs in a country and may duplicate each others' efforts in the absence of coordination. Examples in this regard are that a donor agency may invest significant time and resources into a geological survey for a road or water project, unaware that a similar survey was completed a month earlier by a different donor. Secondly, there is also the issue of cross-purposes, whereby the activities of various uncoordinated donors may actually conflict and undermine development objectives. Lawson argues that in fact, it is not uncommon, to hear that farmers, election officials, or health providers are receiving contradictory guidance from technical advisors provided by different donors. Uncoordinated activities may also result in donors competing for the same workers, materials, or other limited resources in a region, potentially making each project less cost-effective. Besides these, there is also the problem of loss of scale, which refers to the fact that a donor trend

toward supporting higher numbers of lower-value projects dilutes the impact of aid and threatens activities that have high fixed costs and are most efficient on a large scale, such as energy and infrastructure improvements. Without donor coordination, these projects may be passed by, as they are often not cost-effective at the scale that a single donor could support. In addition, there is the problem related to administrative burden, which refers to the fact that the presence of more donors often implies increased administrative demands imposed by donors on recipient governments in order to meet their own accounting and oversight requirements. Lawson (2010) gives an example of Botswana, which had 27 official donors in 2008, with the top five accounting for 97 per cent of bilateral aid, but all 27 likely requiring regular reports meeting various specifications. Also, another example given is that of Vietnam that reported hosting 782 separate visits by donor officials in 2007, each requiring the time and attention of recipient government officials. Accordingly, Lawson (2010) argues that donor coordination and collaboration could significantly reduce the administrative burden on recipient governments. Finally, there is also the problem of unclear leadership given that in many recipient countries, there is no longer a majority donor with implied authority to convene other donors.

However, Lawson introduces another aspect in his study whereby he refers to the fact that not all foreign aid studies are concerned about the growing number of donors in many developing countries. In fact, Lawson remarks that there is the contention that a wide variety of independent donors is valuable in indicating pluralism in action and also reflects the decentralization of authority that many development plans promote. In addition, having a range of active aid donors leads to more ideas, competition, and innovation, as well as a more consistent flow of funding. Having said that it is

interesting to note Lawson' citation of Frot and Santiso's (2010) statement, when stating that *'it is peculiar that an abundance of suppliers is criticized in the 'aid market' when economics undermine the virtue of competition almost everywhere'.* To further enhance this argument, Lawson argues that several development officials also believe that it is primarily the responsibility of recipient governments, not donors, to manage activities in their countries.

Nonetheless, despite this different viewpoint, donor and recipient countries alike have expressed widespread agreement on the desirability of greater donor coordination and consolidation of foreign assistance activities to address fragmentation concerns. This is in fact shown in two additional survey studies, by Àlvarez and Acharya (2012) and Riddell (2012) who review the evidence on the effectiveness of aid on health and education, respectively. They find that aid has made a positive contribution in both sectors but that its effectiveness has been undermined by systemic weaknesses and failures in its provision, in particular with regard to fragmentation and insufficient coordination of aid efforts. Most interestingly, both studies argue that the introduction of new aid approaches and instruments such as sector-wide approaches (SWAPs) and budget support in the previous 10 to 15 years had the potential to make aid in these sectors more effective. However, both studies concluded that the effectiveness of these new approaches to sector aid could have been greater, had they been implemented more rigorously, with more comprehensive adherence to *'good aid'* principles such as harmonization, alignment and ownership (Álvarez and Acharya 2012; Riddell 2012).

2.6 Aid tying

Tying of aid implies that the recipient is in some way restricted in the allocation of the financial resources it receives in the form of an official grant or loan (Jepma, 1990). According to Bhagwati (1967), restrictions may take different forms, whereby aid may be linked to a specific development project or programme, thus possibly limiting the recipient's development policy options. Secondly, Bhagwati points out to a restriction that is partially connected to the first, which relates to the specific commodities or services which have to be financed with the help of the aid. Thirdly, there is also the aspect of regional tying, whereby the recipient is required to make procurement in specific countries or regions, usually including in the donor country itself.

The practice of aid has long raised concerns about the quality and the effectiveness of aid. The tying of aid has important consequences for developing countries. According to Jepma (1990) one of its negative effects, which has been recognized for years, is that it may increase costs to the recipient by as much as 20 to 30 per cent. Jepma in his analysis focuses on the fungibility concept of aid tying, which analyses the degree to which tying results in non-additional export flows. Jepma argues that tied aid represents only a small percentage of the donor countries' total exports. This implies that it is improbable that aid tying provides significant macro economic benefits to any donor's domestic employment or balance of payments aggregates. Jepma indicates also that for an overall assessment of the tying costs to the recipients, one must also take into account the indirect costs involved. These include costs due to the additional administrative overheads and delays, as well as those arising from a lack of donor coordination. In addition, several biases in aid policies may exist, which, when taken together, contribute to a devaluation of the aid from the recipient's point of view.

Osei (2004) argues that the restrictions imposed by aid tying reduce the degree of competition in the supply of foreign aid goods and services. As the traditional theory of price implies, the smaller the number of competitors, the lower the probability of lower prices and the more efficient the allocation of resources. This theory is backed up by a considerable number of empirical studies on market performance, implying that monopoly control of markets lead to higher prices. In effect, restrictions imposed by tying could represent an abuse of market power to extract excessive profit through the higher prices on tied goods and services. According to Osei (2004), for Sub Saharan African countries, already facing external debt problems and the need to make optimal use of limited financial resources, such an abuse of market power by aid donors, which leads to higher prices on tied aid goods and services, could worsen the debt problems and accentuate the aid dependency situation of the region.

Given such negative aspects, the OECD's Development Assistance Committee (DAC) issued a recommendation to its members in 2001 to untie aid to the Least Developed Countries to the largest extent possible, but exempting food aid, technical assistance, and aid channelled through NGOs instead of recipient governments. Up to 2015, aid untying was monitored under the Millennium Development Goals, as one of the indicators under the eighth goal of developing a global partnership for development. According to the DAC, tying aid not only reduces its value to the recipient, but is considered to be inconsistent with the Paris Declaration principles of country ownership and alignment with country priorities and systems. The share of aid that is untied is thus included as one of the 12 Paris Declaration Indicators for improved aid effectiveness (OECD, 2011).

This line of thinking with regards to aid tying is evident also in the study by Knack and Smets (2012), who point out that tying aid to purchases from the donor country reduces its effectiveness. Knack and Smets quote studies by Jepma (1990, 1991) in saying that aid tying has been estimated to increase costs by 5 per cent to 30 per cent, or even more for food. Furthermore, Knack and Smets found that untied aid as a share of total aid from the DAC donors increased from roughly 55 per cent before the Paris Declaration recommendation was issued to 80 per cent or more up to 2012.

According to the European Network on Debt and Development (EURODAD, 2015) the transfer of aid money from wealthy countries can be an effective instrument for fighting poverty and promoting sustainable development, especially so for low-income countries. However, this occurs only if aid actually flows to developing countries and is used effectively, which in practice this is often not the case. EURODAD argues that much aid is still 'tied' to the condition that all supplies are procured from firms in the donor countries. In line with Jepma's argument, EURODAD argue that aid tying increases costs by 15 per cent to 30 per cent and shows that donor countries are prioritizing support for their own companies over poverty reduction. This also means that developing countries have less scope to use aid to boost domestic industries.

Chimia (2014) argues that from an economic point of view, governments in donor countries have microeconomic and macroeconomic justifications for tying aid. The microeconomic rationale is that, in the short term, donor exporters can gain from the aid if this is provided under a tied aid basis. Nevertheless, in the long term, tying could

result in damaging effects. For instance, the domestic industries initially advantaged by tied aid can risk becoming dependent on exports subsidies and, as a consequence, become more vulnerable if the subsidy is abolished at any time in the future. Furthermore, when tied aid is granted to help weak industries, the allocation of resources based on international competition is distorted, with a loss in terms of the world's welfare. In these terms, tied aid contradicts the development strategies that donor governments attempt to promote worldwide. Chimia (2014: 22) argues that:

Donor policies seem to reflect a strange asymmetrical liberalism going against the very free-market principles that most donors are trying to encourage in developing countries.

When addressing aid tying from donors' macroeconomic perspective, the incentives are linked to the need to use aid as an instrument of trade policy, whereby *'tying reduces the potential balance of payment deficit'*, and is also deemed to have positive effects on the donor countries' level of employment. Aid represents an outflow on the current account so that donors concerned with their balance of payment, try to offset the financial outflow represented by the aid and seek to match inflows by increasing exports and stepping up trade flow with the beneficiary country. Overall, Chimia concludes that it is very unlikely that aid tying produces significant macroeconomic benefits for domestic employment or balance of payment aggregates in the donor country. In line with earlier studies, Chimia found that tying does not automatically increase trade flows and the effects on employment are also uncertain, with the conclusion being that the net job creation could even be negative if one assumes that a similar amount of public expenditure, if spent otherwise, might have had created more jobs.

According to AidWatch (2015) tying of aid is costlier and less effective than untied aid. It seems that aid tying is still an issue of concern, but besides that, it seems that there is an additional burden for the donor countries to take into account. In fact, AidWatch (2015) argues that while one appreciates that such conditions are necessary for the good management of funds, it is also true that *'these conditions have gone beyond whas is necessary for basic fiduciary accountability...Conditions are now so intrusive that they can cover recipients' trade and investment policies and even the structure of government.'*

2.7 Trickle-down effect of aid

Those who view poverty as a lack of income or commodities consider that poverty alleviation can be achieved through an increase in per capita income, which is attainable through economic growth. The question is however whether income expansion accrues as much to the poor as to the rest of society or whether it leaves the poor behind. Todaro and Smith (2003) argue that traditionally it was recognized that rapid growth is bad for the poor, because they would be bypassed and marginalized by the structural changes of modern growth.

In their studies, Todaro and Smith (2003) indicate that an economy's growth is measured by the change in the volume of its output or in the real incomes of persons resident in the economy. The 1993 United Nations System of National Accounts offers three plausible indicators from which to calculate growth: the volume of GDP, real Gross Domestic Income, and real GNI. The volume of GDP is the sum of value added, measured at constant prices, by households, government, and the industries operating

in the economy. Therefore, this implies that the growth of an economy can be measured by the change in GDP at constant prices. Furthermore, each industry's contribution to the growth in the economy's output is measured by the growth in value added by the industry. Accordingly, given that generally, the poor are disproportionately located in rural areas, and that they are primarily engaged in agricultural and associated activities, then one can consider also agricultural growth. In fact, on average, in Africa and Asia about 80 per cent of all target poverty groups are located in rural areas. Additionally, about two-thirds of the very poor scratch out their livelihood from 'subsistence agriculture' either as small farmers or as low-paid farm workers (Todaro and Smith, 2003).

Therefore, in this regard it is interesting to note agricultural growth in terms of the 'trickle-down' mechanism, which implies that through agricultural growth, a trickle-down mechanism is initiated that will bring about a reduction in the incidence of poverty. Thus, this implies that if agriculture growth is positive, then there is no role for government intervention in poverty alleviation. In his study on India, Ahluwalia (1978) concluded that there is an inverse relationship between rural poverty and agricultural performance, and that agricultural growth by itself tends to reduce the incidence of poverty. According to this study, these 'trickle-down' benefits are mainly increased employment benefiting migrants from other states, rather than in the form of increased wages benefiting the pre-existing poor. However, this study lacks a deep understanding of how such growth in fact affects the different classes of poor people. It is assumed that agricultural growth offsets the adverse impact of other factors brought about by the 'new agricultural technology'. Thus, this trickle-down mechanism assumes that either the benefits of agricultural growth are distributed

equally to the classes of the country, or else that even if such benefits are not distributed equally such gains offset the 'negative forces' and lead to a reduction in the incidence of rural poverty.

Accordingly, taking into consideration these limitations of Ahluwalia's view, Saith (1981) using the same data set of Ahluwalia, concludes that there is no incidence of a reduction in poverty but a *'residual rising trend in rural poverty'*. (Saith, 1981: 196) Rising food prices, the 'new agriculture technology', lack of credit availability, lack of rising money wages, lack of employment, and the adverse impact on women and children all played an important role in this controversial view. Those falling below the poverty line are most likely to spend the majority of their expenditure on food. Hence, this implies that what happens to the price of food, is crucial to those people classified as poor. An increase in such prices would erode real incomes and push them further below the poverty line. Additionally, Saith argues that during the period taken into consideration, in India, there was a significantly disproportionate appropriation of gains by 'dominant classes'. The new technological inputs were mainly commercialized, which meant that poor peasants were simply excluded because they could not afford to buy such new inputs, in particular due to lack of credit availability.

Besides, agricultural growth could be accompanied by labour-saving mechanization, which would have a damaging impact on poverty levels. The growth process could benefit largely the richer farmers due to scale economies arising from technological factors. Therefore, this could lead to a resumption of land from small land farmers, who would become poorer. (Saith 1981) Ultimately, these factors increase the incidence of poverty. On the same line of thought, Agarwal (1986) argues that

agricultural growth *'at best may have helped through its output-increasing effect, to stem further increases in poverty incidence in certain areas'*, due to the fact that *'increases in agricultural production have been accompanied by other less favourable changes in the agrarian economy'*. (Agarwal, 1986: 195) This would have a greater negative effect on women and female children due to the unequal distribution of income within the household. In fact, in examining this issue the World Bank (1990) conclude that with appropriate policies, the poor can participate in growth and contribute to it, and when they do, rapid declines in poverty are consistent with sustained growth. In line with this argument, Christiaensen et al. (2011) content that for low-income economies in Sub-Saharan Africa, it is estimated that a one percentage point of agricultural growth is three times as effective in reducing poverty as a one percentage point of growth in the nonagricultural sector.

2.8 Factors that affect aid absorption

From the previous overview on the theories relating to the effectiveness of aid, a common line of thinking that is inherent in almost all the studies is that some form of development assistance is needed for the developing countries. However, these low income countries have certain factors that are affecting their aid absorption. To this end, this section will focus on five main factors that impact the effective use of aid inflows in the recipient country. These factors are economic stability, political governance, country size, natural disasters, and absorption capacity.

Economic stability

According to Guillaumont (2007) macro vulnerability of the small island developing states (SIDS) as well as of least developing countries has been an increasing concern for the international community. Guillaumont (2007) argues that the economic vulnerability of a country can be defined by the risk of a (poor) country seeing its development hampered by the natural or external shocks it faces. Guillaumont considers two main kinds of exogenous shocks as well as two main sources of vulnerability, the environmental or 'natural' shocks and the external shocks. The environmental shocks refer to earthquakes or volcanic eruptions, and the more frequent climatic shocks, such as typhoons and hurricanes, droughts, and floods, while the external (trade- and exchange-related) shocks refer to slumps in external demand, world commodity prices instability (and correlated instability of terms of trade), and international fluctuations of interest rates. Other domestic shocks may also be generated by political instability or even by unforeseen political changes. Therefore, vulnerability in Guillaumont's study is seen as the result of the size and frequency of the exogenous shocks, either observed (ex post vulnerability) or anticipated (ex ante vulnerability), the exposure to shocks, and the capacity to react to shocks, or resilience.

According to the African Development Bank Group (2009) in countries exposed to shocks, aid can prevent a standstill in imports and growth as well as the downward spiral that often ensues. The higher the volume of aid is, the greater the relative extent to which it dampens the macroeconomic impact of shocks will be. Therefore, economic vulnerability is a factor of aid effectiveness, mainly due to the latter's stabilizing effect. Collier and Dehn (2001) argue that an increase in aid when a country suffers from a negative terms of trade shock is evidently favourable. Though aid is not

systematically countercyclical, it remains a stabilizer, provided it is less variable than exports, as it is the case in countries suffering major exogenous shocks (Guillaumont 2006, Chauvet and Guillaumont 2009). Easterly (2003) argues that aid has a negative effect on growth because of limited absorptive capacity. Studies by Guillaumont and Laajal (2006) show that success rates of projects financed by the World Bank decrease as the total level of world aid increases. However, in vulnerable countries this decline has been reduced.

Guillaumont (2008) argues that resilience refers to the capacity of a country to manage instability and depends highly on current policy, is more easily reversed, and is less structural. According to Briguglio et al (2009), economic resilience refers to the extent to which an economy can withstand or bounce back from the negative effects of external shocks. It can refer to the ability of an economy to recover quickly following adverse shocks, known as shock counteraction or to the ability of an economy to withstand shocks, that is, shock absorption. According to the IMF (2014) promoting economic stability is partly a matter of avoiding economic and financial crises, large swings in economic activity, high inflation, and excessive volatility in exchange rates and financial markets. Instability can increase uncertainty, discourage investment, impede economic growth, and hurt living standards. Briguglio (2011) argues that the negative effects of downside shocks in the real world, lead to declines in real GDP of poor countries from which it is difficult to recover, even when these are followed by positive growth rates. Economic and financial shocks have the potential to unravel development gains that have taken years for countries to achieve. Hence, once progress on human development is reversed, the damage can have multiplier effects and be lasting. For instance, deteriorating health and education today can lead to higher

mortality rates tomorrow. Lower investments can hamper future progress in sanitation and water supply. The presence of fewer children in school can lead to lower completion rates in later years. In addition, household incomes that fall far below the poverty line can delay escapes from poverty.

According to the United Nations Development Programme (UNDP, 2010), efforts to accelerate toward achievements and pre specified targets could be disrupted due to adverse shocks and crises that emanate from various sources such as conflicts, natural disasters, climate risks and financial and economic collapses. Thus, the progress achieved should be sustained and protected against risks of reversals, which as put by the UNDP (2010), *'Sustaining progress can be just as important as accelerating achievements'*. In fact, as analysed by the UNDP, reversals in MDG progress have been witnessed in a number of countries subsequent to the multiple crises (from food to energy to financial and economic shocks). Thus, building resilience to such shocks is a key aspect of sustaining progress. Developing economies are vulnerable to financial and economic shocks on account of specific, structural conditions, which act as drivers of macro-economic vulnerability. This vulnerability affects the sustainability of MDG progress via two principal channels: fiscal channels and economic growth channels, where both are critical from the perspective of sustaining MDG progress.

Research by Briguglio et al (2009) indicates that economic resilience has important implications for development aid. Briguglio et al (2009) proposed an index to measure economic resilience, with four components assumed to capture shock-absorbing and shock-counteracting elements. These components are mainly macroeconomic

stability, measured by the fiscal balance, inflation, unemployment and external debt to GDP ratio; microeconomic market efficiency, measured by the extent to which markets operate competitively and efficiently; good political governance, which is measured by judicial independence, impartiality of courts, protection of intellectual property rights, military interference in the rule of law and political system, integrity of the legal system; and social development, leading to well developed social relations and effective social dialogue, measured by an index of education and health. According to this study, if economic vulnerability is inherent and hence permanent or quasi-permanent, then as argued by Briguglio et al (2009), little can be done about it. Meanwhile, with regards to aid that is aimed at resilience building, then this is likely to have major long-term beneficial effects. This is mainly because, not only this would mitigate the adverse effects of economic vulnerability but also due to the fact that such policies are conducive to good economic governance. In turn, the promotion of good economic governance could also generate self-confidence in the recipient country itself, attributable to the spill-over beneficial effects on political governance. The authors argue that this is not of course an argument against aid aimed at satisfying basic needs, including the provision of food and health care, especially for impoverished developing countries. The argument that is being proposed by the authors is that aid would be more fruitful if it is aimed at helping developing countries to reduce economic instability, improve the workings of their markets, enhance their political governance and upgrade their social and environmental management.

According to the United Nations (UN) System Task Team on the Post 2015 UN Development Agenda, composed by ILO, UNCTAD, UNDESA, and WTO (2012) the financial crisis has highlighted the damaging impacts on living standards that can result

from macroeconomic instability. Large swings in economic activity, high inflation, unsustainable debt levels and volatility in exchange rates and financial markets can all contribute to job losses and increasing poverty, endangering progress towards achieving the MDGs. This task team concluded that therefore, maintaining macroeconomic stability therefore is a prerequisite for sustained and inclusive development. Continued and sustained economic growth is not only a precondition for employment generation, but also provides countries the fiscal space to address other critical social concerns, such as access to health services, sanitation and safe drinking water, and others. According to this task force, research indicates that growth has been a critical factor in reducing global poverty over the last two decades.

Political stability

Some authors have investigated whether political stability in the recipient country matters for the effectiveness of aid. Political instability refers to irregular changes in the political system. The sources of instability may be twofold. On the one hand, political systems may change due to political violence, such as riots, strikes, and assassinations. Frequent political instability, in turn, may lead to unpredictable changes in laws, regulations, government policies, taxation and expenditures and property rights. The uncertainty created by these changes may reduce incentives for investment and consumption, leading to lower economic growth. In a similar vein, it may negatively affect the impact of aid on growth. Earlier studies including Owens (1987) and Sen (1990) have argued for the need for economic and political freedom as necessary conditions for the economic growth and development of nations.

Islam (2002) studied this issue, using annual data for a sample of 21 SSA and 11 Asian countries for the period 1968-1997. By adding a political instability measure and its interaction with aid to a Burnside-Dollar-type of growth model, Islam concluded that the interactive term of aid and political stability was positive and statistically significant. In contrast, the interactive term of aid and the Burnside-Dollar policy index was not significant. Thus, Islam's results suggest that aid is only effective when the political situation of the recipient country is stable and vice versa, in politically unstable environments, aid does not have any effect on growth.

Chauvet and Guillaumont (2002) carry out a similar analysis. They estimated a growth model using data for 53 countries for the period 1975-1999 and included a political instability measure. Chauvet and Guillaumont found evidence for the hypothesis that aid is more effective in politically stable environments, since aid interacted with the political instability variable was negative and statistically significant.

Kosack (2003) also studied whether the effectiveness of aid depends on the political system. In particular, Kosack analysed whether aid is able to improve the quality of life, which is measured by the human development index (HDI). Kosack used a data set for 56 countries, whereby the data was divided into three 4-years periods (1974-77, 1978-81, and 1982-85), and used a simple HDI growth model in which aid to GDP and the interaction of aid to GDP with a measure of democratisation were included, along with a list of variables generally used in growth models. His results showed that while aid does not generally improve the quality of life, it does lead to higher HDI growth rates when the extent of democratisation is higher. Hence, Kosack concluded that in autocratic countries aid is ineffective and possibly even harmful, thereby

suggesting that to make aid more effective, donor and recipient countries should at the same time aim at stimulating democratisation.

The working definition of what constitutes good governance has evolved over the years. Schneider (1999) defines good governance as the exercise of authority, or control to manage a country's affairs and resources. The United States Agency for International Development (USAID, 2002), on the other hand, defines good governance as a complex system of interaction among structures, traditions, functions, and processes characterized by values of accountability, transparency, and participation. The UNDP (2002) defines good governance as striving for rule of law, transparency, equity, effectiveness /efficiency, accountability, and strategic vision in the exercise of political, economic, and administrative authority.

Historically, Sub-Saharan African countries have had a checkered good governance record in comparison to other regions of the world. These countries have been inundated with political instability, government ineffectiveness, the lack of rule of law, and serious problems of corruption which are signs of bad governance. With respect to the importance of good governance to development, improving governance in this region has been given a central place in the New Partnership for Africa's Development (NEPAD). Over the past few years, some countries in this region including, but not limited to Botswana and Ghana, have made significant progress in terms of governance. According to the Global Monitoring Report (2015), good governance is currently being considered as a conditionality for the disbursement of development assistance to less developed nations. Furthermore, foreign investors are increasingly basing their investment decisions on good governance.

Keefer et al. (1997) find that institutions such as property rights and contract enforcement positively influence economic growth. Campos and Nugent (1999) also find that the institutions of governance improve the development performance. Kaufmann, et al. (1999a and 1999b) identify the problems associated with the aggregation of good governance measures, but conclude that good governance matters for development. In a cross-sectional analysis of all developing countries, Chauvet and Collier (2004) found that those countries suffering from poor governance, on average, experience 2.3 percentage points less GDP growth per year relative to other developing countries. There are also other recent findings that suggest a strong causal effect running from better governance to better development outcomes.

Population and the labour force

According to a study by Briguglio et al (2009) small country size poses constraints to economic growth in view of the high degree of exposure and to external shocks. This was found to be mainly due to the fact that small countries are characterized by a high degree of openness and export concentration. However, despite these inherent and permanent constraints, in the study by Briguglio et al (2009), where the size of countries is measured in terms of population, it was found that several small states developed a high degree of economic resilience, resulting from good economic governance. This ultimately led to a positive performance in economic growth irrespective of the fact that small countries tend to have a high degree of vulnerability to external shocks. The resilience elements that these economies have developed over the years, including their predictable governance structure and their market efficiency enabled them to address difficult times. Briguglio et al (2009) define economic

resilience as the policy-induced ability of an economy to recover from or adjust to adverse exogenous shocks and to benefit from positive shocks.

In fact, according to Briguglio et al (2009), actual facts indicate that a significant number of small countries have managed to generate a relatively high GDP per capita when compared to other developing countries. This noteworthy performance was achieved despite the fact of having a high exposure to exogenous economic shocks. Therefore, this implies that there are factors that may offset the disadvantages associated with economic vulnerability, an aspect which Briguglio et al (2009) referred to as the 'Singapore Paradox'. This reference was attributed given that although Singapore is extremely exposed to exogenous shocks, this small island state has managed to register high rates of economic growth and to attain high GDP per capita.

As in fact argued by Briguglio et al (2014) the literature on the economic vulnerability of small states is extensive with two extremes whereby one end views this vulnerability as a means of generating instability. On the other end, there are those who view this vulnerability as a tool for success arguing that many vulnerable small countries perform well economically. Therefore, the impact on economic growth ultimately depends on whether resilience building is automatically triggered in small vulnerable economies or whether it is a matter of policy choice (Briguglio et al. 2009).

Natural conditions

According to the World Bank (2014), the relationship between the total amount of damage and GDP provides a measure of the impact a natural disaster might have in terms of a country or region's economy. In small Latin American countries or

Caribbean islands, the magnitude of a disaster might constitute a high proportion of GDP or even be greater than its total, whereas larger economies may easily absorb the effects of disasters of limited scope. This type of comparison also reflects the intensity of efforts that the country will have to make during recovery and reconstruction.

According to World Bank studies, determining the amount of total per capita damage and the ratio of damage to per capita GDP provides an idea of the negative effects on the living conditions of the affected population. It also provides a means of comparing the effects of different disasters occurring in the same country at different times or in different places. Using a Cobb-Douglas production function with the inputs capital, labour and knowledge, you can explain theoretically the behaviour of the output in the economy. The outcome of the model is, under some assumptions, that the economy converges to a balanced growth path: A situation in which each variable of the model is growing at a constant rate. However, due to different causes the economy could move away from this steady state. Here the occurrence of a natural disaster comes in. This will have several implications for the growth path in the economy: First, the capital stock could decrease, which is likely the case with geologic types of disasters. This results in an increase in the marginal returns of capital because capital becomes relatively scarce. That in turn increases capital accumulation and leads to output growth. However, when the amount of the effective labour force in the economy decreases relatively more than that capital decreases, growth decelerates.

According to Albala-Bertrand (1993), using cross-country data investigating the relationship between development level and disaster impacts concludes that correlation between them is negative, where the higher the level of development, the

smaller both the number of deaths, injured, and deprived, and the relative material losses. This appears consistent with the disaster theory that as countries develop and grow, they should have sufficient resources, such as financial and/or technological ones, to better manage disaster risk through the implementation of countermeasures and to better manage the adverse impact of disasters. However, some recent studies found somewhat different tendencies. According to Lester (2008), disaster impacts (as percentage of GDP) appear to have a negative correlation with GDP per capita; however, as GDP per capita increases, the complexity of economic system also increases and thus the disaster impacts have a positive correlation with GDP per capita up to a certain level before decreasing; as a result, the total impact over GDP per capita has an inverted 'U' shape curve. This implies that the most potentially affected economies by disaster will tend to be middle-income-level economies. Benson and Clay (1998) also claimed that the most vulnerable economies are not the most underdeveloped, since least developed countries tend to have simple economic structures, such as agriculture. While middle income-level economies with some diversifications seem more secure, because of intertwined economic activities between industries, however, the economic impacts can be much greater Traditional neo-classical growth models predict that the destruction of capital (physical or human) does not affect the rate of technological progress and hence, it might only enhance short-term growth prospects as it drives countries away from their balanced-growth steady states. In contrast, endogenous growth models provide less clear-cut predictions with respect to output dynamics. For example, models based on Schumpeter's creative destruction process may even ascribe higher growth as a result of negative shocks, as these shocks can be catalysts for re-investment and upgrading of capital goods. In contrast, AK-type endogenous growth models in which technology exhibits constant

returns to capital predict no change in the growth rate following a negative capital shock; while endogenous growth models that exploit increasing returns to scale in production generally predict that a destruction of part of the physical or human capital stock results in a lower growth path and consequently a permanent deviation from the previous growth trajectory.

In an extensive study of the linkages between macroeconomic performance and natural disasters, Baritto (2008) proposes a different index of macroeconomic vulnerability to external economic and financial shocks. Baritto tests the hypothesis that economies that are highly impacted by natural disasters are also highly susceptible to economic and financial shocks. The adverse impact of natural disasters on economic growth is transmitted by the destruction of an economy's capital stock, which is the basis of economic activity. By destroying the physical stock of capital, shocks reduce productivity and thereby generate a permanent downward shift of the long-term growth trajectory. In other words, disasters derail the country from its growth trajectory and permanently reduce its growth by destroying the physical, natural and human capital stocks employed toward production. In this approach, the economic impact of natural disasters is measured by the ratio of economic losses to net capital formation (Baritto, 2008).

According to Cavallo et al., traditional neo-classical growth models predict that the destruction of capital (physical or human) does not affect the rate of technological progress and hence, it might only enhance short-term growth prospects as it drives countries away from their balanced-growth steady states. In contrast, endogenous growth models provide less clear-cut predictions with respect to output dynamics. To

this end, Cavallo et al., (2010) examine the short and long-run average causal impact of catastrophic natural disasters on economic growth by combining information from comparative case studies. In their study they find that only extremely large disasters have a negative effect on output, both in the short and long run. However, this result appears in two events where radical political revolutions followed the natural disasters. Once these political changes are controlled for, even extremely large disasters do not display any significant effect on economic growth. It is also found that smaller, but still very large natural disasters have no discernible effect on output.

It is interesting to note that according to Hollenbeck (2014) one of the first attempts to quantify the economic impact of a catastrophe was a 1969 book, *The Economics of Natural Disasters*, by Kunreuther and Dacy. This book reffered to a case study on the Alaskan earthquake of 1964, the most powerful ever recorded in North America, whereby the conclusion reached is that the Alaskans were better off after the quake, since money flooded in from private sources and generous grants and loans from the government. In addition, Hollenbeck makes reference also to a study by Skidmore and Toya, who examined the frequency of disasters in 89 countries against their economic growth rates over a 30-year period. Skidmore and Toya, tried to control for a variety of factors that might skew the findings, including country size, size of government, distance from the equator and openness to trade. They found a positive relationship between climate disasters and growth. The authors explain this finding by invoking economist Joseph Schumpeter famously called capitalism's 'creative destruction.' In this reference, Schumpeter implies that by destroying old factories and roads, airports, and bridges, disasters allow new and more efficient infrastructure to be rebuilt, forcing the transition to a sleeker, more productive economy. Thus, disasters perform the

economic service of clearing out outdated infrastructure to make way for more efficient replacements.

However, according to Hollenbeck (2014) there are three major problems with these empirical studies. The first is counterfactual since one cannot measure what growth would have been had the disaster never occurred. The second is association versus causation, whereby one cannot say whether the disaster caused the growth or was simply associated with it. The third problem is related to the concept of 'ceteris paribus' given that it is impossible to hold other factors constant and measure the exclusive impact of a disaster on growth.

Therefore, the consequences on development as a result of natural disasters particularly in terms of macroeconomic growth, is made difficult due a number of reasons including the use of diverse indicators. Disaster impacts are measured in many different ways such as number of events (Cavallo et al., 2010), persons affected (McDermott, 2012), people hurt (Loayza et al., 2012), total economic damage (Noy, 2009), uninsured economic damage (Peter et al., 2012) or combined indicators (Fomby et al., 2013). Furthermore, the timeframes adopted by these studies range from annual through 2–3 years (Ahlerup, 2013), 5 years (Ahlerup, 2013) to decades (Ahlerup, 2013, Skidmore and Toya, 2002 and Kim, 2010). Natural hazards are also categorized differently, being analyzed together (Loayza et al., 2012), independently (Fomby et al., 2013), or grouped into common categories such as geologic, climate and other disasters (Kim, 2010). Robustness tests are often performed to test whether specific statistical relationships hold for alternative model specifications. Given these

significant variations, interpreting conclusions drawn from these studies is somewhat difficult.

Macroeconomic variables and GDP in particular, are the main focus of this strand of research. On short- and mid-term (up to 5 years) implications, a number of studies have found that natural disasters have adverse macroeconomic impacts. For example, Raddatz (2007) investigated geologic, climatic and human disasters (i.e. famine and epidemic) in low income countries and found that climatic and human disasters were associated with 2 per cent and 4 per cent declines in GDP in the year following the event, whereas geological disasters had a small and insignificant effect. Raddatz (2009) then analyzed a larger set of countries and again found a negative macroeconomic impact from climatic disasters, with lower income and smaller economies suffering more after disasters. Hochrainer (2009) produced counterfactual GDPs without disasters using the Autoregressive Integrated Moving Average (ARIMA) model, and compared them to actual observations of 225 large natural disaster events during 1960–2005. The conclusion of this comparison was that disasters on average lead to negative growth in the mid-term, and that aid and remittances attenuate adverse macroeconomic impacts. Noy (2009) also examined a large set of economic and institutional factors which influence the resilience of an economy, and concluded that disaster impacts, as measured in normalized economic damage, had a significant negative effect on short-term outputs. Factors such as literacy rate, openness to trade, foreign exchange reserves and institution were associated with attenuated impacts.

Studies such as Noy and Nualsri (2007), Jaramillo (2010) and Loayza et al. (2012) provide less conclusive evidence however. As Noy and Nualsri (2007) illustrate, the number of people killed in a disaster is significantly and negatively associated with GDP growth using fixed effects and two-step system GMM models, but insignificant using two-step difference GMM estimates. Jaramillo (2010) found that both economic damage as percentage of GDP (incurred over the previous 2, 3 and 5 years) and the number of disasters have a significant and positive effect on GDP for countries with low disaster incidence, but the impact is insignificant for medium disaster incidence countries and significant and positive for high disaster incidence countries. Loayza et al. (2012) also found that disaster impacts on overall GDP and sectoral GDP may differ significantly and these also diverge across different hazards. Similarly inconclusive observations were also made by Fomby et al. (2013).

With regards to longer-term impact across decades, Skidmore and Toya (2002) examined the relationship between the frequency of natural disaster occurrence per land area and average GDP growth between 1960 and 1990. They found the incidence of climatic disasters to be positively associated with growth, human capital investment as measured in secondary school enrollment and total factor productivity improvement. Geographic disasters on the other hand were found to be negatively associated with growth. Kim (2010) performed analogous regressions over the 1990 to 2004 period and concluded that climatic disasters are positively related to human capital investment, whereas geologic disasters hamper it. Using instrumental variables, Ahlerup (2013) also found that the frequency of geologic disasters is associated with a higher economic growth rate between 1965 and 2008. Alternative views are provided

by studies such as that by Raddatz (2009), who suggests that climatic disasters on average lead to a long-term decline in GDP of 0.6 per cent.

Mochizuki et al. (2014) review statistical investigations of disaster and development linkages, across topics of macroeconomic growth and public governance to identify key challenges to the current approach to macro-level statistical investigation. Mochizuki et al., argue that both theoretically and qualitatively, disaster is known to affect development through a number of channels: haphazard development, weak institutions, lack of social safety nets and short-termism of decision-making practices are some of the factors listed as driving natural disaster risk. Developmental potentials, including the prospects for sustainable and equitable growth, are in turn threatened by such accumulation of disaster risks. However, Mochizuki et al., conclude that quantitative evidence regarding these complex causality chains remains contested due to several reasons. A number of theoretical and methodological limitations have been identified, including the use of GDP as a proxy measurement of welfare, issues with natural disaster damage reporting and the adoption of ad hoc model specifications and variables, which render interpretation and cross-comparison of statistical analysis difficult. Additionally, while greater attention is paid to economic and institutional parameters such as GDP, remittance, corruption and public expenditure as opposed to hard-to-quantify yet critical factors such as environmental conditions and social vulnerabilities.

Furthermore, the World Bank (2014) in its report on the Sub Saharan Africa takes a long-term view and studies how Sub-Saharan African growth will react to various shocks through 2025 by employing a multi-country general equilibrium model. According to the World Bank, droughts are recurrent events in Sub-Saharan Africa,

with tragic repercussions for millions of people. As of 2012, more than 18 million people suffered food shortages and over 1 million children faced the risk of acute malnutrition. Thus, the World Bank study a drought scenario that assumes a temporary shock to productivity in agriculture that initially reduces agricultural output by around 10 per cent and dissipates over the subsequent two years. Prices of agricultural products and food would rise following the drop in output and Sub-Saharan imports would increase in this scenario, reducing GDP by almost one per cent below the baseline. Under this scenario, households would bear the burden of higher prices. Given that agricultural and food expenditures constitute a high share of household budgets in Sub-Saharan African countries, real consumption would decrease substantially absent government or international intervention. The loss in household consumption for Sub-Saharan Africa as a whole would amount to 1.3 per cent in 2015 and would be fairly persistent. Other research also finds that in a typical developing country a drought leads to a reduction of agricultural and industrial annual growth rate of the order of 1.0 percentage point, resulting in a decline of GDP of 0.6 percentage points per year, or 3.0 percentage points over a period of five years. These effects are expected to be considerably worse in the case of a severe drought, where according to Seventer et al., (2010), in the case of Malawi, a severe drought (occurring on average every 25 years) could destroy more than 20 per cent of agricultural GDP and reduce GDP by 10 per cent.

2.9 Distribution of aid allocation

According to White (1994) distribution of aid is an important indicator in the overall performance of aid. Theory suggests that aid directed towards the poorest developing countries will assist in addressing poverty and lead to improved development.

However, are donor countries distributing aid to those that are really in need or is it being disproportionately allocated?

Aid allocation to recipients

Is aid targeted towards the poorest countries? According to White and Woestman (1993: 13), *'the rhetoric of aid, and the basis for public support for the aid programme, is that aid should go to the poor.'* Poverty reduction generally appears as one of the objectives of most donors' aid programmes. However, as indicated by Werker (2012) several empirical studies indicate that political and economic factors in donor countries affect aid allocation decisions significantly. This finding appears in several earlier studies whereby for instance, Fleck and Kilby (2010) argue that in general left-leaning governments tend to allocate more funding to development aid than right-leaning governments, although the War on Terror has reversed this trend to some extent. As found by Synder (1993) and Bertelemy et al. (2004), geo-political and commercial interests dominate the aid allocation decisions of the USA and Japan while many European countries opt for former colonies and major trading partners in their aid allocation decisions. According to Ridell (2007), multilateral donors such as the EU are also strongly influenced by political and trade considerations. In fact, the OECD (2012) argues that despite recent initiatives to increase both the coordination and selectivity of aid, several EU donors have fragmented aid disbursements and tend to show evidence of small country effects.

Aid concentration curves and Suits index

The use of concentration curves for the analysis of aid flows was first proposed by Mosley (1987) and later applied by Clark (1991, 1992). Concentration curves and their

statistical counterpart, the Suits index, are used to examine the distribution of aid. Aid concentration curves provide a graphical device for showing whether the distribution of a donor's development assistance is targeted toward or away from the poorest countries. An aid concentration curve plots the cumulative percentage of aid against the cumulative percentage of a population variable. Generally, the cumulative percentage of aid is measured in terms of net disbursements of net ODA. For the population variable, Baulch (2004) presents the option of either the cumulative percentage of the $1/day poor or the cumulative numbers of people suffering some other kind of deprivation. White and McGillivray (1992, 1995) refer to the aid concentration curves as Aid Lorenz curves. However, as argued by Baulch (2004) the term 'aid concentration curve' is more precise given that a Lorenz curve should not cross the leading diagonal. According to Baulch (2004) if most of a donor's aid goes to the poorest countries, then its aid concentration curve lies above the diagonal that shows perfect equality.

The Suits index (Suits, 1977) is a measure that summarises the progressivity or regressivity of a distribution, and can vary between -1 and +1. A Suits index of -1 would correspond to the situation in which a donor gave all its aid to the poorest country in the world, whereas an index of +1 would correspond to the case when a donor gave all its aid to the richest country. An index of zero would correspond to the situation in which a donor distributed its aid in exact proportion to population, with no reference to different countries' living standards (White and McGillivray, 1992). The Suits index is calculated in the same way as the Gini coefficient, but as a result of the accumulated percentage of total income and the accumulated percentage of total tax burden (Suits, 1977), as follows:

$$S_{i,t} = 1 - \sum_{i=1}^{n} Y_i \left(CA_i + CA_{i-1} \right)$$

where S_i is the Suits index for donor country i in year t, CA_i is the cumulative distribution of aid-quotas of country i and all countries poorer than i (ranked by donors' per capita incomes), and Y_i is the income share of donor country i.

Baulch (2002) focuses on aid disbursements in his analysis of aid concentration curve with the underlying reason backing this argument being that aid disbursements are the best measure of how much a donor is actually spending on aid. For the population variable, Baulch uses the overall population of developing countries and the total number of people living on less than \$1/day, the international poverty line at that time. As indicated in the Suits index equation, in constructing the aid concentration curve, an additional ranking variable, per capita incomes measured in purchasing power parity terms, is used. This additional ranking allows the aid concentration curve to cross the leading diagonal (45 degree line) if aid is targeted towards the poorest countries. Baulch in his study concludes that the way in which different donors distribute their development assistance differs markedly across countries. The Netherlands and the UK appear as broadly directing their bilateral development assistance to the poorest countries. In marked contrast, Japan and the US spend large amounts of their development assistance budgets in small, relatively well-off countries. France and Germany's aid programmes are neither particularly pro nor anti-poor. In addition, Baulch concluded that much of the development assistance provided by the World Bank goes to the large developing countries which account for a large share of world poverty or to the smaller least developed countries. In contrast, Baulch found that the EU appears to be spending a large proportion of its aid on relatively well-off middle-income countries.

In another paper by Baulch (2012) which assesses the poverty focus of Swedish bilateral aid, Baulch uses data on aid disbursements to 106 developing countries between 2010 and 2012 to construct aid concentration curves for Sweden, the major bilateral donors and the Development Assistance Committee. The empirical results indicate that Denmark and the UK are more poverty focused in their aid granting in comparison to Sweden's bilateral aid. However, Sweden's bilateral aid is more progressive than those of the United States and the Development Assistance Committee. Thus, Baulch concludes that there is scope for improvement in Sweden's poverty focus.

According to Vazquez and Montellano (2015) aid is not allocated purely for altruistic reasons and therefore it is not particularly consistent with the international development commitments claimed by donors. In their research, the authors find that the distribution of aid is mainly directed towards those countries with greater political, historical and cultural relationships, as well as to countries that have a significant economic and are strategically oriented geographically. Therefore, Vazquez and Montellano (2015) conclude that the aid allocation pattern is not contributing to the desired level of fairness in the aid system.

Distribution of aid financial burden

According to White and Woestman (1993) the gap model represents the demand-side approach that stipulates how much aid should be given but not who should give it. In fact, the assumption underlying the gap approach is that aid is endogenously determined to fill the trade and savings gaps.

On the other hand, the supply-side approach is not about how much aid is necessary but how much donors should grant, whereby a calculation is used based on the donor's national income. According to White and Woestman (1993) the earliest target was that donors should ensure that financial flows to developing countries made up one per cent of their domestic income. This one per cent target became firmly established when it was first adopted by the World Council of Churches in 1958, then by the UN General Assembly in 1960 and at the first meeting of UNCTAD in 1964. The one per cent target was the earliest target endorsed by the Development Assistance Committee following the target's adoption at the 1964 UNCTAD. It was a target for all financial flows, including both private and all kinds of official flows. In 1969 Development Assistance Committee refined its definitions, introducing the still used concept of ODA, whereby it concluded that for a financial flow to be aid it must be:

- Official – originating from official sources implying the exclusion of money collected by NGOs;

- Development – used for developmental purposes only thereby excluding military aid; and

- Assistance – terms of aid must be concessional, instead of those available from commercial borrowing.

Accordingly, the committee that met at that time reaffirmed the one per cent target, but with a new target of 0.7 per cent of GNP with regards to ODA alone. This target was subsequently adopted by the Development Assistance Committee and still in practice. It is interesting to note that the Brandt Commission (1980) recommended that the target be met by all donors by 1985 and that it should be increased to one per cent by 2000. However, as quoted by Pearson in 1969,

it is ironic to note that total resource flows actually did exceed 1 per cent of combined national income in the five years preceding the adoption of the target by Development Assistance Committee. Since then, the target has never been met.

(Pearson et al, 1969: 144)

As defined by White and Woestman (1993) the one and 0.7 per cent targets are systems of proportional taxation, whereby each donor pays a fixed proportion of their income as ODA. However, subsequent to these targets, the United Nations Development Programme (UNDP, 1993) proposed a proposal that was already put forward by Rosenstein-Rodan (1961) and Kravis and Davenort (1963) stipulating that aid volume targets should be based on a progressive taxation. Therefore, according to this proposal, the richer donors should pay a larger share of their income than the poorer ones. According to this measure there is first the calculation of each donor's tax rate which is the aid target as a per cent of GNP by multiplying 0.7 per cent by 1 plus the percentage difference between the donor's GNP per capita and the average GNP per capita of all donors. Therefore, the proportional target aid volume of donor *i* is:

$$T_i^G = 0.7(1 + \frac{y_i - \bar{y}}{\bar{y}})$$

$$= 0.7 \frac{Y_i}{Y} \frac{N}{n}$$

where y_i is donor *i*'s per capita income, n_i its population, N the total population of all donors, Y the total GNP of all donors and $\bar{y}$ the average GNI per capita for all donors. This equation implies that a donor's aid volume target is directly proportional to its share in the income of all donors and inversely proportional to its population share.

The proportional target aid volume of the donors is found by multiplying the 0.7 target with Y_i, that is, the donors' GNI. In this equation, the target percentage of GNI for ODA will be 0.7 if a donors' GNI is equal to the average for all donors. This implies that countries which are richer than average should pay more than 0.7 per cent and vice versa. Countries in the upper segments would be required to pay a larger percentage of their national income to meet the progressive aid target given their larger national incomes.

When applying this method for 1990, the UNDP (1992) concluded that some of the worst performers, notably Switzerland, Japan and the US, rank amongst the richest donors so that their performance compared against the progressive rather than proportional target falls from 'dismal' as described by Pearson (1974) to very poor. Three of the good performers were Norway, Sweden and Denmark and these were found to have higher than average incomes. However, the UNDP found that these countries GNP/ODA ratio is sufficiently high to more than fulfill the progressive target. Furthermore, the UNDP study found that of the poorer donors the difference between the two tax systems is greatest for Ireland, which was found to have a performance in aid granting that moves from being worst to average.

According to Vazquez and Montellano (2015), a common target of 0.7 per cent of GNI to be distributed as ODA has several limitations. A fixed ODA target does not weigh the dissimilar levels of development among donor countries, which means that there is no progressivity. This element of non-progressivity of aid can be more pressing in times of recessions as was the case in 2011 when the demands for fiscal austerity were also threatening the aid budgets. In addition, according to Clemens et al. (2007:23),

the 0.7 per cent target *'is an arbitrary figure based on a series of outdated assumptions going into a dubious model and measured against the wrong metric.'* In addressing this issue, Vazques and Montellano (2015) refer to two main dimensions of equity, that need to be taken into consideration when designing a 'fair' aid system, that of horizontal equity and vertical equity. Horizontal equity is a situation where people in equal positions are treated equally whereas in the vertical equity, the people in unequal positions are treated unequally, with the worst off being favoured. Vazquez and Montellano argue that a common method for increasing vertical equity is to design 'progressive' tax systems whereby there is a taxation scheme in which the amount of tax paid as a proportion of the tax base rises. Thus, applied to the aid system, a progressive collection of resources across donors' Governments will contribute to both greater vertical and greater horizontal equity, hence operating as a redistributive mechanism, at least from the aid financial side. This would lead to a situation where citizens from donor countries with higher living standards contribute proportionally more than citizens from countries with lower living standards. However, in their empirical analysis for 33 bilateral donors it was found that the current distribution of the aid burden is insufficiently progressive.

2.10 Synthesis of literature

Since the 1960s, aid theory has developed and this has led donor organizations to change the profile of their spending. In the 1960s the dependency theory was popular, and filling the savings gap was the major objective for the need of ODA. In the 1980s, there was a change in this reasoning given that the World Bank promoted 'structural adjustment' lending, the objective of which was to adjust economic structures and policies in poor countries to steer them towards economic

development. In the 1990s, the trend shifted towards the embracing of conditionality, better selectivity and policy environment in the recipient countries, in theory as well as in practice. In addition, during the first decade of the 21st century, aid harmonization between donors was identified as a major requisite for aid effectiveness. The thrust of the argument seems to be veering towards the fact that a certain amount of international aid is needed to help poor people from developing countries to reach higher levels of human development. In addition, good institutional quality and adequate policy frameworks enhance aid effectiveness and this remains a paramount requisite for improving the prospects that aid is transformed into economic growth. In fact, there is a growing awareness that aid itself can be instrumental in promoting good economic governance, which in turn leads to improved aid effectiveness.

Good governance is needed for more effective policy design and better use of public resources. A good general policy environment guarantees that the basic conditions needed to help development are met: sound macro policies and a favorable investment climate as well as a decentralized system. Untying of aid is also vital, given that tied aid is characterized by a lack of competition and may impose additional cost on recipient countries and reduce the effectiveness of international assistance. The Paris declaration is a response to the growing evidence that, over time, the totality and wide variety of donor requirements and processes for preparing, delivering and monitoring development assistance are generating unproductive transaction costs for.

Furthermore, in recent years there has been an increased emphasis on the quality of the aid that is being granted. Those in favour of aid granting, argue that aid could

lift people out of poverty but this is not possible given that rich countries are not giving enough or else their aid granted is inflated and not genuine aid. Research indicates that while there were increases in ODA, these were fuelled by high levels of debt relief. Furthermore, the United Nations Economic Commission for Africa reported that while ODA flows to Africa were indeed rising, donors were not meeting their commitments. CONCORD, the confederation of European NGOs, argued that in ODA from the European countries has been inflated by as much as 30 per cent with the inclusion of debt cancellation, funds for refugees and grants for foreign students studying in Europe. To ensure that only genuine aid is granted to developing countries, aid should exclude student costs, refugee costs, debt relief, interest on loans and tied aid. In addition, only the net grant equivalent of concessional loans measured in relation to the borrowing costs of donors should be reported as ODA. As a final yardstick, donor countries should avoid including the securitisation of aid, certain forms of support to the private sector which do not promote development, climate finance and tax rebates.

3. THE SUB-SAHARAN AFRICAN COUNTRIES

3.1 Introduction

This chapter analyses the current situation of the Sub-Saharan African region both from an economic perspective as well as from a human development perspective. The assessment of human development progress is carried out with the use of the Millennium Development Goals (MDGs) since eradicating poverty and improving lives is not measured simply by income indicators but includes also the consumption and provision of other services necessary for human development. Education and health are of intrinsic value and affect the capacity of individuals to engage in economic, social, and political life. Quoting Sachs (2005: 213) the MDGs, *'wisely recognize that extreme poverty has many dimensions, not only low income, but also vulnerability to disease, exclusion from education, chronic hunger and undernutrition, lack of access to basic amenities such as clean water and sanitation, and environmental degradation such as deforestation and land erosion that threatens lives and livelihoods.'*

3.2 Performance in terms of economic indicators

This section will provide a brief insight of the performance in economic growth of the developing countries. Countries in Sub-Saharan Africa are less dependent on commodities, with more diversified economies than previously perceived. At the same time, the region has become more integrated into global trade and has benefited from increased access to global financing. This reflects in part more solid fiscal positions

across the region, some of which have benefited from debt relief, and more modern monetary policy frameworks geared toward fighting inflation and less subject to political pressures, with civil unrest becoming less common. According to the Global Monitoring Report for 2015, many countries have seen solid progress in shared prosperity over the past decade as measured by income growth in the bottom 40 per cent of the income distribution. However, this progress has been uneven, with pronounced disparities in non-income indicators between the bottom 40 and the top 60 per cent.

3.2.1   Performance in Gross Domestic Product

Gross Domestic Product (GDP) is most often associated with the indicator that shows economic growth for a country. In line with this reasoning, one can therefore say that from 2000 to 2007, developing countries benefited from a buoyant world economy, with real global GDP growing at an annual rate in excess of 4 per cent average as shown in Chart 1. The main drivers of such dynamic global growth were emerging countries whose growth rates exceeded those of developed countries by 3 to 5 per cent on average. In fact, this period saw an impressive divergence between the growth rates of advanced and of emerging/developing economies. It is interesting to note that according to the International Monetary Fund World Economic Outlook, the Democratic Republic of Congo remains the fastest growing economy in Africa at a projected 9.2 per cent for 2015, while Ethiopia is second at 8.6 per cent. Nigeria, Africa's largest economy, has seen its estimated growth figures cut from more than 7 per cent to 5 per cent due to its heavy reliance on oil exports. Mauritius consistently ranks as the best governed country in Africa.

Chart 1 - GDP at constant prices (annual percentage change)
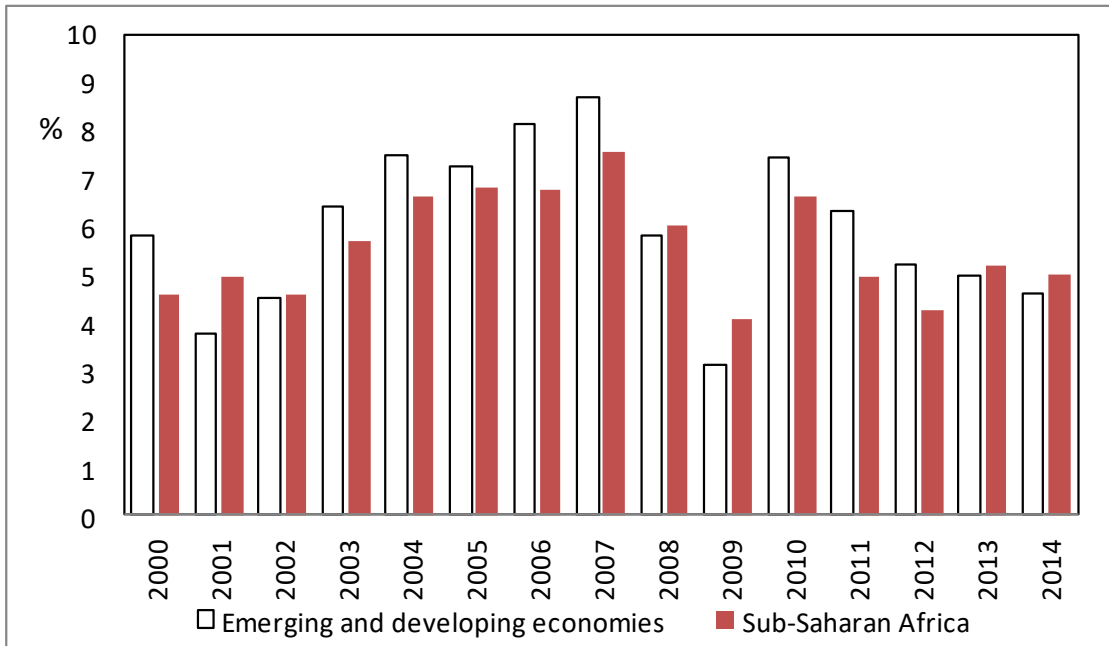
Source: IMF, World Economic Outlook, 2015

A striking pattern of the recent period is that almost all developing countries experienced positive growth of GDP per capita (Chart 2). The most dramatic change occurred in the Sub-Saharan African region. Growth of GDP per capita for the whole region has not only been positive for seven years in a row and in line with world growth, but is higher than growth rates in advanced economies. This is the first time this has occurred since the 1970s, thus ending a long period of divergence in the income of the richest and poorest countries. Of course, there are exceptions at the country level.

Chart 2 - Real GDP per capita (annual percentage change)
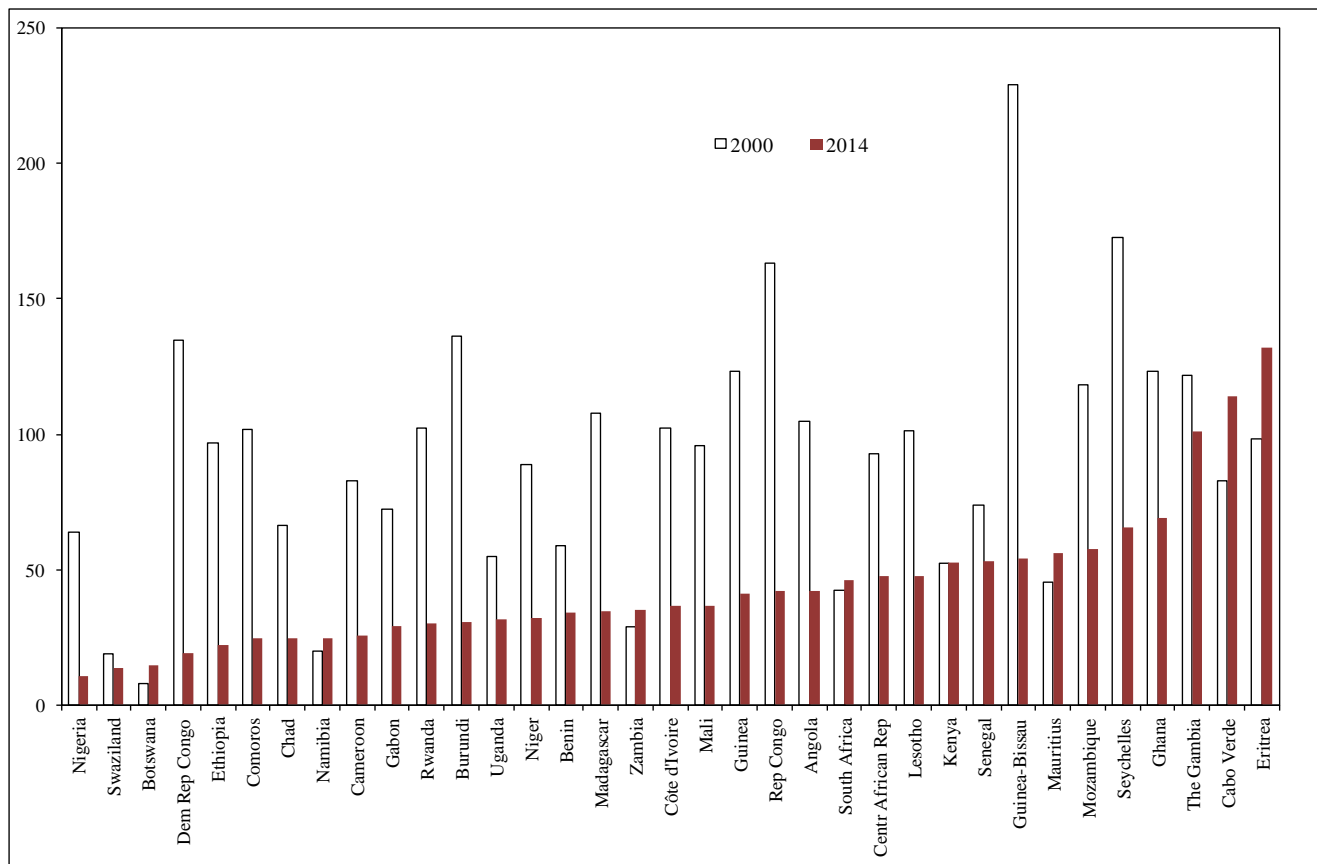
Source: IMF, World Economic Outlook, 2015

However, one of the side effects of the buoyant economy has been the surge in commodity prices. Almost all commodity prices increased from 2001 to 2007 even though at different speeds. In the SSA countries, this hike translated into positive terms-of-trade shocks in a majority of countries, with the most important beneficiaries being countries exporting oil or minerals like copper or uranium. However, some countries did not do as well. Notable exceptions were countries specialising in agricultural products that were heavily protected by developing countries. According to Saith (1981), rising food prices, the 'new agriculture technology', lack of credit availability, lack of rising money wages, lack of employment, and the adverse impact on women and children all played an important role in this controversial view. Those

falling below the poverty line are most likely to spend the majority of their expenditure on food. Hence, this implies that what happens to the price of food is crucial to those people classified as poor. In the period during 2000 to 2008, rising food prices restricted the ability of households to meet essential subsistence needs, given that their budget constraints were very tight even before the soaring prices. As argued by Agarwal (1986), the large increases in food prices threaten economic growth through rising import bills in countries that already face rising trade and current account deficits. Moreover, rising food prices will have second-round effects on economic growth but farmers may not be able to adequately take advantage of rising prices because of their limited access to land, weak productive capabilities and a production and marketing cost squeeze associated with rising input and transport costs. Besides, dynamic growth forces can be stalled, given that these prices will compress profits in formal businesses – as subsistence wages adjust to higher food prices – and the available resources of the self-employed, whose accumulation activity, to the extent that it occurs, is directly related to their food consumption costs. According to the IMF (2009), the overall effects of an increase in food prices were likely to be particularly severe in the developing countries, because most of them are net food importers and they already have large trade deficits. Levels of poverty and food insecurity in developing countries were already high, and many people spent already as much as 50-80 per cent of their household income on food (IMF, 2009).

In 2013, average growth in SSA was 4 per cent, where such growth was the result of high global commodity prices and sustained by surging African domestic demand and improved economic governance (IMF, 2015). The share of manufacturing in GDP was reported as still very low and stable across the continent, moving from 9.5 per cent of

GDP in 2001 to just 9.6 per cent in 2012. This stagnant growth appears more pronounced when one takes into account the fact that this was a period of growth. In fact, with 2015 marking the transition from the MDGs to the Sustainable Development Goals (SDGs), the United Nations Educational Scientific and Calculator Organization (UNESCO, 2015) have reported that despite the global financial crisis, economic growth was generally strong and robust. It is estimated that one billion people rose out of extreme poverty and statistics indicate that overall, developing countries recorded a positive growth in the income distribution of the bottom 40 per cent. Therefore, it is more worrying that Africa's share of global value-added manufacturing has remained flat for over a decade, amounting to just 1.5 per cent in 2013.

3.2.2 Foreign direct investment

The lack of growth in the SSA countries provides an explanation to why the stagnant industrialisation and sluggish manufacturing growth did not translate into decent jobs for the continent's young, growing labour force and educated middle class. However, it is to be noted that in 2014, according to the Global Monitoring Report (2015) there was a 42 per cent increase in project numbers over 2013, with 51 announced FDI projects recorded in Angola leading to a total FDI over $16bn and, with the country's ranking rising from 20th to second as a result. Within the Top 10 countries, Mozambique and Ethiopia all recorded healthy increases in FDI project numbers rising 67 per cent and 100 per cent respectively over the previous corresponding year. In addition, data by the World Bank for 2014 indicates that Ethiopia rose into the highest destinations recording 32 FDI projects in 2014. Uganda fell out of the Top 10 ranking by project numbers following a 40 per cent decline. Zambia entered the Top 10 destinations in Africa by capital investment with $3bn in FDI recorded in 2014. This

was aided by Zimbabwe-based Green Fuels' plans to establish a $500m ethanol project in Zambia. South Africa was ranked highest in Africa for quality of trade and transport related infrastructure in 2014 (World Bank, 2015).

According to the UN Economic Commission for Africa (UNECA, 2015), foreign investment flows have grown exponentially since the turn of the millennium. Countries such as South Africa, Nigeria, Kenya, Egypt and Morocco are leading the way. High growth economies such as Zambia, Ghana, Tanzania and Mozambique are also becoming important investment destinations. In 2014, Mozambique and Ethiopia were among the star performers. This trend is set to continue as more countries demonstrate sound economic policies and improved business environments. Major investors now include emerging economies such as China, India, Turkey, and the Gulf States. Intra-African FDI is also on the rise. Financial services alone accounted for about 50 percent of intra-Africa greenfield investment projects between 2003 and 2014. FDI increased from 0.4 per cent to 2.7 per cent in SSA. As a stock, inward FDI now corresponds to 25 per cent of GDP for all developing countries, and around 30 per cent in Africa. Nonetheless, FDI is very unequal across countries. For instance, FDI represented 86 per cent of GDP in Gambia in 2006, but less than 5 per cent in Senegal, Niger or Burkina Faso. In Sub-Saharan Africa, however, FDI is mostly directed towards the primary sector. Across the least developed countries as a whole, gross fixed capital formation (GFCF) increased to 26.3 per cent of GDP in 2013. According to UNCTAD (2015), this is not only higher than the 2012 level and the 2002-2008 average, but also slightly above the 25 per cent level deemed necessary to sustain long-term growth. In island least developed countries, however, gross fixed capital formation recovered only partly from its slight decline in 2012, and stayed well below that threshold level

(though also well above the 2002–2008 average), at 20.3 per cent. Savings rates remained stable overall at 19 per cent of GDP, a decline in the African least developed countries. According to UNCTAD (2015) the shortfall relative to the investment rate resulted in a resource gap of 7.2 per cent of GDP, signifying continuing dependence on external resources. Chart 3 shows the total investment as a percentage of GDP, where total investment refers to cross capital formation, which is measured by the total value of the gross fixed capital formation and changes in inventories and acquisitions less disposals of valuables for a unit or sector.

Chart 3 - Total investment (as a % of GDP)
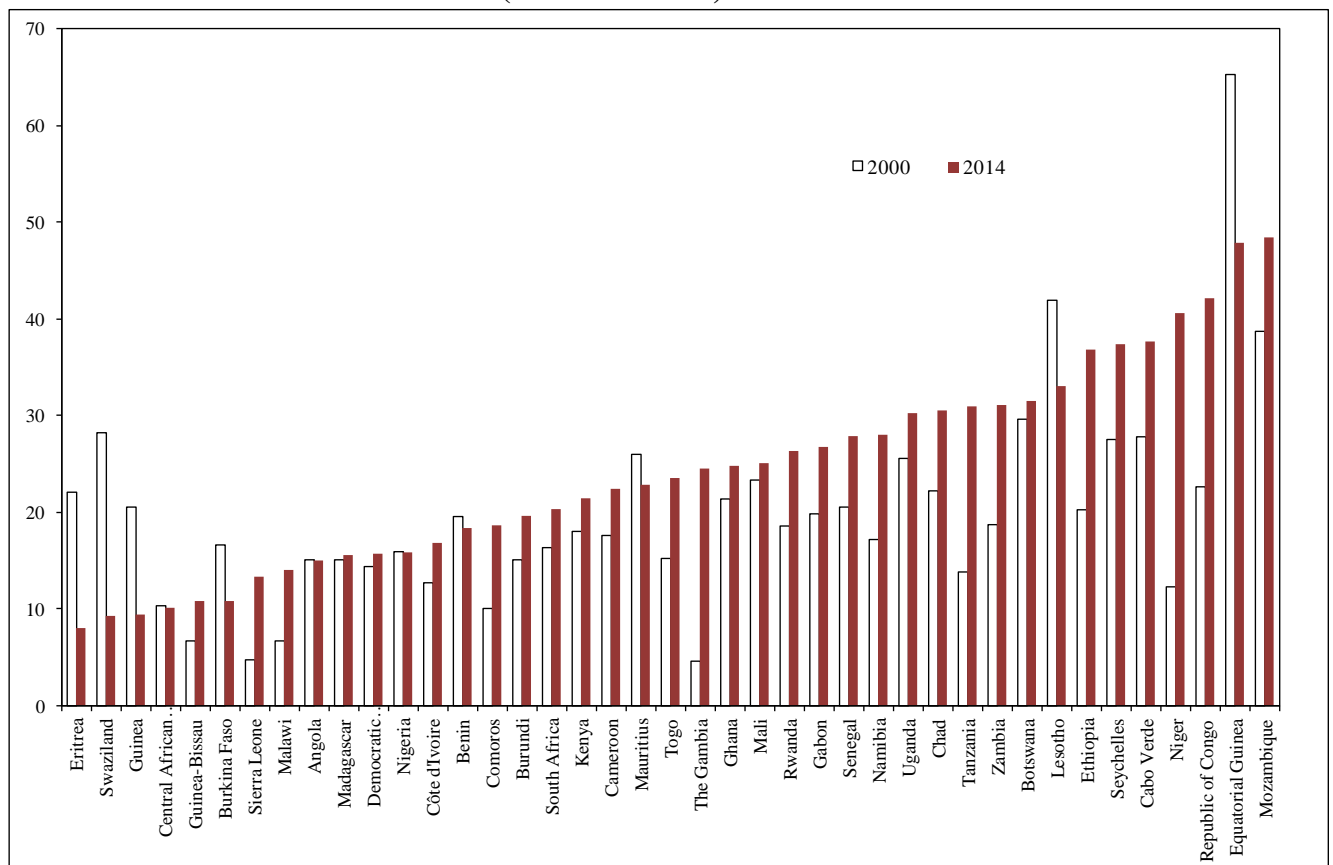
Source: IMF, World Economic Outlook, 2015

3.2.3 Current account of the balance of payments

Data indicates that economic growth has slowed since 2012, when impressive performance by fuel-exporting countries took the growth rate of their real GDP to a post-financial crisis peak of 7.2 per cent. In 2014, less favourable external conditions (compounded by the impact of the Ebola outbreak in Guinea, Liberia and Sierra Leone) contributed to a further deterioration in their economic performance. The average growth rate of least developing countries as a group was 5.5 per cent in 2014, with very similar average rates across all geographical subgroups. This was a reduction from 6.1 per cent in 2013 and well below the 2002–2008 average of 7.4 per cent, but significantly stronger than the 4.4 per cent growth recorded by other developing countries. The least developing countries' collective current account deficit increased to a record level of $49.4 billion in 2014, 40 per cent higher than in 2013 and 87 per cent higher than in 2012, the increase originating primarily in the African least developed countries. The merchandise trade deficit nearly tripled to $33.6 billion in 2014, as imports rose by $20 billion and exports fell by $1.9 billion. According to UNCTAD (2015) current account deficits have remained elevated for an extended period of time. Indeed, in most Sub-Saharan African frontier markets, current account deficits in 2013 were higher than in 2010, a year when the impact of the global financial crisis in the region had been considerably mitigated. Likewise, fiscal balances of market access countries have adjusted little over the same period, and have in fact deteriorated for a number of countries, albeit more slowly than current account balances. In addition, statistics by the IMF indicate that spurred by infrastructure projects and private consumption growth, import demand was strong across the region. Several frontier market countries (Ghana, Kenya, Namibia) as well as South Africa –

which relies heavily on portfolio capital flows to meet large financing needs – continued to have substantial twin fiscal and current account deficits (Chart 4).

Chart 4 - Current account balance (% of GDP)
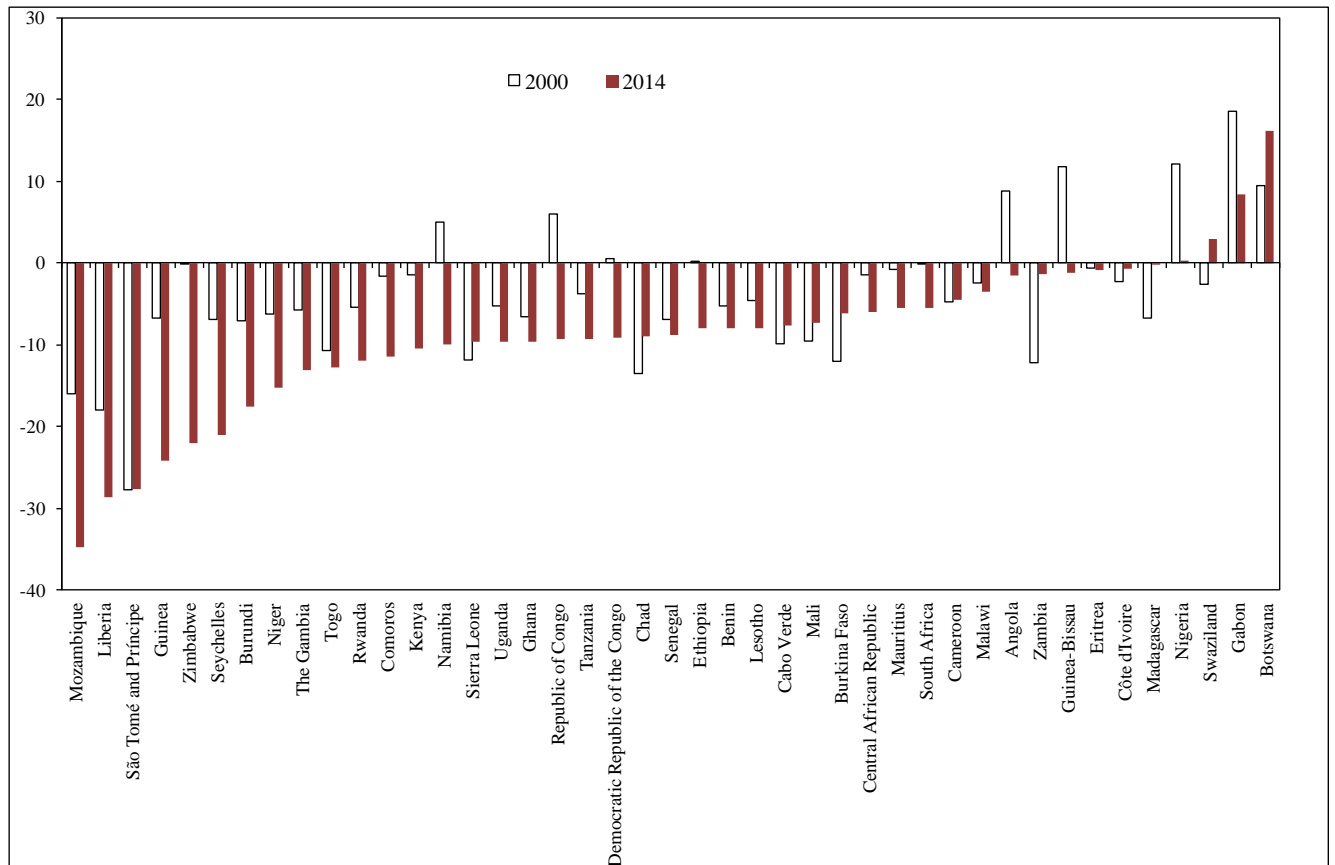
Source: IMF, World Economic Outlook, 2015

3.2.4 Fiscal balance

As shown in the previous sub-section, FDI flows, an important source of financing of fixed capital formation in the region, declined in 2014, reflecting slower growth in emerging markets and soft commodity prices. Portfolio investment flows also slowed, driven by reduced flows to South Africa and Nigeria, as did official flows directed mainly at low-income countries. Meanwhile, several frontier market countries were

able to tap international bond markets to finance infrastructure. The fiscal deficit for the region narrowed by 2014, as several countries took measures in 2014 to control expenditures. In Senegal, the authorities cut less productive expenditures, including those on wages and salaries. In Burkina Faso, improvements in the overall balance came from better revenue collection and tax policy reforms. At the same time the fiscal position deteriorated in many countries. According to UNCTAD (2015), in some, it was due to increases in the wage bill (e.g., Kenya and Mozambique). In other countries, it was due to higher spending associated with the frontloading and scaling up of public investment (e.g., Mali, Niger, and Uganda). Elsewhere, the higher deficits reflected declining revenues, notably among oil-exporting countries because of declining production and lower oil prices (Angola).

The region's debt ratio remained moderate, at 30 per cent of GDP. Robust growth and concessional interest rates have helped to keep debt burdens manageable. However, in a few countries, debt increased significantly in 2014 as shown in Chart 5, especially in Ghana (to 65 per cent of GDP), Niger (to 42 per cent of GDP), Mozambique, and Senegal (both above 50 per cent of GDP). In some countries, particularly those that have newly accessed international bond markets, the share of nonconcessional loans rose, pushing up debt servicing costs.

Chart 5 - Gross government debt (as a % of GDP)
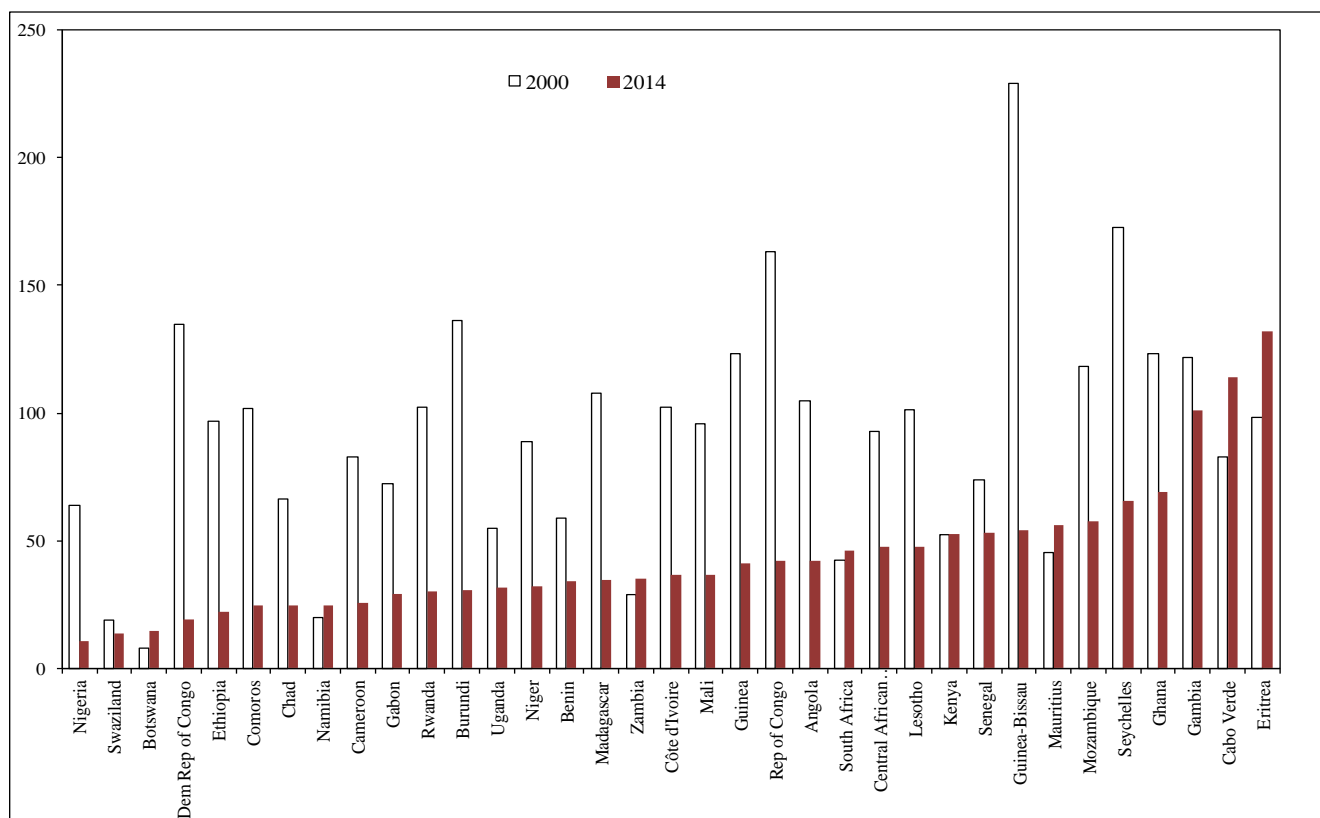
Source: IMF, World Economic Outlook, 2015

3.2.5 Agricultural sector

Agricultural productivity growth is important because the majority of the poor continue to live in rural areas where agriculture is central to their livelihoods. Special consideration is needed for women, who make up over 43 per cent of the global agricultural labor force, yet continue to face major constraints reducing their productivity (O'Sullivan et al. 2014). Experience in all regions has shown that improving the living conditions of the extreme and moderate poor hinges on the creation of a dynamic agricultural sector. Despite some inroads into productivity enhancing agricultural technology, agricultural success stories in Africa are few compared with the experiences in Asia and Latin America, and yields per hectare in Africa are about the same as they were in 1970. Better output prices through more

open trade (as seen in Cambodia, Ethiopia, and Rwanda, among others) provide necessary incentives to adopt fertilizer and improved seed varieties, especially when reinforced by complementary policies to reduce the cost of inputs, such as improved infrastructure and access to finance and insurance. Institutional measures such as land reform, market infrastructure, and more effective producers' organizations can catalyze investment in agriculture (Gill and Revenga 2015).

Rural development will be central to the quantum leap in the rate of progress required for SSA countries to achieve the SDGs. More than two thirds of people in least developed countries live in rural areas, where poverty is also most widespread and deepest, and infrastructure and social provision most lacking. Rural development is essential, not only to poverty eradication, employment generation and economic development, but also to sustainable urbanization. According to UNCTAD, assessing progress in agricultural productivity, the extent and nature of their rural economic diversification, and gender issues in rural transformation, shows that agricultural productivity began to increase in SSA in 2000, following decades of stagnation or decline. This is also evident in Chart 6. Furthermore, rural economic diversification varies widely between least developed countries, but only a few have passed beyond the stage in which non-farm activities are centred on agriculture and urban linkages are limited. Furthermore, women comprise half the rural workforce in least developed countries, but face serious constraints on realizing their productive potential, slowing rural transformation.

Chart 6 - Agricultural value added as a per cent of GDP
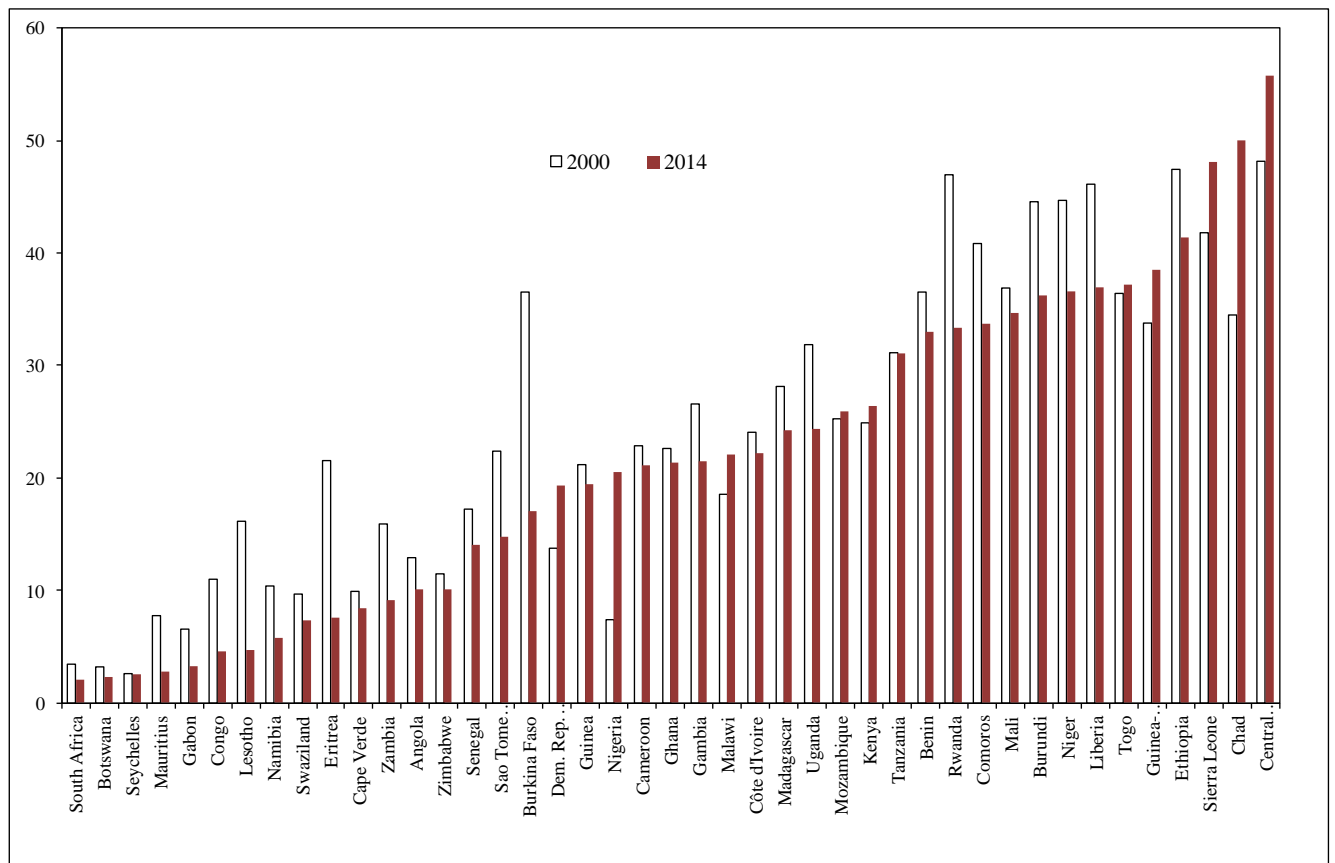
Source: IMF, World Bank, 2015

3.2.6 Primary commodities

Commodity dependence is a major feature of many low-income countries since commodities make a major contribution to the exports of these countries. The types of commodities exported by a country are another important determinant of a country's vulnerability to exogenous economic shocks. Statistics confirm the view that international commodity prices are notoriously volatile in the short to medium term, sometimes varying by as much as 50 per cent in a single year (IMF, 2005). Therefore, for developing countries, particularly those whose principal means of foreign exchange earnings is derived from the exports of primary commodities, unstable commodity prices create macro-economic instabilities and lead to ineffective macroeconomic management. Such fluctuating price movements generate erratic

movements in export revenue, cause instability in foreign exchange reserves and are strongly associated with growth volatility. Thus, the higher the share of primary goods to exports, the more commodity-dependent a country is and hence, the more likely for this country to be vulnerable to commodity price shocks.

The following charts show the real GDP growth and the real GDP growth per capita of four countries that are considered as low-income countries and having their economies dependent on the export of commodities. The countries taken into consideration are Benin, Chad, Comoros and Mali. It is interesting to note that latest World Bank statistics indicate that fuel exporters were the only group to have contracted in 2014, reflecting the strong exposure of primary commodity-dependent economies to the boom–bust price cycles that affect the primary commodity markets. In fact, the other main commodity-specialized low-income groups (food and agricultural exporters and mineral exporters) also experienced a sharp decline in their growth rates. By contrast, as indicated by World Bank statistics, low-income countries that are mainly exporters of manufactures achieved the highest economic growth rate in recent rates, growth rates that are higher than the rates recorded by other developing countries and by developing countries as a whole.

Chart 7 - Real GDP growth rate (%)
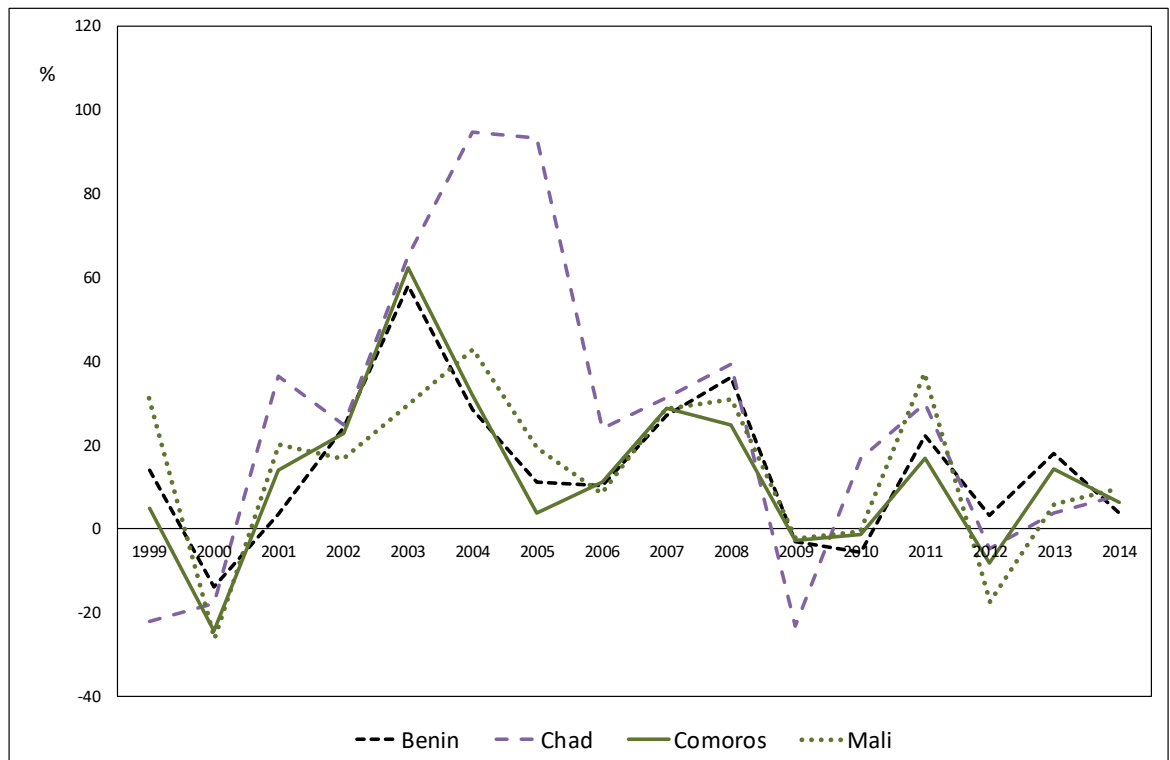
Source: World Development Indicators, World Bank

Chart 8 - Real GDP per capita growth rate (%)
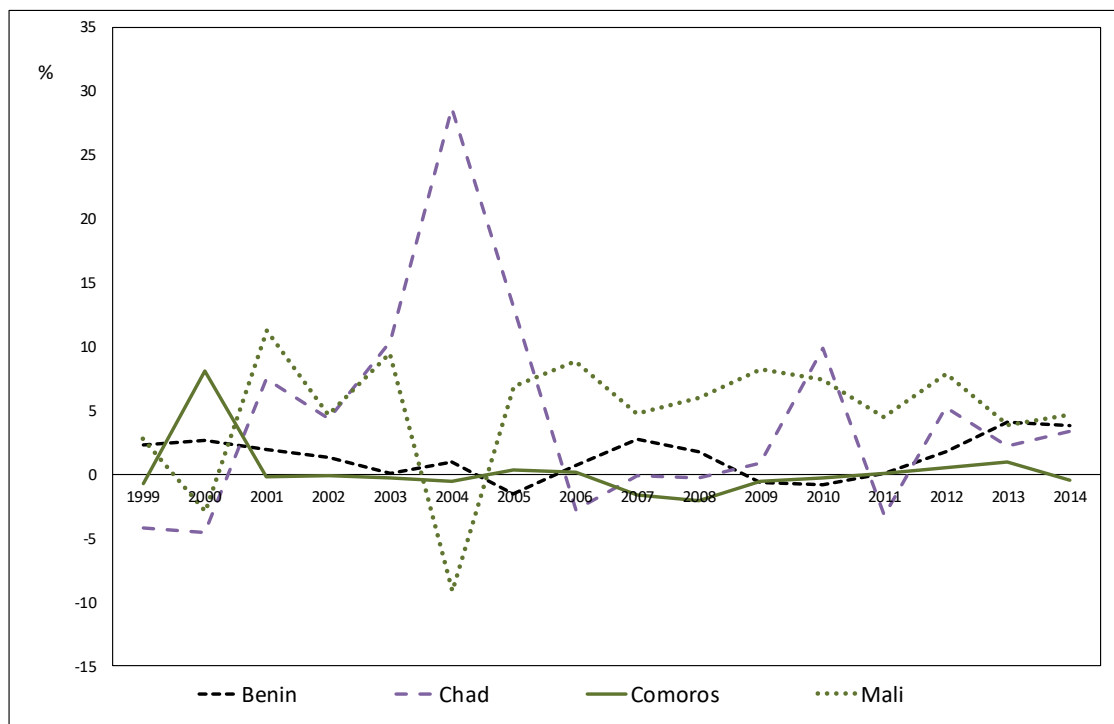
Source: World Development Indicators, World Bank

For low-income countries that depend mostly on just a few commodities for the bulk share of their export earnings, commodity price fluctuations directly affect the incidence of poverty, since the vast majority of the poor are dependent on the production of primary commodities for their livelihoods. According to the Common Fund for Commodities (2005), estimates show that among the 2.5 billion people engaged in agriculture in developing countries, about one billion have as the primary source of income that derived from the exports of commodities. Statistics indicate that most of the countries dependent on commodities already suffer from widespread poverty and have low human development indicators. In fact, quoting Lines (2004)m *"Of the 30 countries with the lowest HDI indicators in 2001, 26 were among either the 54 agricultural CDDCs identified by the European Commission or the 25 most mineral-dependent or 25 most oil dependent countries in the world."* At the household level, farmers and workers rely on commodity production for the cash incomes they use to pay for food, school fees and health care. Consequently, the poorest producers are hurt most by volatility, since they have fewer resources and social safety nets to fall back on. This ultimately means that unexpected fluctuation in prices significantly impact the revenue of a country, thus affecting jobs and as well as impacting on the farmers' output.

For a country, fluctuations in revenues as a result of the changes in the price of commodities makes fiscal planning even more challenging thus impacting negatively on any sustainable developemtn plans. This is even more pronounced in the longer-term where the continuous dependence on primary commodities heightens a country's vulnerability. This is because (non-oil) primary commodity prices exhibit a largely declining trend over the long term. When there is a deterioration in the terms of trade

for non-oil primary commodity producers over the longer term, increases in volumes must compensate for drops in prices in order for an economy to be able to afford the same level of imports. Moreover, higher production in world markets leads to a further reduction in price. A continued and sustained decline in commodity prices also jeopardizes the debt sustainability positions of countries, since a drop in commodity prices increases the debt service to export earnings ratio. This implies, then, that short- to medium-term upward movements in commodity prices, such as those that occurred during the 2003–2008 commodity price boom, are not to be interpreted as a positive impact on economic growth for the primary commodity-producing country. The longer-term deterioration in the country's terms of trade indicates rather the opposite. In fact, a study by the IMF (2014) indicate that the excessive instability in export earnings and economic growth rates that primary commodity-producing countries experience is closely associated with highly volatile commodity prices. According to IMF statistics (2015) price volatility has been increasing sharply, where we see an increase of 175 per cent from one decade (1990–2009) to the next (2000–2009), implying that commodity-dependent countries are becoming more sensitive to price shocks. A disaggregated look at the prices of specific commodities reveals even greater volatility. Since most commodity-dependent nations rely on the export of one or a few primary commodities, such volatility explains why these countries are especially vulnerable to price shocks. The longer-term trend in (non-oil) commodity prices shows the problems of high risk and low returns faced by these countries. Even as prices of their exports decline over the long term, (non-oil) primary commodity producers are producing even larger volumes to maintain current import levels, and as more output floods the market, prices drop further.

Price fluctuations in the short run are highly volatile even at the most aggregated level of commodity prices. World Bank statistics indicate that during the period 1995–2010, the maximum monthly decline in the average price level for all primary commodities was 16.4 per cent, at the onset of the global economic crisis. Monthly data for rates of change in commodity prices show that, in a month of price decline, prices fall by 2.4 per cent on average and, in a month of price increases, prices rise by 2.8 per cent on average.

Chart 9 - Fluctuations in the price index
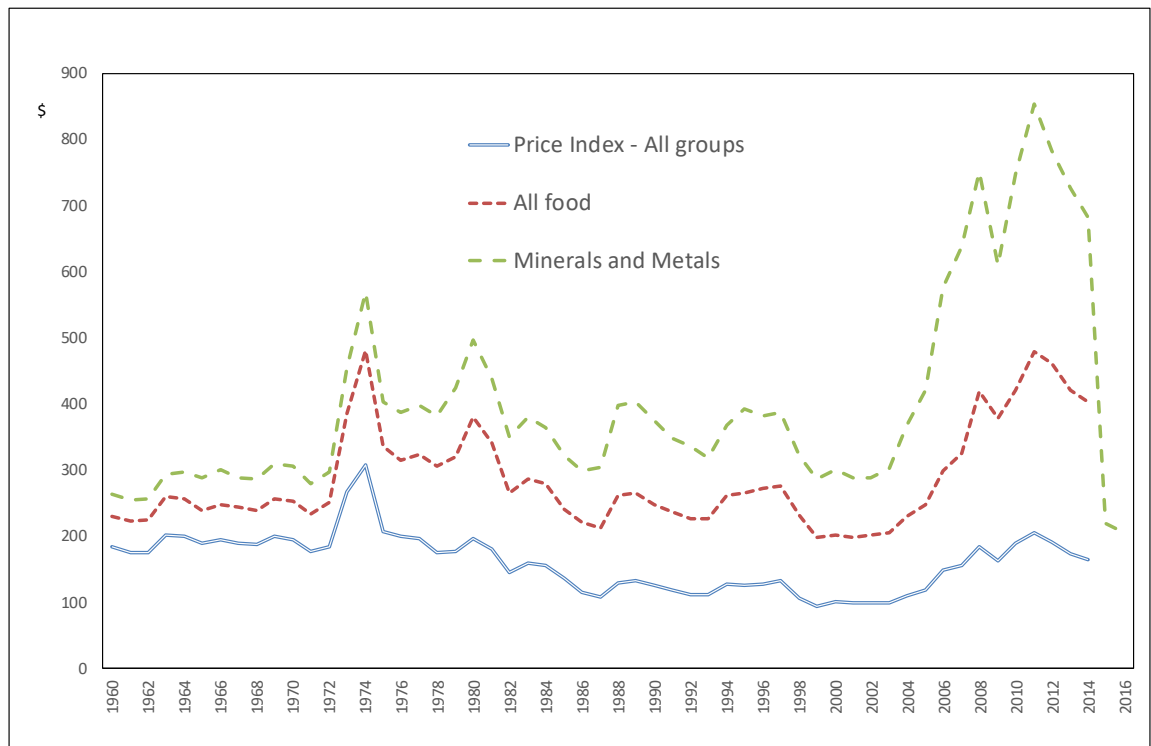
Source: World Bank, World Development Indicators 2015

Price trends for the last 50 years show that the index of real commodity prices has declined significantly over time. IMF statistics indicate that over the 43-year period from 1960 to 2003, the index of real commodity prices declined by 39 per cent. This represents a 1.2 per cent annual rate of decline. Although commodity prices rose

sharply between 2003 and 2008, they began to fall in the second half of 2008 and continued to fall in 2009 by 9 per cent. Given continued uncertainties in the global economy and short-term price volatilities, it is difficult to determine if the long-term declining trend in primary commodity prices will reverse course. Since real prices of commodities exhibit pronounced procyclicality (rising during periods of economic booms and declining during economic recessions and slowdowns), only focusing on medium-term price trends can be misleading and an unreliable indicator of long-term trends. In other words, the five-year commodity price boom (2003–2008) need not necessarily change the long-term trend.

The long-term trends in prices for different types of primary commodities show that, for food and minerals, real price declines have been extremely significant. The decline in real food prices is even more pronounced than that for minerals, whereby in line with IMF statistics, between 1960 and 2003, real food prices fell by 42 per cent, representing an annual rate of decline of 1.3 per cent, as compared to minerals, where prices fell by a total of 27 percent during the period — a 0.7 percent annual rate of decline. Indeed, real food prices were 9 percent lower in 2009 than in 1960. However, the long-term trend in the real price of crude oil differs radically from that of other primary commodities: real prices in 2009 were six times what they were in 1960. The continuous decline of long-term prices also means that producers' incomes dwindle day by day. To maintain the same level of income, producers need to increase the volume of commodities that they trade. However, as more output is put onto the market, price tends to fall even more. This means that a worsening in the terms of trade has required non-oil primary commodity-producing countries to compensate for losses in unit values by increasing output. Statistics indicate that the terms of trade for

developing countries have deteriorated significantly since the mid-1980s. Between 1986 and 1999, the volume of commodity exports from the LDCs increased by 43 per cent. However, the purchasing power of their exports increased by only 3 per cent. World Bank estimates suggest that between 1970 and 1997 the terms of trade decline deprived non-oil exporting countries in Africa an equivalent of 119 per cent of their combined annual GDP in lost revenues (World Bank 2003, FAO 2004).

According to a report by the IMF (2014), commodity dependence is typically measured by (a) the share of export earnings of the top single commodity (or top three export commodities) in GDP, in total merchandise exports, and in total agriculture exports; (b) the percentage of people engaged in commodity production; or (c) the share in government revenue. Examining trends in the share of primary commodities in total exports for the period 1999 to 2014 in Chart 10 shows that, only Mali, despite a contraction between 1999 and 2000, the share of primary commodities in total exports rose between 1999 and 2000. Benin's primary exports as a share of total exports recorded a significant increase up to 2009 and then declined thereafter. Charts 11 to 12 shows by contrast the share of merchandise exports as a percentage of GDP of these four countries in comparison the the SSA region as a whole.

Chart 10 - Share of primary commodities in total exports (%)
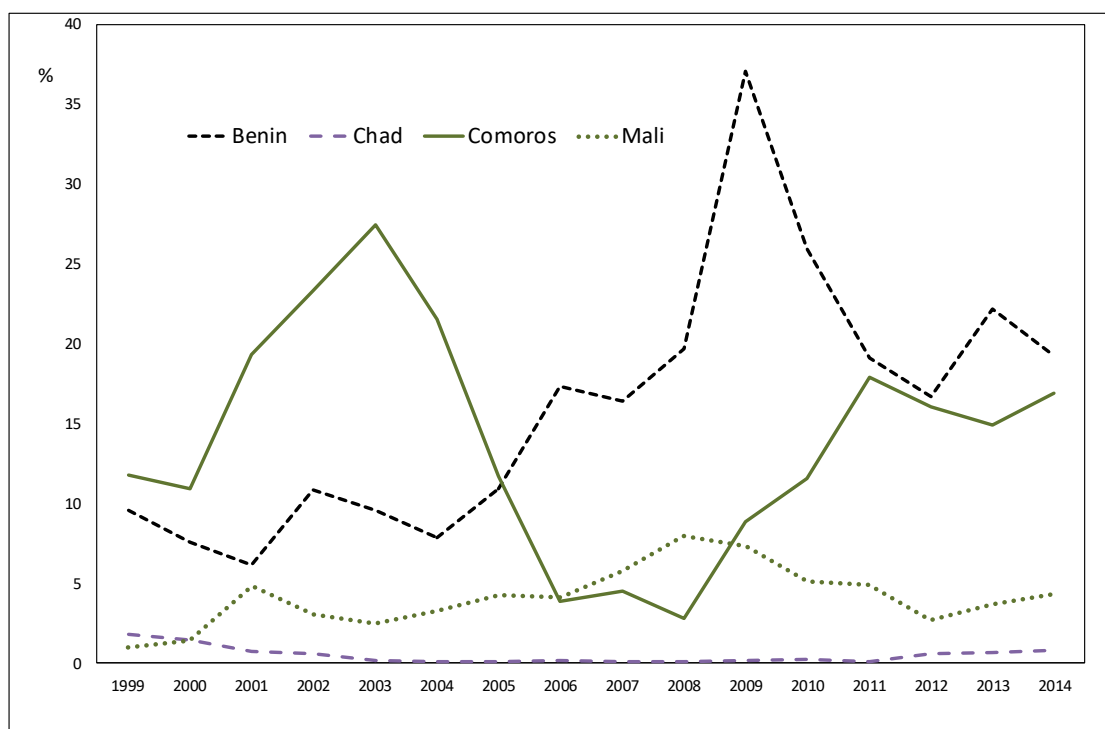
Source: UNCTAD, 2016

Chart 11 - Merchandise trade as a per cent of GDP (%)
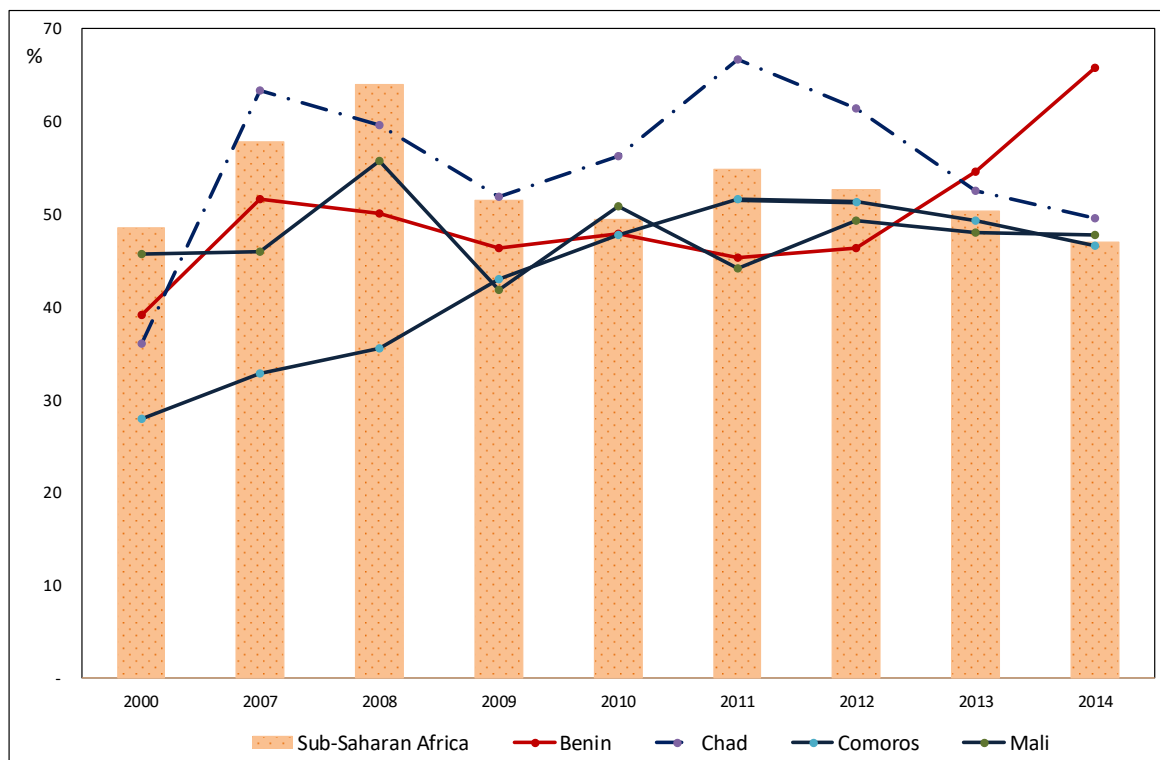
Source: World Bank, World Development Indicators 2015

Chart 12 - Merchandise trade as a per cent of GDP (%)
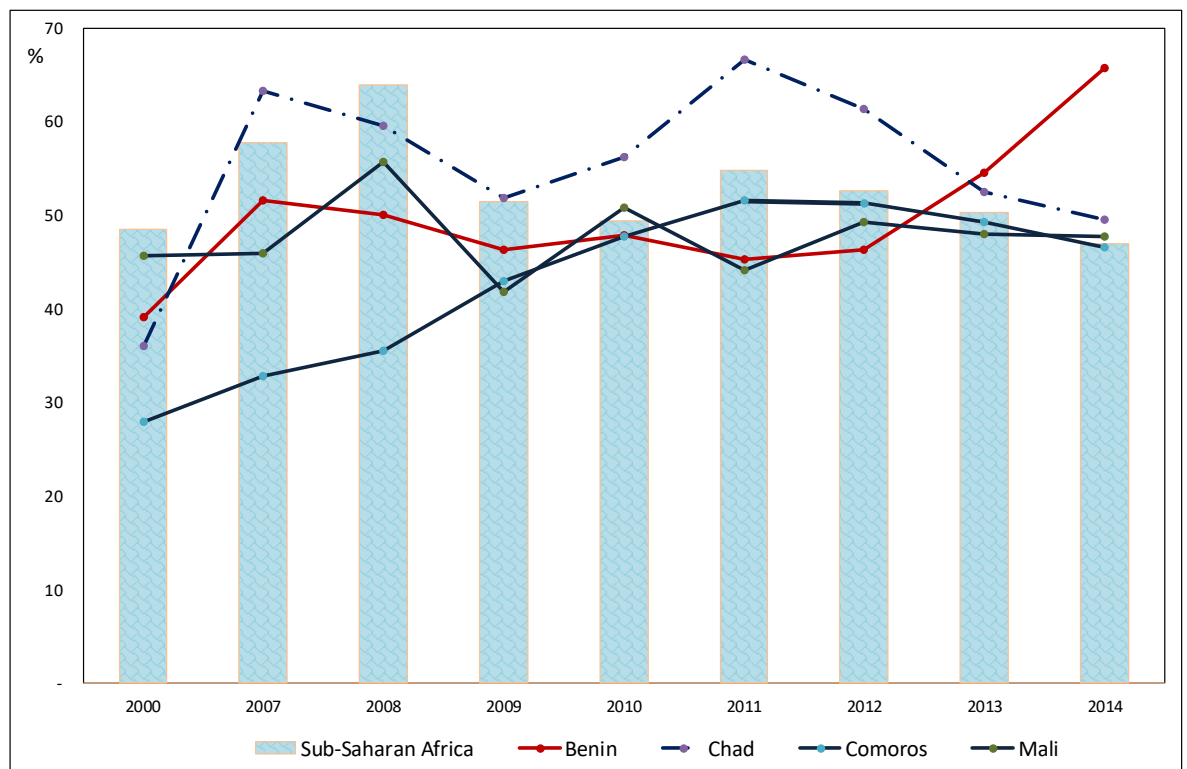
Source: World Bank, World Development Indicators 2015

3.2.7 Overall economic situation in Sub-Saharan Africa

Economic growth since 2000 has been higher than in the 1990s. In 2005 and 2006, there was further growth acceleration and the LDCs together achieved their strongest growth performance in 30 years. Their average growth rate in both these years exceeded the 7 per cent target set by the low-income countries and their development partners as a key goal in the Brussels Programme of Action for the Least Developed Countries for the Decade 2001–2010, agreed at the Third United Nations Conference on the Least Developed Countries in 2001. It is estimated that, in 2007, there was only a slight slowdown, to 6.7 per cent.

There are major downside risks to the sustainability of rapid growth. This reflects the fact that the type of growth which is occurring in most low-income countries is strongly affected by trends in international markets and, in particular, commodity prices. On top of this, the low-income countries depend heavily on external sources of finance, particularly ODA, rather than domestically-generated resources. The low-income countries are growing rapidly, but without a positive process of diversification and structural change. As a result, they are very vulnerable to trade shocks due to the volatility of commodity prices, affecting both exports and imports. But the aid inflows which provide their major source of external finance are mainly directed towards improving social services and social infrastructure, including governance mechanisms, rather than increasing their productive capacities and promoting structural change and diversification.

Rapid economic growth in the low-income countries has been associated with a slow rate of poverty reduction and human development, as gauged by their progress towards the MDGs. In 2005, 36 per cent of the total population of the low-income countries lived in extreme poverty — that is to say on less than $1 a day — and 76 per cent subsisted on less than $2 a day. Although the incidence of poverty (i.e. the share of the population living in poverty) is falling slowly, the number of people living on less than $1 a day or on less than $2 a day was larger in 2005 than in 2000.

The weak correlation between growth and improvements in human well-being arises because of the type of economic growth which is occurring. This cannot generally be equated with an inclusive process of development. In most low-income countries, the majority of the population is employed in agriculture, but agricultural labour

productivity is very low and growing very slowly. As it is difficult to make a living in agriculture, more and more people are seeking work in other sectors of the economy. However, remunerative employment opportunities are not being generated quickly enough to meet this growing demand for non-agricultural work. With this accelerating process of "deagrarianization", poverty in low-income countries now has two faces. One face is low-productivity, small-scale agriculture; the other is low-productivity, urban, informal-sector activities in petty trade and services.

In addition it should be noted that the World Bank is predicting average growth in excess of 5 per cent across Africa in 2015 – growth which has proven resilient in the face of the global downturn in the wake of the 2008 crisis. This strong showing has fuelled an investment boom, with FDI in 2013 recording a record of $57bn. However, the World Bank argues that a young population - more than 60 per cent of sub-Saharan Africa's population is under 25years of age – and a middle class estimated to equal that of India and China in size are strong draws for an increasingly diversified investor base. Sectors from retail to telecommunications and financial services are booming, with other sectors such as agriculture are coming on stream, with the World Bank estimating it to be a potential $1tn opportunity by 2030. At the same time, the continent's resource potential is also on the rise, with major new discoveries of hydrocarbon and mineral deposits occurring in countries ranging from Tanzania and Mozambique in east Africa, to Sierra Leone, Guinea and Ghana in the west.

Despite these positive aspects, the continent also finds itself at the centre of the global inequality debate, a place where competing narratives of opportunity and risk collide at a time of rapid change. On the one hand, there is a potential of opportunity, however, challenging this potential are concerns about a lack of meaningful structural

transformation in many of Africa's fast-growing economies, as well as mounting evidence that rapid GDP growth is doing little to drive social inclusion. Left unchecked, some argue, these deeply rooted issues could undermine and even reverse the economic gains made since the turn of the century, weaken democratic institutions, and risk political and social upheaval. As quoted by the African Development Bank (2015), *'7 out of 10 of the fastest growing economies are in Africa, but if you flip that over 6 out of 10 of the most unequal countries are also in Africa.'*

The Ebola outbreak in Guinea, Liberia, and Sierra Leone has brought considerable economic damage to all three countries (IMF 2015). Beyond the large number of deaths and extensive human suffering, the epidemic has disrupted labor markets and created substantial health and containment costs for the public and private sectors. In addition, the epidemic led to enhanced risk-aversion behaviors by domestic and international agents, which had a large knock-on effect on activity. In particular, the commerce, travel, and transportation sectors have been severely impacted by the departure of expatriates, the suspension of some flights, the closure of markets and regional borders, reduced capital utilization (for example, mine closures), and internal travel restrictions due to governments' quarantine measures. As the agricultural sector has been hit hard, domestic food production has suffered. Combined with constraints on food imports related to border closures, this is creating food security issues. For example, in a recent publication the Food and Agriculture Organization and the World Food Programme estimates that nearly half a million Guineans are suffering from food insecurity as a result of the Ebola epidemic (FAO/WFP 2014). This implies that future output losses are expected to be large.

Among the other middle-income countries, Ghana's fiscal consolidation will impact growth significantly in 2015, which will undershoot earlier expectations by nearly one percentage point, but growth is expected to recover strongly in 2016, on the back of expanding oil production. In Zambia, lower copper prices and policy uncertainty are acting as a drag on investment and growth. In fact, statistics from the IMF indicate that growth rates for 2015–16 have been revised down by an average of about half percentage point since October. Conversely, strong growth in low-income and fragile countries, notably in Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, and Mozambique, will continue to be driven by investment in mining and infrastructure and by strong consumption, with average growth in 2015 to 2016 of 6.75 per cent, in line with earlier expectations. However, growth has been revised down in some countries. In Burkina Faso, growth in 2015–16 is expected to be sharply lower than previously expected, as a difficult situation, on account of lower commodity prices and the impact of the regional Ebola outbreak, is being exacerbated by political upheaval. Growth has also been revised down in Uganda, but this reflects an adjustment following the rebasing of the national accounts and the adoption of a new methodology that increased the level of GDP by about 17 per cent but lowered growth by 0.75 of a percentage point in 2014. The situation in the Ebola-affected countries is expected to remain grim. In October 2014, growth estimates were lowered but a modest increase in real GDP was still projected. The Gambia's 2014–15 tourist season has been badly hit, owing to the Ebola epidemic in the region – its real GDP is estimated to have contracted in 2014 and growth will remain dampened in 2015. These growth outcomes to a large degree reflect countries' fiscal and monetary policy responses to the shocks. Fiscal deficits are set to remain high across the region in 2015. Oil exporters are tightening fiscal policy and this will partially offset the impact of the shock, but fiscal

deficits are still projected to widen by about ¾ percentage point of GDP relative to 2014. Government debt, while generally low, is projected to be some 2.5 percentage points of GDP higher than before the shock, but with more significant increases in some countries. In most other countries, 2015 fiscal deficits are expected to be broadly unchanged from 2014, remaining at elevated levels.

To sum up, statistics indicate that there were record rates of economic growth however, developing countries remain locked into a pattern of economic growth which makes them highly vulnerable to external shocks and in particular international commodity price volatility. Given the high levels of poverty, there is little surplus to deal with shocks, and domestic savings are very low. The Global Monitoring Report (2015) concludes that in view of these issues, the development of productive capacities and diversification thus depends heavily on external finance. ODA is particularly important because developing countries have very limited access to international capital markets and FDI is mainly resource-seeking and focused on a few countries. However, ODA is mainly directed towards social sector development rather than building economic infrastructure and productive capacities. UNESCO (2015) therefore argues that the allocation of ODA to health, education and other social purposes is of course important, and in itself makes a partial contribution to building productive capacities, but the key to strengthening the resilience of developing countries' economies is to build the capabilities of domestic producers and to diversify and strengthen linkages.

3.3 Human development aspects

With 2015 marking the transition from the Millennium to the Sustainable Development Goals, the international community can celebrate many development successes since 2000. Despite the global financial crisis, economic growth was generally strong and robust. About one billion people rose out of extreme poverty. Most developing countries saw solid income growth for the bottom 40 per cent of their income distribution. Poverty reports indicate that millions of children who were unlikely to survive their fifth birthday passed beyond these critical years and went on to school in ever greater numbers. The incidence of preventable diseases such as AIDS, malaria, and tuberculosis is reported as falling. The share of those with access to clean water and better sanitation appears to be rising. As reported in the Global Monitoring Report (2015), '*overall, the Millennium Development Goals played an important role in galvanizing the global development community, and that experience will help drive progress toward achievement of the Sustainable Development Goals by 2030.*'

However, it appears that despite notable gains, progress appears to be uneven, leading to several arguments that significant work remains. It is to be noted that according to the 2008 Global Monitoring Report (World Bank, 2008) and the MDGs Report 2008 (United Nations, 2008), overall the picture for that period of time was that of a half full and half empty glass. Global progress was reported as being outstanding on income poverty. According to these reports, with regards to Sub-Saharan Africa, it was presented that the recently improved growth performance should have shown a better picture, had the relevant indictors for the most recent years been available. On the other MDGs, it was reported that gender parity in primary and secondary school is the only goal developing countries seem to be on-track for overall. Accordingly, for that time,

the world was reported as being off-track on the others and the gap is much more pronounced in the poorest regions of South Asia and Sub-Saharan Africa.

In the present Global Monitoring Report for 2015, with an estimated 900 million people in 2012 living on less than $1.90 a day, which represents the updated international poverty line, and a projected 700 million in 2015, extreme poverty remains extremely high. It has also become more concentrated in Sub-Saharan Africa and South Asia. Thus, addressing moderate poverty and mitigating the vulnerability of falling back into poverty have become more pressing issues in many countries, including in those where the bottom 40 per cent saw their incomes decline. (Global Monitoring Report, 2015)

According to Klasa (2015), while the ratio of poor people relative to the continent's growing population has fallen between 2002 and 2011, the absolute number of poor people living in sub-Saharan Africa has increased over the same period. In mineral-rich Mozambique and Guinea, the poverty ratio has gone up substantially. In addition, despite averaging annual growth of 7 per cent between 2004 and 2010, the Nigeria's poverty rate has actually increased in recent years. It is estimated that as much as 60 per cent of Nigeria's 150 million population now lives in extreme poverty, and all of this at a time when the country's elite is estimated to have spent an obscene amount on private jets. Evidence of this divergence is widely visible. South Africa, regarded as the most developed and diversified economy in the region, saw an increase in youth unemployment from 48 per cent to 52 per cent between 2005 and 2010. Furthermore, Africa's emerging middle class remains fragile. Research by the African Development Bank suggests that as much as 80 per cent of those counted among the continent's 310

million strong middle class are part of a 'floating class' living on less than $4 per day. They remain highly vulnerable to external shocks, such as an increase in food prices.

In addition, there has been a four-fold increase in external financial flows since 2000. Although resource-rich countries remain the main destination for foreign direct investment, the share directed to manufacturing and services is increasing - largely attributable to improvements in the business environment. According to the World Bank, between 2013 and 2014 sub-Saharan Africa realized the largest number of business regulatory reforms globally. However, these successes have failed to translate into structural transformation.

It is important to point out that in 2015 global poverty estimates have been updated by the World Bank to reflect the re-estimated international poverty line at $1.90 a day, new 2011-based PPP prices and revisions to complementary data. The new poverty estimates are now anchored to the 2011 Purchasing Power Parity rates for consumption from the International Comparisons Program (ICP). Prior to this, the numbers were based on the prior ICP round for 2005. Reflecting updated purchasing-power-parity prices for 2011, the international poverty line is re-estimated at $1.90 a day. Ensuring maximum comparability, the new poverty line is based on the 15 national poverty lines of the same countries that previously defined the $1.25 line. As currency exchange rates fail to provide for a conversion that maintains equivalent costs of living across countries, PPP prices provide a unifying standard. Poverty updates also reflect revisions to complementary data, including population, inflation and national income accounts (World Bank, 2015).

As shown in table 1, the latest headline estimate for 2012 based on the new data suggests that close to 900 million people (12.8 per cent of global population) lived in extreme poverty. Compared with 2011 - the year when PPPs were updated - this number represents continued poverty reduction, as the headcount estimate then, using 2011 PPP data, was 987 million people (14.2 per cent of global population). While broadly similar to the old estimate for 2011 based on 2005 PPP data, this estimate is some 24 million people lower. Comparison of the 2011 and 2012 data reveals a (modest) decline in the number of poor in Sub-Saharan Africa, thus yielding hopefully an era of continued reduction in not just the share of the poor but also their absolute number.

Table 1 - Poverty headcount by region with the re-estimated poverty line

1A. Share of population below $1.9 a day (2011 PPP) - %

Region	Historical			Headline	Projection
	1990	**1999**	**2011**	**2012**	**2015***
Sub-Saharan Africa	56	58.1	44.3	42.6	35.2
East Asia and Pacific	60.8	37.5	8.5	7.2	4.1
Europe and Central Asia	1.9	7.8	2.7	2.5	1.7
Latin America and the Caribbean	17.7	14.1	6.5	6.2	5.6
South Asia	50.6	41.2	22.2	18.8	13.5
Developing world	44.3	34.2	16.6	15.0	11.9
World	37.1	29.0	14.2	12.8	9.6

1B. Millions of people below $1.9 a day (2011 PPP)

Region	Historical			Headline	Projection
	1990	**1999**	**2011**	**2012**	**2015***
Sub-Saharan Africa	284.0	375.4	393.5	388.5	347.1
East Asia and Pacific	999.3	689.7	173.1	147.2	82.6
Europe and Central Asia	9.0	36.6	12.7	12.0	4.4
Latin America and the Caribbean	78.0	72.2	37.7	37.1	29.7
South Asia	574.5	560.1	362.3	309.2	231.3
World	1958.5	1746.6	987.4	902.0	702.1

Source: PovcalNet, 2015

Comparisons with the data available for 1990 and 1999 confirm that the world has made rapid strides forward in poverty reduction since 1990. The proportion of global population living on less than $ 1.90 a day in 2012 was about a third of what it was in 1990. This confirms that the first Millennium Development Goal target, that of cutting the extreme poverty rate to half of its 1990 level, was met well before its 2015 target date. From a broader historical perspective, the global poverty rate has fallen by approximately one percentage point a year since 1990 (World Bank, 2015).

Tentative projections for global poverty in 2015 suggest that the global headcount may have reached 700 million, leading to a poverty rate of 9.6 per cent. Compared with the headline estimate of 2012, poverty may thus have declined by a further 200 million people, which amounts to close to 40 million in Sub-Saharan Africa. The projections extrapolate poverty estimates based on growth scenarios and distributional assumptions. World Bank (2015) argue that given that the data collection and process for a nationally representative household survey, on which poverty estimates are based, usually takes 2-3 years, the 2012 number remains the most reliable recent headline poverty estimate. Poverty levels remain unacceptably high and are particularly concentrated in Sub-Saharan Africa and South Asia. For several decades, the same three regions account for some 95 per cent of global poverty: East Asia and Pacific, South Asia, and Sub-Saharan Africa. The latest 2012 estimates confirm this high degree of concentration. Yet, the composition of global poverty across these three regions has shifted over the years. The share of Sub-Saharan Africa in global poverty has risen to 43 per cent alongside a slower pace of poverty reduction in this region amidst rapid population growth. The poverty rate fell only from 56 to 42.6 per cent between 1990 and 2012. According to the World Bank estimates, the main drivers of

poverty reduction should be Sub-Saharan Africa and South Asia, where most of the world's poor are now concentrated. Second, although Sub-Saharan Africa is expected to be among the fastest-growing developing regions, its growth is likely to be driven by the capital intensive natural resource sector, limiting the scope for positive trickle-down effects to the labor incomes of the poor.

The goal to halve absolute poverty occupied a central place among the MDGs and is probably the most closely watched goal. The central indicator to monitor this goal is to halve the proportion of people who live on less than the PPP-equivalent of $1 a day. The procedure to establish the rate of progress is comprised of three steps. Firstly, the international poverty line is turned into a poverty line in national currencies at a benchmark year. Secondly, this poverty line is adjusted using national inflation rates to generate poverty lines in national currencies for all years since 1990. Poverty is then determined using this poverty line in national household surveys. Up until 2007, the benchmark year used was 1993. In late 2007, the World Bank made available the new PPP exchange rates obtained from the international 2005 International Commodities Production (ICP) survey of prices. Not only do they represent a more up-to-date set of price comparisons, but this round of the ICP was more comprehensive than all previous rounds and, significantly included China for the first time. This approach has a sizable impact on poverty measurement in many countries for all years that are included in the analysis (that is, from 1990 to the latest year available). Moreover, the baseline headcount ratio that was to be reduced by half according to the first MDG has shifted from 29 per cent to nearly 42 per cent. However, it is noteworthy that through the updating of the 2005PPP had only a relatively minor impact on trends in poverty, and thus on meeting MDG1 in any country or in the world as a whole. This is due to the

fact that trends in poverty are largely driven by changes in incomes and the income distribution in national currencies (rather than the location of the poverty line) and in this respect nothing has changed.

Based on the updated poverty line of $1.90 a day, the estimate for 2012 puts the number of extremely poor people at 900 million, or 12.8 percent of global population. Global poverty estimates have been updated to reflect a re-estimated international poverty line of $1.90 a day, new 2011-based purchasing power parity (PPP) prices, and revisions to complementary data. The 2012 estimate represents continued progress in poverty reduction as the revised headcount in 2011 was 987 million people (14.2 per cent of global population). Comparison between 2011 and 2012 reveals a modest decline in the number of poor in SSA, potentially heralding an era of poverty reduction not just in the share of the poor but also in their absolute number. Although the estimate for 2012 remains the most reliable recent estimate, World Bank projections suggest that global poverty may have reached 700 million, or 9.6 per cent of global population, in 2015. For the first time, the global extreme poverty rate may have reached single digits. The projected decline between 2012 and 2015 is 200 million people (close to 40 million in Sub-Saharan Africa). This projection is extrapolated from 2012 based on growth scenarios and distributional assumptions. Given that the collection and processing of nationally representative household surveys—on which actual poverty estimates are based—usually takes two to three years, the 2012 numbers remain the most reliable recent estimate. It is to be noted that in Sub-Saharan Africa the decline in poverty rates was significant. However, poverty still remains at very high levels, reaching around 900 million extremely poor people in 2012 and a projected 700 million people in 2015. It is also becoming increasingly concentrated in SSA. Over the

last decades, the vast majority (about 95 per cent) of global poverty has been concentrated in three regions: East Asia and Pacific, South Asia, and SSA. Over time, the composition of global poverty across these three regions has shifted dramatically. East Asia and Pacific registered a spectacular decline. South Asia saw an initial increase and a later decline, with rates remaining high. SSA saw a steady increase in its share and is now home to 43.0 percent of the global poor. The growing global share of SSA reflects slower poverty reduction along with rapid population growth. In fact, in 2012 the region's poverty rate stood at 42.6 per cent, which is only 13 points lower than in 1990.

Compared with the MDG goal on income poverty, non-income goals registered more mixed success. According to Kenny and Dykstra, (2013), progress fell particularly short for targets related to health (maternal and infant mortality), nutrition (undernourishment and hunger), and sanitation. Close to one-fifth of all children under five years of age remain undernourished, and some 860 million people continue to live in slums. Access to primary school education and literacy rates have improved, yet the quality of education remains a concern. Moreover, while the tide has turned on the incidence of major deadly diseases, a high number of preventable deaths persist. With the development of new medicines, human immunodeficiency virus (HIV) patients receiving treatment have nearly the same life expectancy as those without HIV. However, three-fifths of those people living with HIV, mostly in developing countries, lack access to antiretroviral drugs. Tuberculosis killed 1.5 million people in 2013, many in the prime of their productive lives. An estimated 198 million cases of malaria were registered in 2013, claiming the lives of about 453,000 children.

3.3.1 Undernourishment

Using the two hunger indicators for the hunger target ('reduce by half between 1990 and 2015, the proportion of the population suffering from hunger'), many inconsistencies, both in levels and trends appear, which make it very hard to monitor this target. First of all, there is an immediate problem related to the target itself, as different indicators imply very different regional prevalence of hunger. Whilst the share of the population who are 'undernourished' appears to be highest in the Caribbean, followed by SSA and South Asia, when it comes to 'childhood undernutrition', South Asia has far higher rates, followed by Sub-Saharan Africa and the Caribbean.

The undernourishment indicator monitored by the Food Aid Organization (FAO) attempts to assess the share of the population that is suffering from insufficient availability of calories. To generate the proportion of the population below minimum level of dietary energy consumption, FAO derives average calories per capita in a country from a three year moving average of production and trade statistics and assumptions about waste. It then uses a distribution assumption to account for inequality in caloric access within a country and then compares to a population-group adjusted caloric need. As research indicates (Klasen, 2008) by focusing on moving averages of production, one cannot capture the short-term food crisis or seasonal variability. The focus on calories also ignores the role of other nutrients, which might be more important, and the assumption about waste is entirely arbitrary and hard to verify. The distribution assumption is based on two past surveys and assumes the same coefficient of variation everywhere. However, in countries with low average availability, only a rather equal distribution of calories is consistent with bare survival

of the poorest groups. Moreover, the caloric requirements are sure to vary, not only by population group, but also according to many other factors that are hard to assess. Additionally, the database on production statistics as indicated by FAO is so poor that the results from these analyses seem rather surprising. For these reasons, this indicator is clearly unable to correctly capture the share of hungry people in the world. It is a purely input-oriented indicator, which cannot deal with short-term changes in entitlements to food, and is, in every step of its calculation, conceptually flawed. To measure hunger trends in the world, one would probably do better by following Sen (1984) and simply concentrate on monitoring the entitlements to food by tracking the incomes of poor people in relation to food prices.

Chart 13 - Proportion of population below minimum level of dietary energy consumption
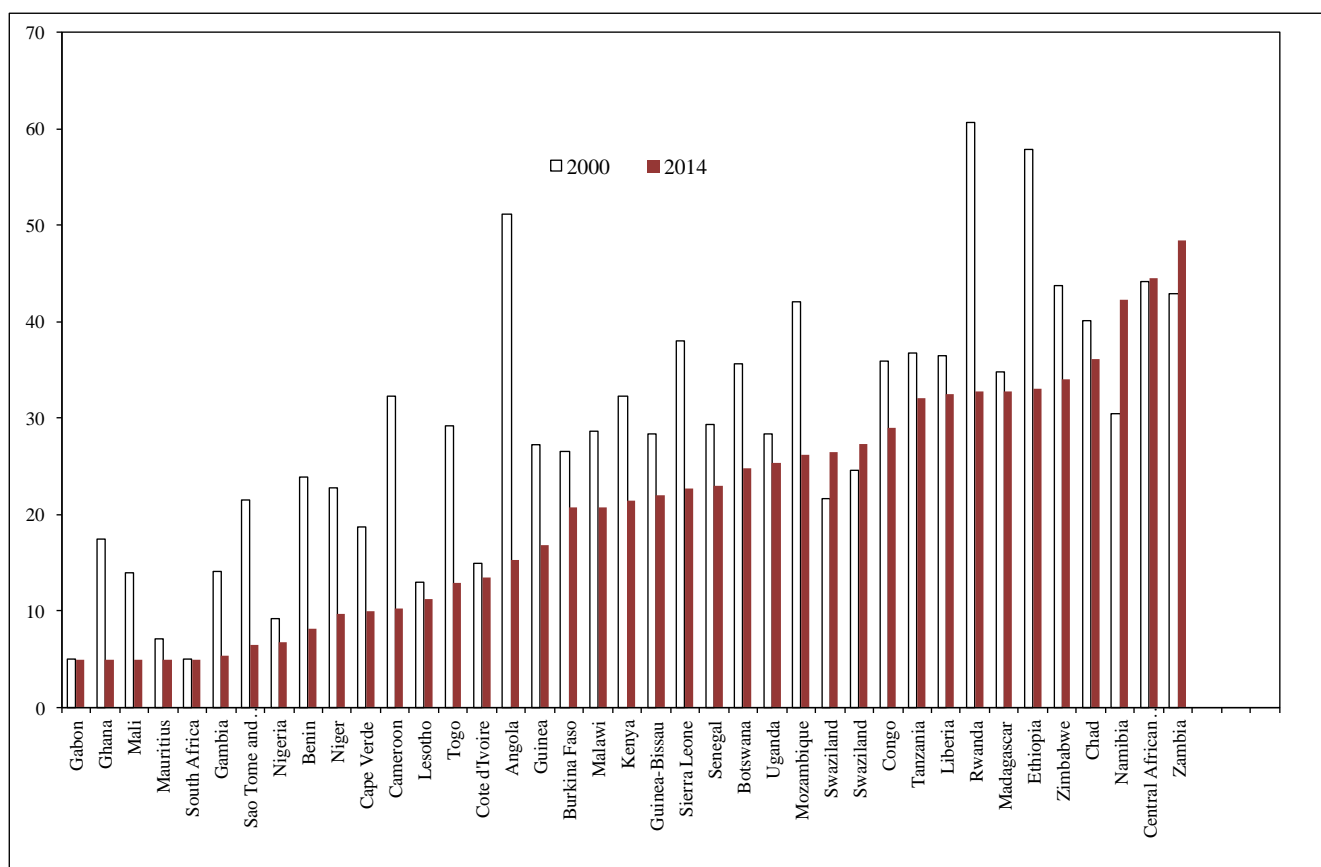
Source: United Nations Statistics Division

3.3.2 Education

Education is a human right and an important goal in its own right as identified in the MDGs in particular the second goal of achieving universal primary education. Education is central to the development of human capabilities and to people's potential to choose lives that they value (Sen, 1999). Statistics from the UNESCO Institute for Statistics and Education (2015) show that the number of out-of-school children and young adolescents is on the rise all over the world, reaching 124 million in 2013 of which around 43 per cent originate from the SSA countries. This indicates therefore that the promise to provide every child with a primary education by 2015 in line with the MDGs has not been fulfilled.

Chart 14 - Number of out-of-school children of primary school age and young adolescents of lower secondary school age (in millions)
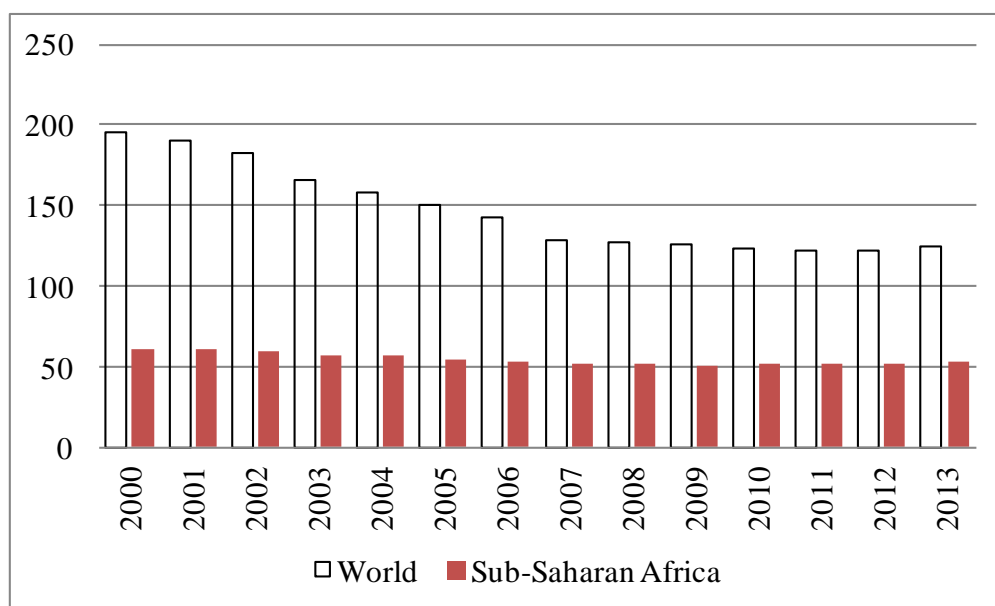
Source: UNESCO Institute for Statistics, 2015

Another indicator that allows a better comparison of the current state of affairs with regards to education is the rate of out-of-school children rather than the levels. This

rate combines the number of children of official primary age who never attended school or dropped out, and the population of official primary school age that is nationally and internationally considered as the target population. As argued by UNESCO, the higher the rate, then the greater the need for interventions to target out-of-school children such as to achieve the goal of universal primary education. Furthermore, between 2000 and 2013 this rate decreased from 38.9 per cent to 21.5 per cent, showing a declining pattern up to 2010 after which it started to fluctuate until reaching the 2013 rate. A growing number of young adolescents are also out of school with the out-of-school rate for the adolescents of lower secondary school age being much higher than that for the children of the primary school age. In fact, it stood at 44.8 per cent in 2000 and declined to 34.5 per cent in 2013.

Chart 15 - Rate of out-of-school children of primary school age, both sexes (%)
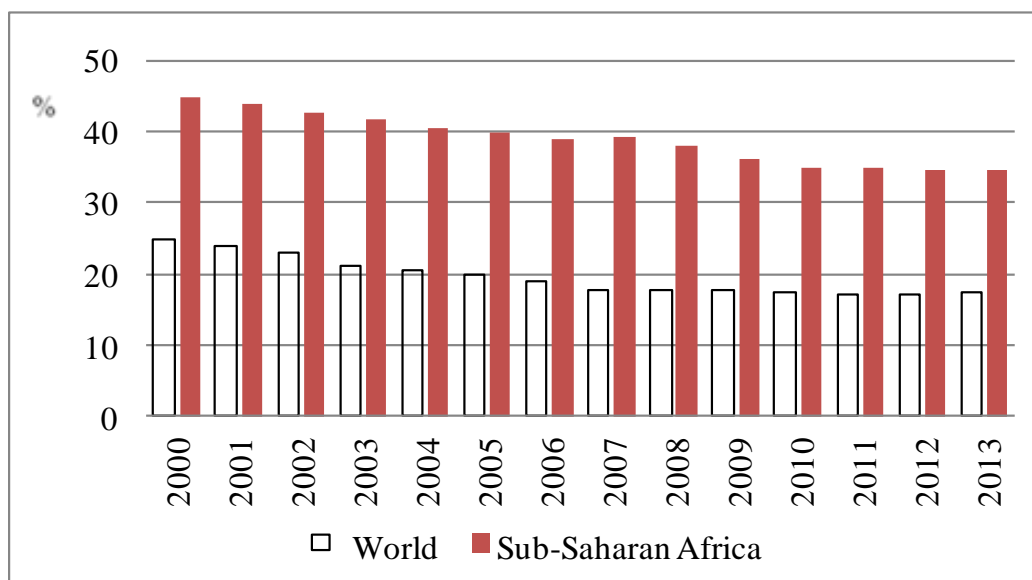
Source: UNESCO Institute for Statistics, 2015

Chart 16 - **Rate of out-of-school adolescents of lower secondary school age, both sexes (%)**
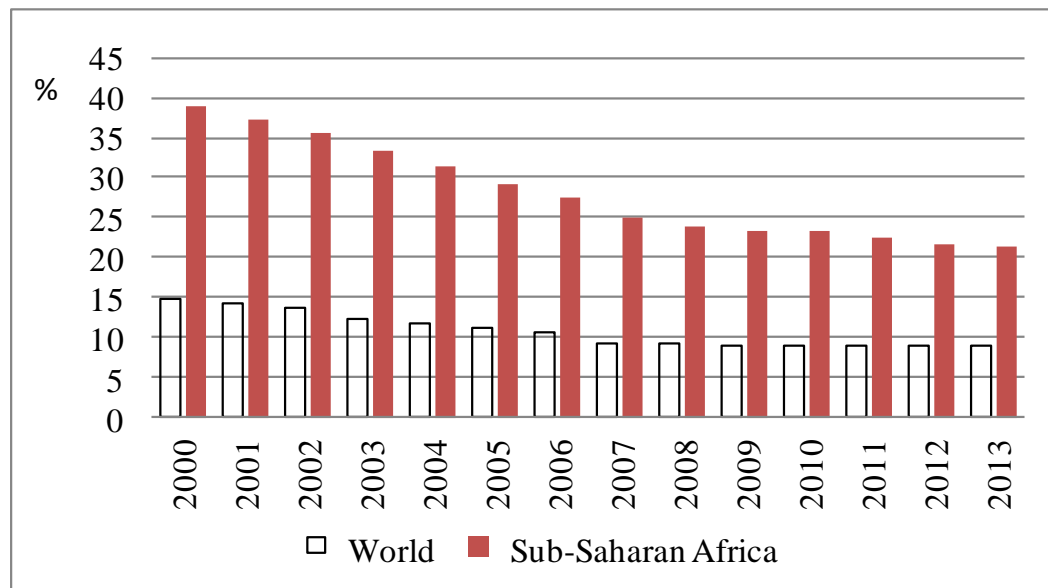
Source: UNESCO Institute for Statistics, 2015

While the gender gap is considerably smaller than in the early 2000s, UNESCO data indicates that there are still barriers that keep girls out of school. As shown in Chart 9, among children of primary school age and adolescents of lower secondary school age, the proportion of out-of-school boys and girls was almost equal in 2013. SSA is also the region with the largest gender disparities, where girls account for 55 per cent of all out-of-school children and 52 per cent of all out-of-school adolescents. To better evaluate the challenges ahead, the UNESCO Institute for Statistics (2015) produces estimates to estimate how many children who are currently out of school will attend in the future. According to these estimates, the situation is most extreme in SSA, where 19 per cent of the out-of-school children are projected to never enrol. About 19 per cent are projected to manage to start but will eventually drop out and around 31 per cent are projected to enter school late. Girls are projected to face the biggest barriers, where 56 per cent of the 2013 out-of-school girls in the region will never enter a classroom compared to 41 per cent of out-of-school boys.

Chart 17 - **Gender gap in global out-of-school rate, children of primary and lower secondary age, 2000–2013**
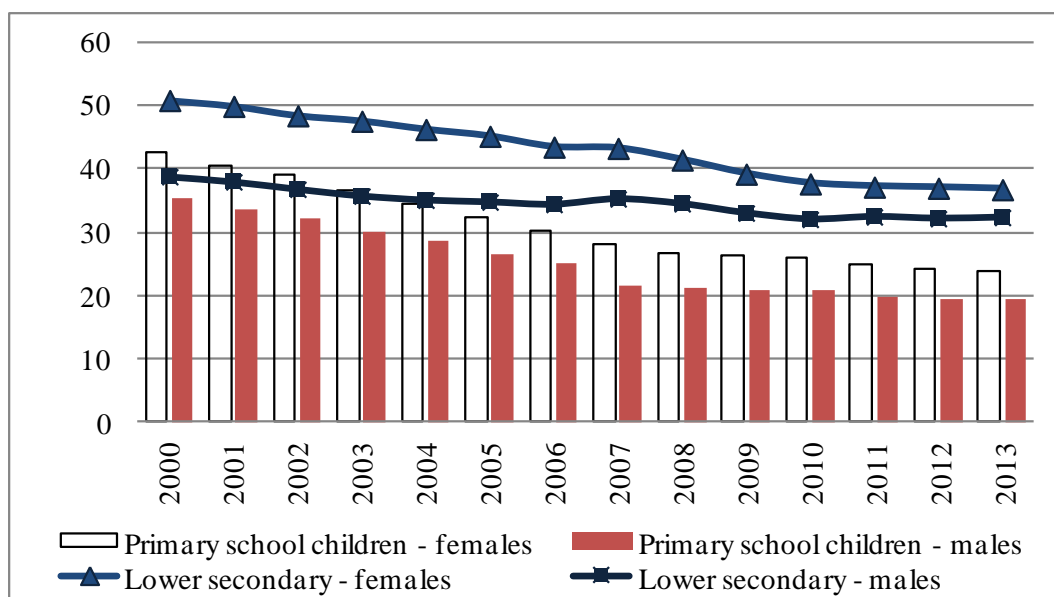
Source: UNESCO Institute for Statistics, 2015

In addition, at least one million children were denied the right to education during 2000 to 2013 in Burkina Faso, Côte d'Ivoire, Ethiopia, Kenya, Mozambique, Niger, Nigeria, Tanzania. These charts do not include data for the SSA countries for which there is no data, mainly the Democratic Republic of the Congo, Gabon, Equatorial Guinea and Sudan.

Goal 2 of the MDGs was about ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete, free and compulsory primary education of good quality. Progress on this goal has been widespread. In East Asia and the Pacific, Europe and Central Asia, and Latin America and the Caribbean, the primary completion rate is at or close to 100 per cent, though some countries in these regions are not on track. Middle East and North Africa is on track to achieve this target. Sub-Saharan Africa

and South Asia are both not on track to achieve the target, but some countries in these regions have made substantial progress. However, according to the Education For All (EFA) Global Monitoring Report (2015) Sub-Saharan Africa has had the best record of improvement in primary education of any region since the MDGs were established. The region achieved a 20 percentage point increase in the net enrolment rate from 2000 to 2015, compared to a gain of 8 percentage points between 1990 and 2000. The developing country gross intake rate (GIR), which registers the number of new entrants regardless of age, has increased by just under eight percentage points over the period, with Sub-Saharan Africa registering one of the biggest increases. Some regions have seen their intake levels stagnate or even decline, as in East Asia and the Pacific, Latin America, and North America and Western Europe. This typically reflects a combination of demographic change and a better match between school starting age and progression through the system in countries that started with high GIRs.

Chart 18 - Out-of-school children of primary school age in Sub-Saharan African countries, average 2000-2013 (millions)
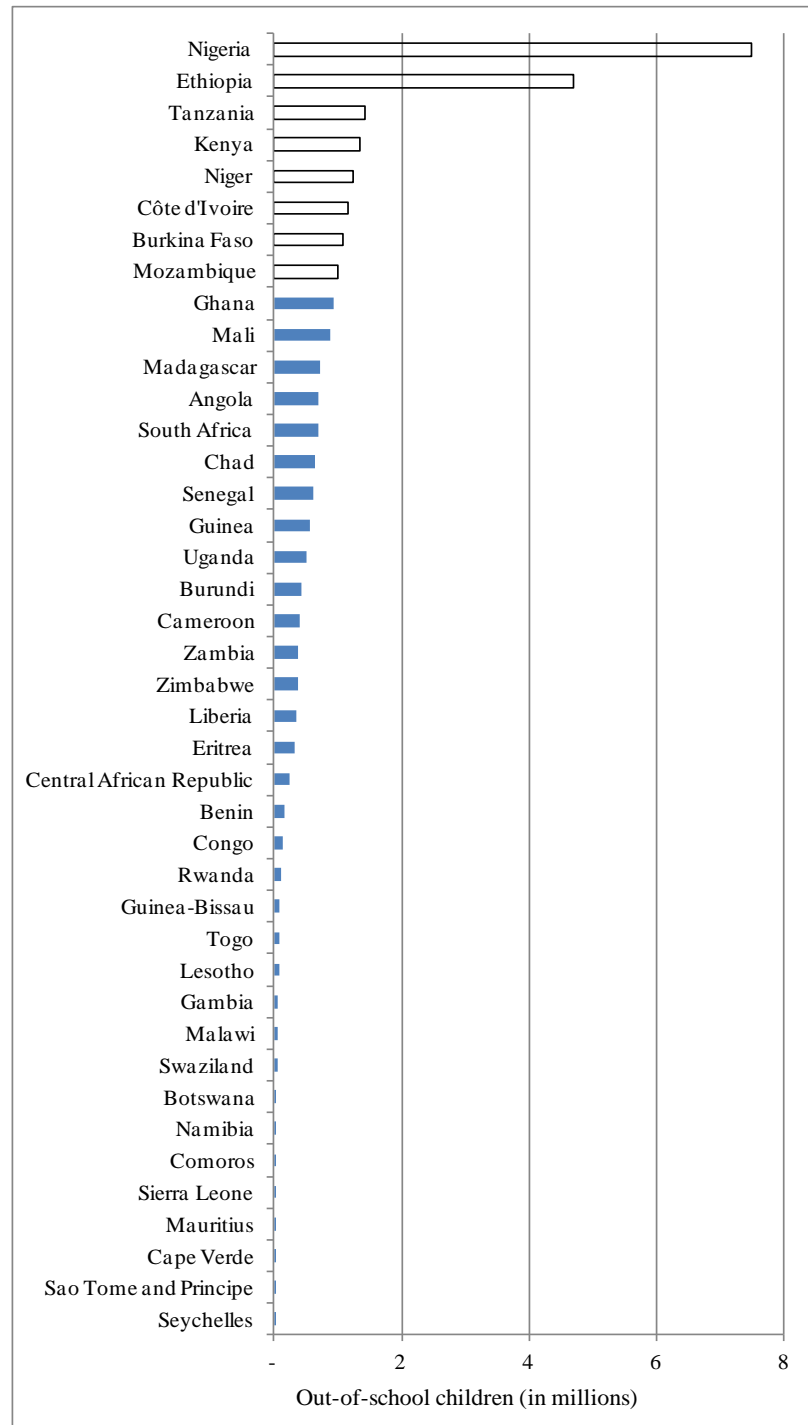
Source: EFA Global Monitoring Report, 2015

Table 2 - Pre-primary enrolment and gross enrolment ratios by region

Region	Total enrolment			Gross enrolment		
	School year ending in		Change between	School year ending in		Change between
	1999 Total (000)	2012 Total (000)	1999-2012 (%)	1999 (%)	2012 (%)	1999-2012 (percentage point)
World	651,833	705,103	8.2	97.4	108.4	11.0
Sub-Saharan Africa	82,185	144,075	75.3	79.8	101.8	22.0
Developing countries	564,945	626,781	10.9	96.7	109.5	12.7
Developed countries	69,223	64,542	-6.8	102.4	101.0	-1.4
Countries in transition	17,665	13,779	-22.0	101.5	99.4	-2.1
Arab States	34,978	42,761	22.3	91.5	103.6	12.1
Central Asia	6,823	5,479	-19.7	97.2	99.4	2.2
East Asia and the Pacific	225,312	184,382	-18.2	104.1	117.1	13.1
South and West Asia	154,880	192,650	24.4	91.0	110.4	19.5
Latin America and the Caribbean	69,972	64,696	-7.5	119.6	108.7	-10.8
North America and Western Europe	52,822	51,349	-2.8	103.2	100.9	-2.3
Central and Eastern Europe	24,860	19,712	-20.7	102.2	99.8	-2.3

Table 3 - New entrants to Grade I and gross intake rates by region

Region	New entrants			Gross intake rate		
	School year ending in		Change between	School year ending in		Change between
	1999 Total (000)	2012 Total (000)	1999-2012 (%)	1999 (%)	2012 (%)	1999-2012 (percentage point)
World	132,241	135,411	2.4	104.4	110.6	6.2
Sub-Saharan Africa	16,563	29,307	76.9	92.2	118.6	26.5
Developing countries	115,415	120,651	4.5	104.9	112.0	7.1
Developed countries	12,086	11,202	-7.3	102.5	99.8	-2.8
Countries in transition	4,740	3,558	-24.9	97.7	100.7	3.0
Arab States	6,291	7,805	24.1	92.5	103.9	11.4
Central Asia	1,784	1,395	-21.8	100.7	100.7	0.0
East Asia and the Pacific	39,239	32,469	-17.3	98.6	110.0	11.4
South and West Asia	40,440	40,132	-0.8	117.6	115.2	-2.4
Latin America and the Caribbean	12,977	10,890	-16.1	116.4	98.0	-18.4
North America and Western Europe	9,313	8,935	-4.1	103.7	99.6	-4.0
Central and Eastern Europe	5,633	4,478	-20.5	97.1	101.1	4.0

Source: EFA Global Monitoring Report, 2015

The EFA Global Monitoring Report 2009 has created a composite regional picture of the distribution of attainment across income groups using national household survey data. Results from this report show that only around half of the poorest 20 per cent in SSA, and South and West Asia progress to grade 5, compared with over 80 per cent for the wealthiest quintile. Being born into the poorest 20 per cent of the wealth distribution in sub-Saharan Africa, or in South and West Asia, more than halves the chance of school attendance at grade 9. While the wealthiest 20 per cent in Latin America achieve attendance levels close to those in the OECD countries at grade 9, the poorest 20 per cent are closer to the average for SSA. These income-based disparities are mirrored in differences in average years of education attained by the people aged 17 to 22. In Mozambique, individuals in the poorest 20 per cent has on average 1.9 years of education, compared with 5 years for someone from the richest 20 per cent. In Peru, the gap between rich and poor is 4.6 years of schooling, rising to 6.7 years in India.

Table 4 - Average years of education for poorest and richest 20 per cent of 17 and 20 year olds

	Poorest 20%	Richest 20%
	(years)	
Bangladesh, 2005	3.7	8.1
Burkina Faso, 2003	0.8	5.6
Ethiopia, 2005	1.6	7.4
Ghana, 2003	3.2	9.2
Gyatemala, 1999	1.9	8.3
India, 2005	4.4	11.1
Mali, 2001	0.4	4.8
Mozambique, 2003	1.9	5.0
Nicaragua, 2001	2.5	9.2
Nigeria, 2003	3.9	9.9
Peru, 2000	6.5	11.1
Philippines, 2003	6.3	11.0
U.R. Tanzania, 2004	3.9	8.1
Zambia, 2001	4.0	9.0

Source: EFA Global Monitoring Report, 2009

As sustained in the MDGs and also the SDGs, learning to read and write is a fundamental right. Yet, 38 per cent of African adults (around 153 millions) are illiterate, of which two-thirds are women (UNESCO, 2015). Africa is the only continent where more than half of the parents are not able to help their children with homework due to illiteracy. As shown in Chart 19, which shows the average of adult literacy rates for the period 2000-2013, such rates are below 50 per cent in Benin, Burkina Faso, Chad, Ethiopia, Guinea, Mali, Niger, Senegal, Sierra Leone and The Gambia. It is to be noted that according to World Bank statistics, only one per cent of national education budget of most African governments is earmarked to address the issue of literacy. The situation is quite worrying since literacy is a crucial step to acquire the basic skills needed to cope with the many challenges children, youth and adults will have to face throughout their lives. Nonetheless, aid to education grew at a slower pace than overall official development assistance between 2012 and 2013. As a result, the share of education in total ODA declined further from 9 per cent in 2012 to 8 per cent in 2013. By contrast, data from the UNESCO Institute for Statistics indicates that aid to the health sector grew by 16 per cent and the share of health in total ODA increased to 15 per cent in 2013. Thus, despite SSA accounting for over half of all out-of-school children, aid to basic education in the region accounted for only 33 per cent of the total. By contrast, the Arab States is home to 8 per cent of out-of-school children and 6 per cent of out-of-school adolescents but received 20 per cent of aid to basic education and 19 per cent of aid to secondary education. South and West Asia, which has the largest share of out-of-school adolescents (40 per cent), received 22 per cent of ODA resources for secondary education (Chart 19).

Chart 19 -   Adult literacy rate in Sub Saharan Africa countries – average 2000-2013
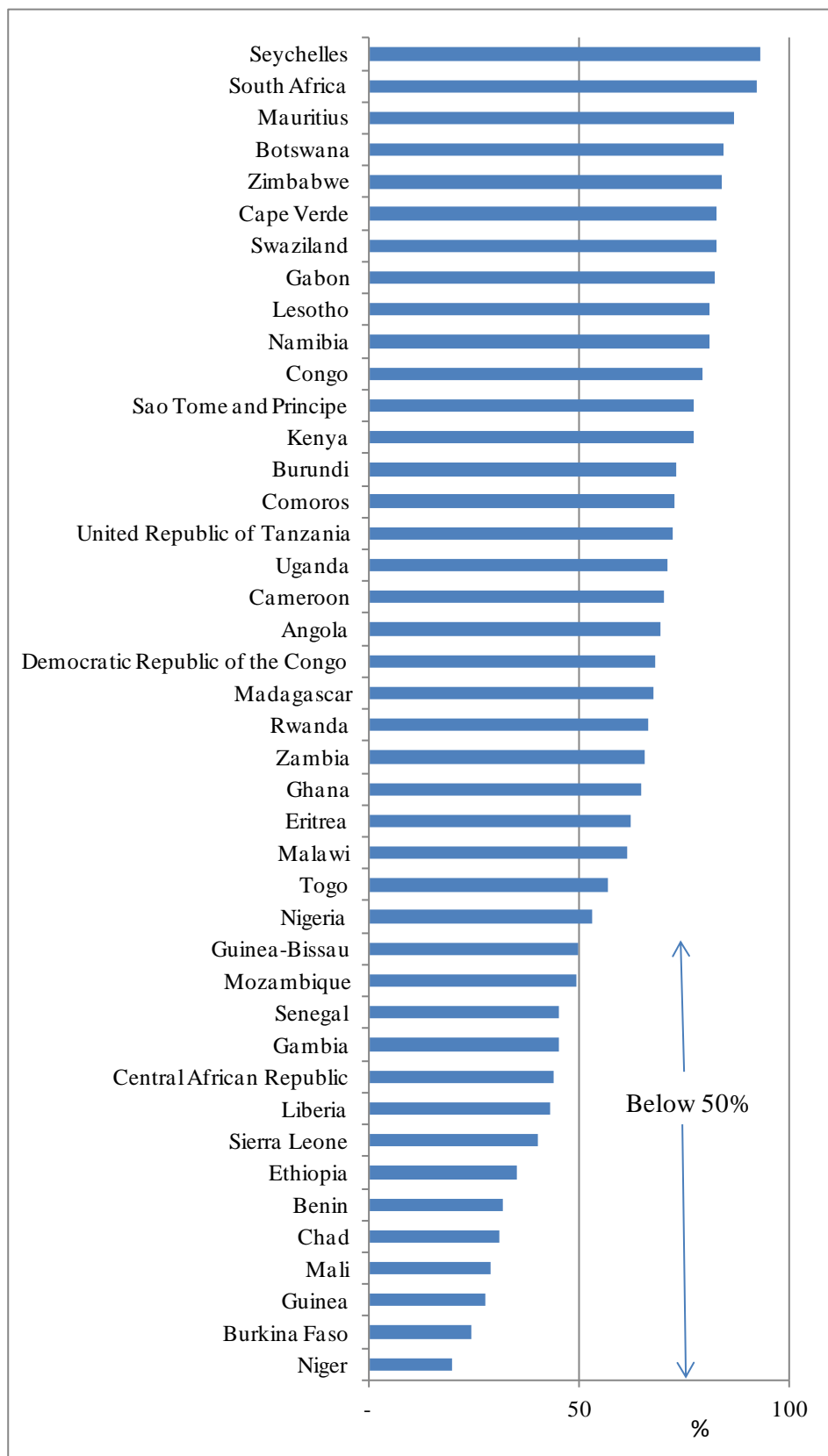
Source: UNESCO Institute for Statistics

Chart 20 -   Share of out-of-school populations and aid to basic education, by region, 2013 (%)
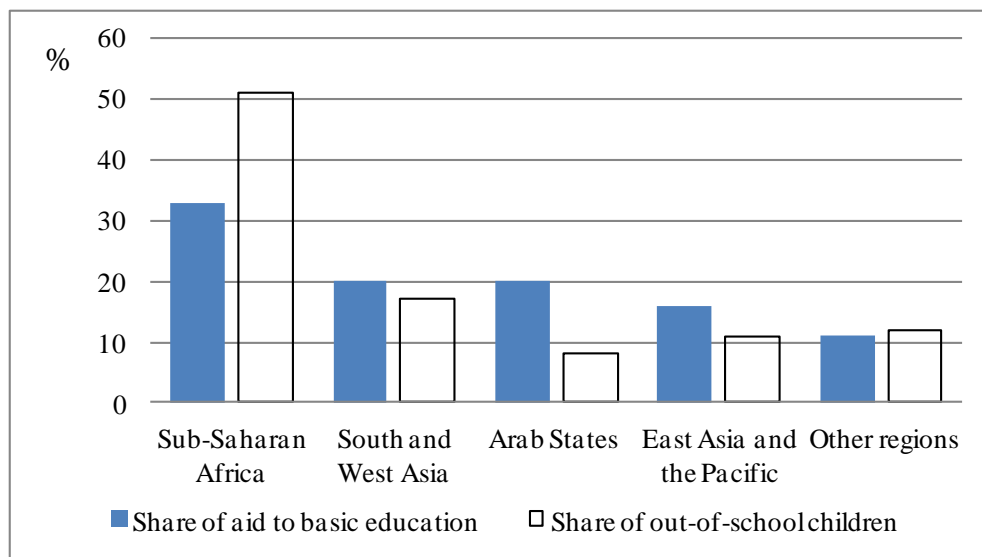
Note: Other regions include Central Asia, Central and Eastern Europe, and Latin America and the Caribbean. The share of aid to basic and secondary of education does not include aid unallocated by region.

Source: EFA Global Monitoring Report team analysis based on OECD Creditor Reporting System (2015) and UNESCO Institute for Statistics database

Chart 21 -   Share of out-of-school adolescents and aid to secondary education, by region, 2013 (%)
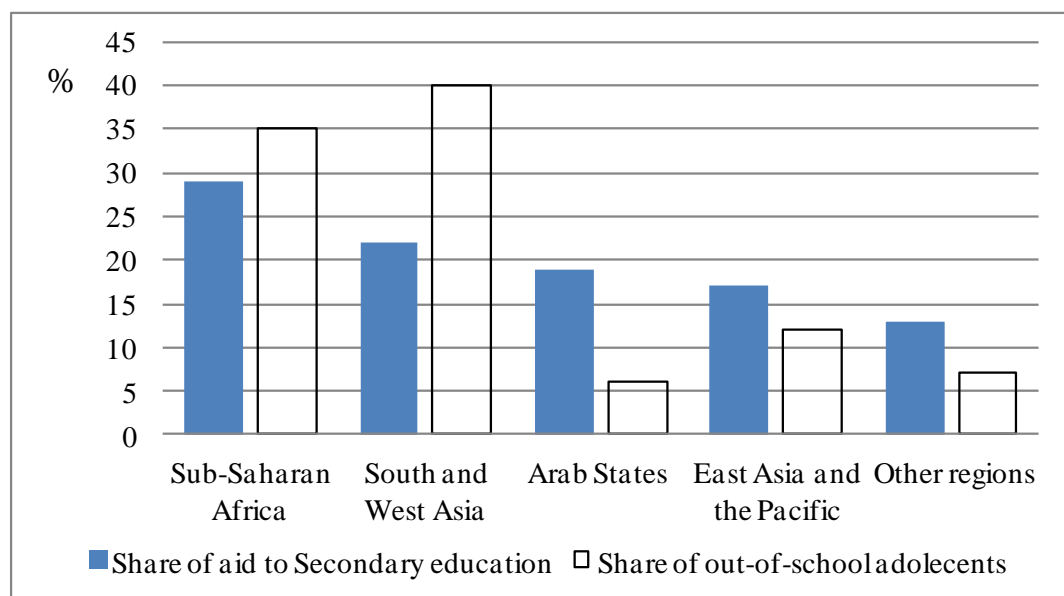
Note: Other regions include Central Asia, Central and Eastern Europe, and Latin America and the Caribbean. The share of aid to basic and secondary of education does not include aid unallocated by region.

Source: EFA Global Monitoring Report team analysis based on OECD Creditor Reporting System (2015) and UNESCO Institute for Statistics database

Universal access to primary education has not been achieved in Sub-Saharan Africa and as proposed by UNESCO (2015) external resources are needed. However, overall education aid to the region fell by 1 per cent between 2011 and 2012 as shown in table 5. Recent statistics by UNESCO further indicate that overall education aid to the SSA region decreased by 6 per cent between 2012 and 2013, and aid to basic education fell by 1 per cent to US$1.56 billion over the same period. Furthermore, 30 countries in SSA experienced declines in their levels of aid to basic education. These include Botswana, Togo, Eritrea, Comoros, Cote d'Iviore, Rwanda, and Mali where the decline in the level of aid granted was more than 50 per cent. As argued by the Global Monitoring Report (2015), these statistics show clearly that aid to basic education is falling not only because of overall aid declines, but also because a number of significant donors are shifting away from basic education as a priority. For both tables, the source of the data is the OECD Creditor Reporting System (2015).

Table 5 - Total aid to education (constant 2012 US$, in billions)

	2011	2012	Change
Sub-Saharan Africa	**3,522**	**3,486**	**-1.0%**
Botswana	19	3	-84.5%
Swaziland	20	8	-62.4%
Mali	151	69	-54.1%
Togo	31	16	-49.6%
Eritrea	54	28	-49.3%
Rwanda	141	73	-48.6%
Côte d'Ivoire	180	94	-47.8%
Lesotho	23	14	-38.6%
Guinea-Bissau	11	8	-27.3%
Burundi	42	32	-24.9%
Central African Republic	19	14	-22.5%
Congo	27	21	-20.9%
Zambia	77	66	-13.9%
Gabon	31	27	-13.9%
Ethiopia	312	270	-13.5%
Benin	77	67	-12.4%
Mozambique	245	216	-11.9%
Madagascar	49	43	-11.0%
D. R. Congo	130	116	-10.9%
Burkina Faso	140	125	-10.8%
Ghana	189	172	-9.0%
Liberia	44	41	-7.6%
Comoros	14	13	-6.3%
Sao Tome and Principe	8	8	-1.9%
Mauritius	28	28	0.0%
Cameroon	111	112	1.3%
Angola	26	27	3.9%
Sierra Leone	28	29	6.0%
Nigeria	137	147	7.3%
Seychelles	2	2	13.4%
Kenya	127	147	15.6%
South Africa	90	105	16.4%
Chad	15	18	17.9%
Guinea	48	56	18.1%
Cape Verde	22	26	19.6%
Senegal	171	224	30.9%
Niger	40	54	35.3%
Tanzania	183	260	42.1%
Uganda	82	126	54.5%
Gambia	6	10	58.5%
Malawi	68	128	88.2%
Namibia	32	62	94.4%
Zimbabwe	32	65	105.9%

Table 6 - Total aid to basic education ((constant 2012 US$, in billions)

	2011	**2012**	**Change**
Sub-Saharan Africa	**1,704**	**1,615**	**-5.2%**
Botswana	9	1	-88.1%
Togo	13	4	-70.4%
Eritrea	28	9	-69.5%
Comoros	3	1	-57.5%
Côte d'Ivoire	81	36	-55.4%
Rwanda	63	29	-53.4%
Mali	84	40	-53.2%
Gabon	4	2	-49.7%
Cameroon	16	8	-49.1%
Congo	7	4	-48.1%
Swaziland	11	6	-39.4%
Central African Republic	9	5	-37.1%
Lesotho	12	7	-35.1%
Burundi	23	16	-33.7%
Angola	11	8	-33.6%
Madagascar	23	17	-26.9%
Uganda	50	37	-25.8%
Benin	41	31	-24.3%
Guinea-Bissau	5	4	-23.2%
Mozambique	136	105	-22.3%
Sao Tome and Principe	2	2	-17.2%
Ghana	100	84	-15.4%
Ethiopia	163	140	-14.2%
Nigeria	55	50	-9.2%
Mauritius	10	9	-8.9%
D. R. Congo	75	70	-7.1%
Zambia	41	39	-4.3%
Cape Verde	1	1	-3.6%
Liberia	33	32	-1.9%
Burkina Faso	76	76	-0.3%
Sierra Leone	15	15	5.9%
Kenya	66	71	7.3%
Senegal	65	76	15.9%
South Africa	53	66	23.6%
Chad	8	11	40.7%
Malawi	55	80	44.7%
Guinea	12	17	49.9%
Niger	19	29	50.2%
Seychelles	1	1	51.0%
Gambia	3	5	78.1%
Namibia	14	26	89.7%
Tanzania	58	121	108.1%
Zimbabwe	20	52	165.0%

Source: OECD Creditor Reporting System (2015)

3.3.3 Gender equality

The third goal of the MDGs focused on the promotion of gender equality and empowering women. Substantial progress has been made in reducing gender disparity in primary and secondary education. South Asia has made the most progress. Middle East and North Africa has also made strides in reducing gender disparity, as has Sub-Saharan Africa. The greatest disparity in girls-to-boys schooling is found in regions with the lowest primary completion rates and lowest average incomes. Latin America and the Caribbean and East Asia and the Pacific have reached gender parity in secondary education and are close to reaching it in primary schooling. All regions except SSA are broadly on track to meet the gender parity target, even if some countries in the regions are off track. Women continue to face discrimination in access to work, economic assets and participation in private and public decision-making. Women are also more likely to live in poverty than men. In Latin America and the Caribbean, the ratio of women to men in poor households increased from 108 women for every 100 men in 1997 to 117 women for every 100 men in 2012, despite declining poverty rates for the whole region. Women remain at a disadvantage in the labour market. Globally, about three quarters of working-age men participate in the labour force, compared to only half of working-age women. Women earn 24 per cent less than men globally. In 85 per cent of the 92 countries with data on unemployment rates by level of education for the years 2012–2013, women with advanced education have higher rates of unemployment than men with similar levels of education. Despite continuous progress, today the world still has far to go towards equal gender representation in private and public decision-making.

3.3.4 Child mortality

One of the international development targets was to reduce the child mortality rate by two-thirds. Child mortality is one of the most sensitive barometers of well-being for children under 5. While the measure itself captures premature death, it also provides an insight into the health and nutritional condition of the next generation of primary school-age children. Each year around 10 million children die before they reach the starting age for primary school (UNICEF, 2007). The vast majority of these deaths result from poverty-related infectious diseases and inadequate access to basic services, such as clean water and sanitation. The developing world is so far off track that very deep cuts in death rates will be required to bring the 2015 goal within reach. At current rates of progress, many countries in sub-Saharan Africa and South Asia will not achieve the target until 2050 or later. Failure to close the gap between existing trends and the target will cost lives: the projected gap for 2015 is equivalent to 4.7 million deaths. Overcoming gender gaps and getting young girls into school, an imperative in itself is also one of the most effective strategies for closing the gap.

Despite progress, under-five mortality rates remain unacceptably high. With a child mortality rate of 157 deaths per 1000 live births, Sub-Saharan Africa accounts for about half of the deaths of children under five in the developing world. The HIV/AIDS epidemic and civil conflicts have hampered the region's progress in reducing child mortality. The regions closest to achieving the under-five mortality target are Latin America and the Caribbean and Europe and Central Asia, but even in these regions, over half the countries are not on track. In SSA, the annual rate of reduction of under-five mortality was over five times faster during 2005–2013 than it was during 1990–1995. These are large statistical deficits, with large associated human costs. At global

level, the projected gap between the MDG target and outcome in 2015 can be measured in terms of the 4.3 million child deaths that would be averted if the goals were achieved. (UNICEF, 2015)

Chart 22 - Children 1 year old immunized against measles (%)
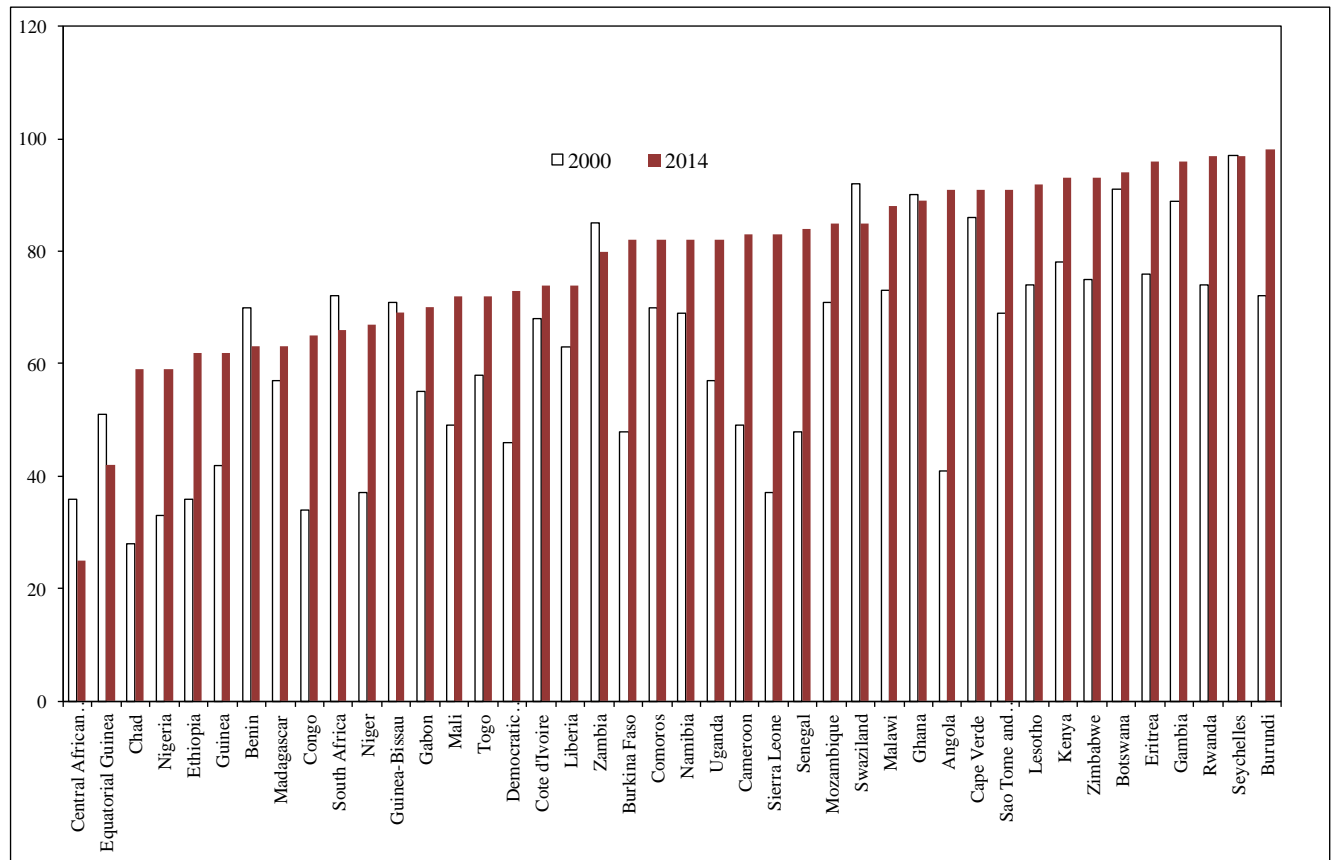
Source: United Nations Statistics Division, 2015

However, most indicators for child welfare are improving in most countries. In some cases the rate of progress has been impressive. In 2006, there were 3 million fewer deaths of children under age 5 than in 1990 – a decline of one-quarter. In 1990, one South Asian child in every eight died before their fifth birthday. The figure is now one in twelve. Bangladesh, Ethiopia, Mozambique and Nepal are among countries having reduced under-5 mortality by 40 per cent or more. (UNICEF, 2007) In the developing regions, children from the poorest 20 per cent of households are more than twice as

likely to be stunted as those from the wealthiest 20 per cent. Children in the poorest households are four times as likely to be out of school as those in the richest households. Under-five mortality rates are almost twice as high for children in the poorest households as for children in the richest. In rural areas, only 56 per cent of births are attended by skilled health personnel, compared with 87 per cent in urban areas. About 16 per cent of the rural population do not use improved drinking water sources, compared to 4 per cent of the urban population. About 50 per cent of people living in rural areas lack improved sanitation facilities, compared to only 18 per cent of people in urban areas.

Chart 23 - Maternal mortality ratio per 100,000 live births
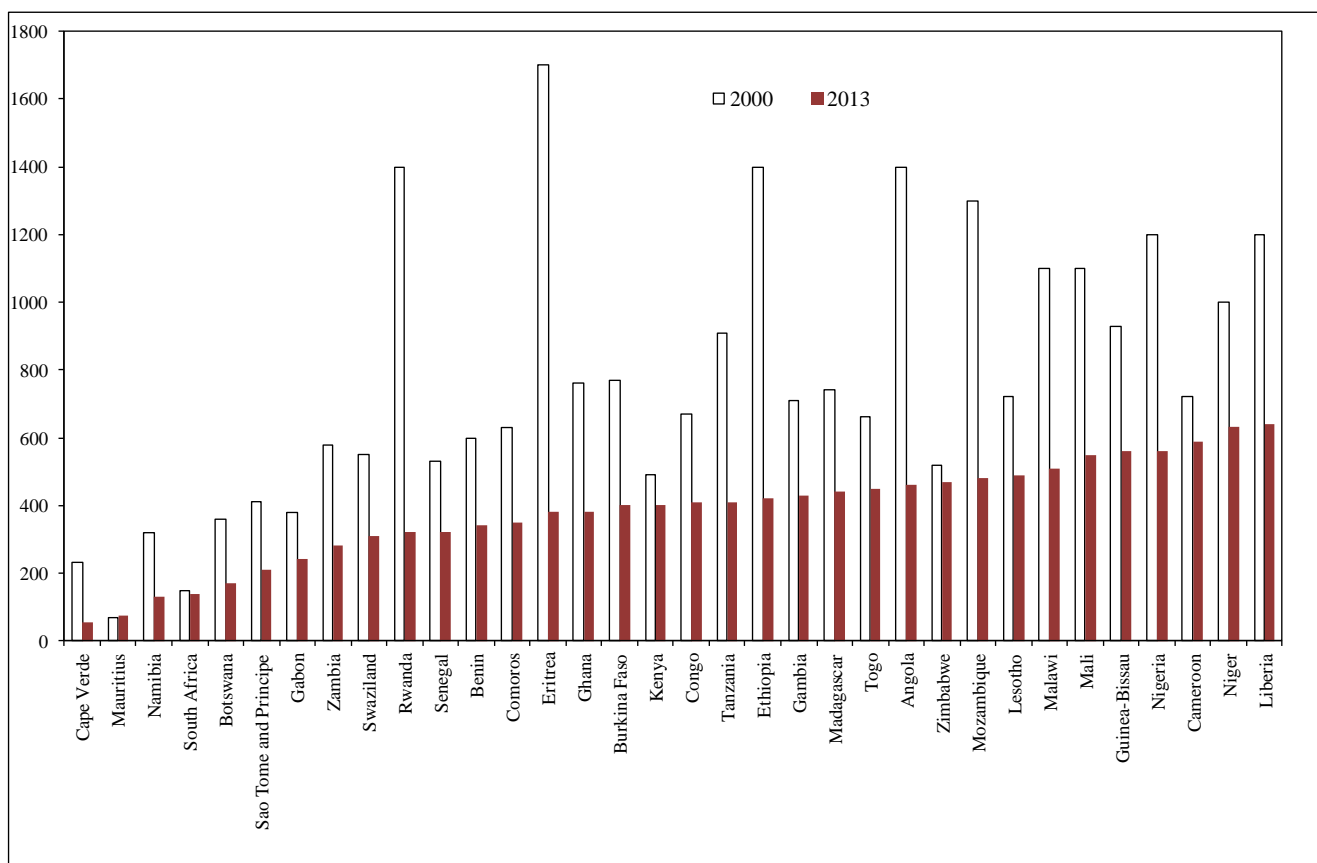
Source: United Nations Statistics Division, 2015

Chart 24 - Proportion of population using an improved sanitation facility (%)
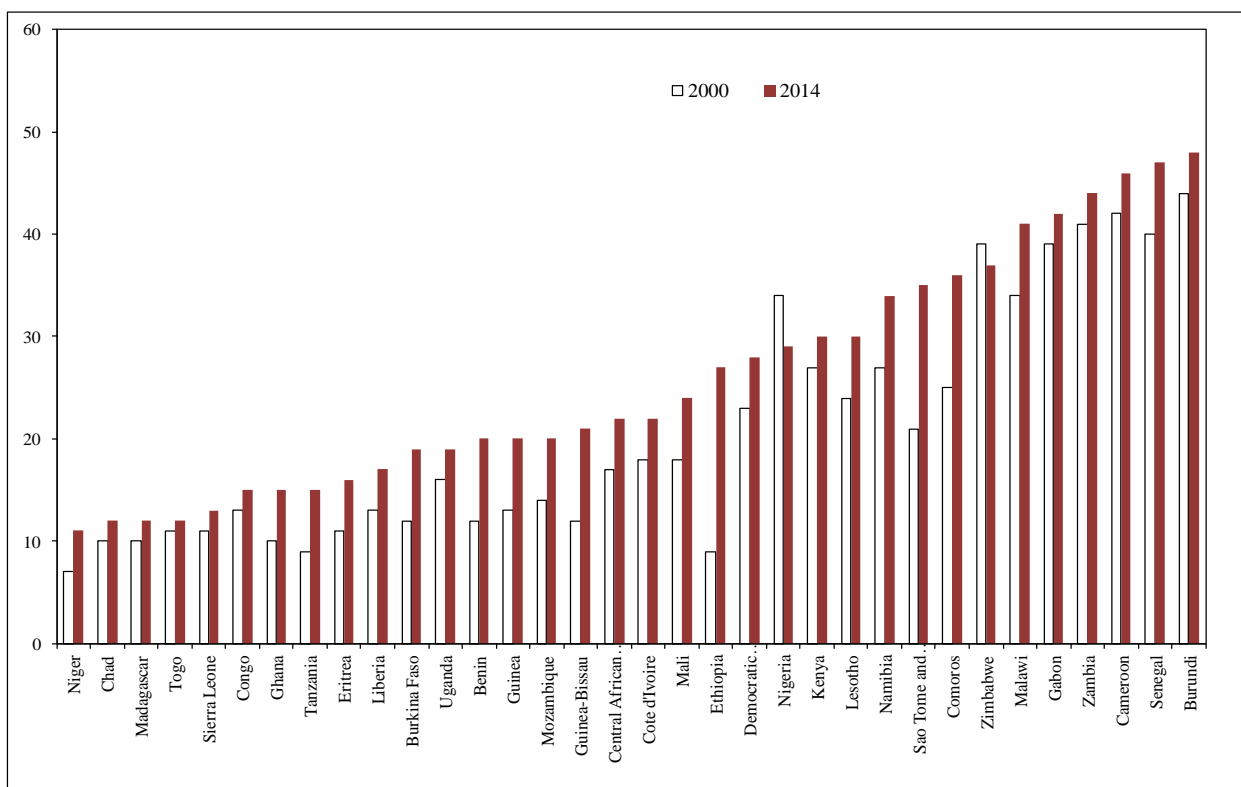
Source: United Nations Statistics Division, 2015

Chart 25 - Proportion of the population using improved drinking water sources, %
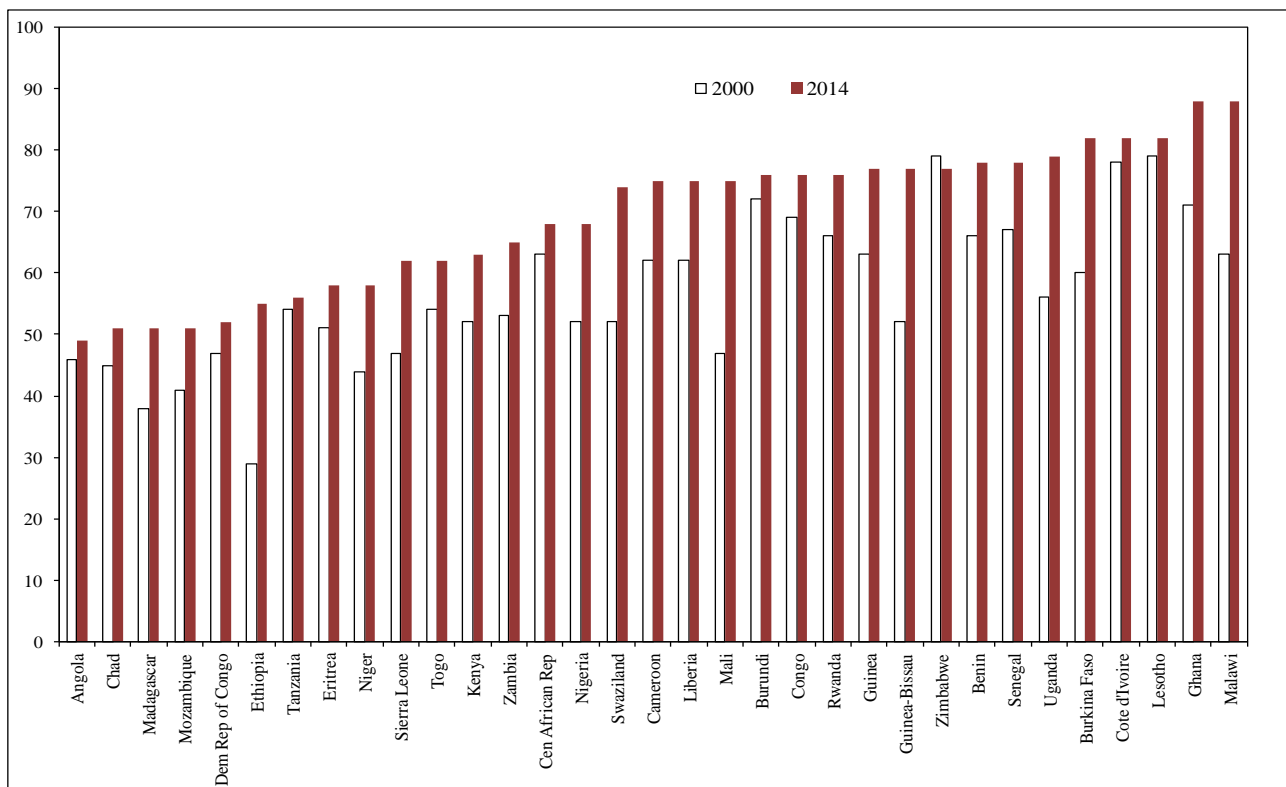
Source: United Nations Statistics Division, 2015

3.3.5 HIV/AIDS, malaria and other diseases

According to the Least Developed Countries Report (2014), improvements in prevention programs are reducing the number of people newly infected with HIV - 2.7 million in 2007 compared with 3 million in 2001—and the expansion of antiretroviral treatment is reducing the number of people who die from AIDS (2 million in 2007). With newly infected people surviving longer, the number of people living with HIV/AIDS has risen from 29.5 million in 2001 to 33 million in 2007 - most of them in Sub-Saharan Africa. The HIV prevalence rate among 15 to 49 year olds was highest in Sub-Saharan Africa (5.7 per cent) in 2007 and much greater than the average for all developing countries (0.9 per cent). The regions with the lowest prevalence rate in 2007 were East Asia and Pacific (0.2 per cent) and Middle East and North Africa (0.1 per cent). (World Bank, 2008)

At the end of 2007, around 3 million people in developing countries were receiving antiretroviral therapy, up from 30,000 in 2002. Improved access to drugs intended to prevent mother-to-child transmission – a major cause of the 370,000 annual new cases of HIV/AIDS among children – is starting to have an impact (UNAIDS, 2008). In each of these areas strong national policies backed by global initiatives are making a difference. One example is the Global Fund to Fight AIDS, Tuberculosis and Malaria, established in 2002. As of mid-2008, it was providing 1.75 million people with antiretroviral treatment (a 59 per cent increase in one year) and 59 million anti-malarial bed nets (doubling provision over the course of the year) (Global Fund to Fight AIDS, Tuberculosis and Malaria, 2008). While many targets have been missed and insufficient attention has been paid to strengthening national health systems, these are real achievements.

Chart 26 - HIV prevalence among population aged 15-24 years
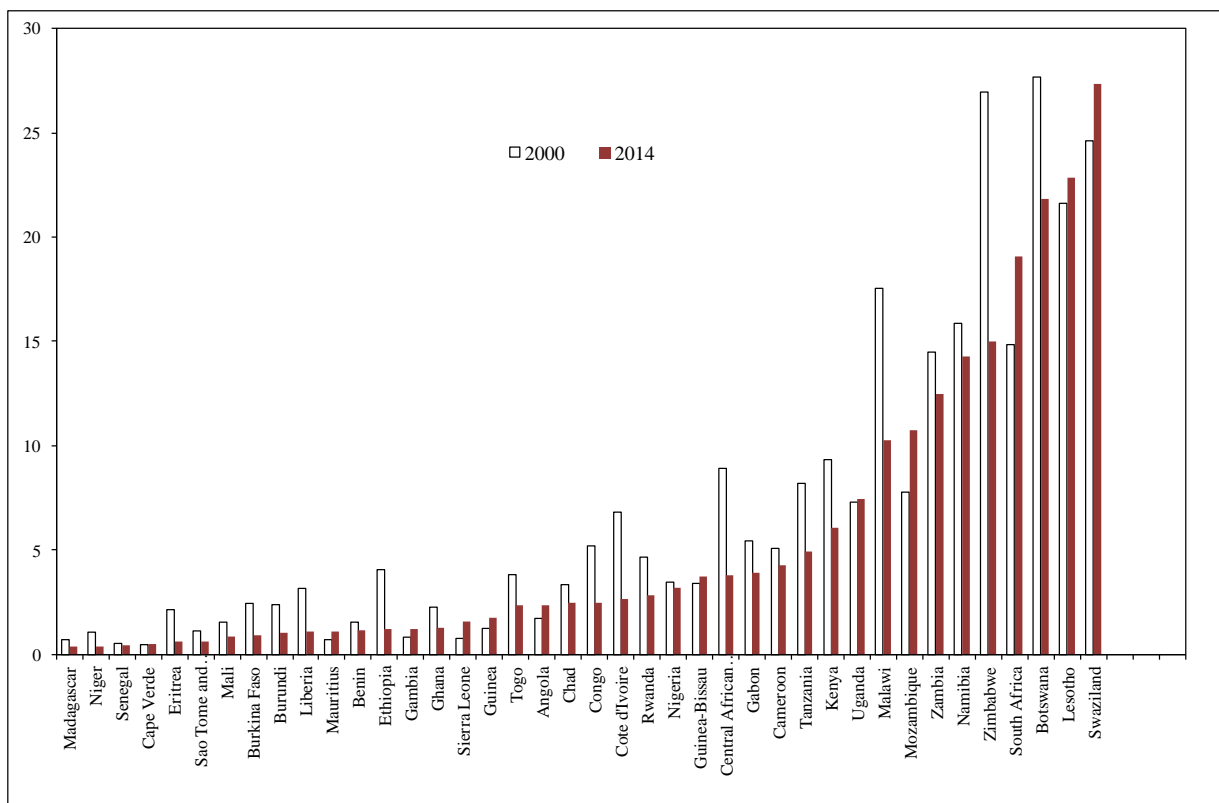
Source: United Nations Statistics Division, 2015

Chart 27 - Tuberculosis detection rate under DOTS, percentage
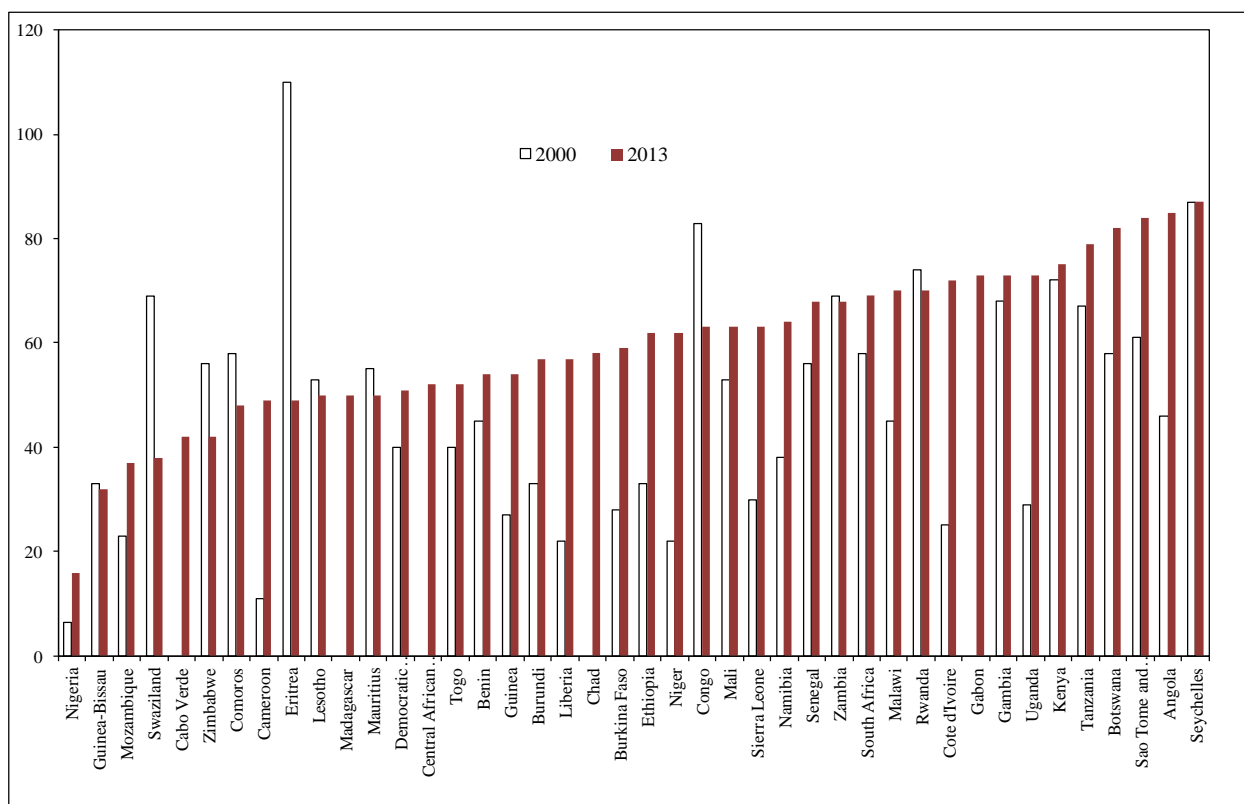
Source: United Nations Statistics Division, 2015

Chart 28 - People living with HIV, 15-49 years old (%)
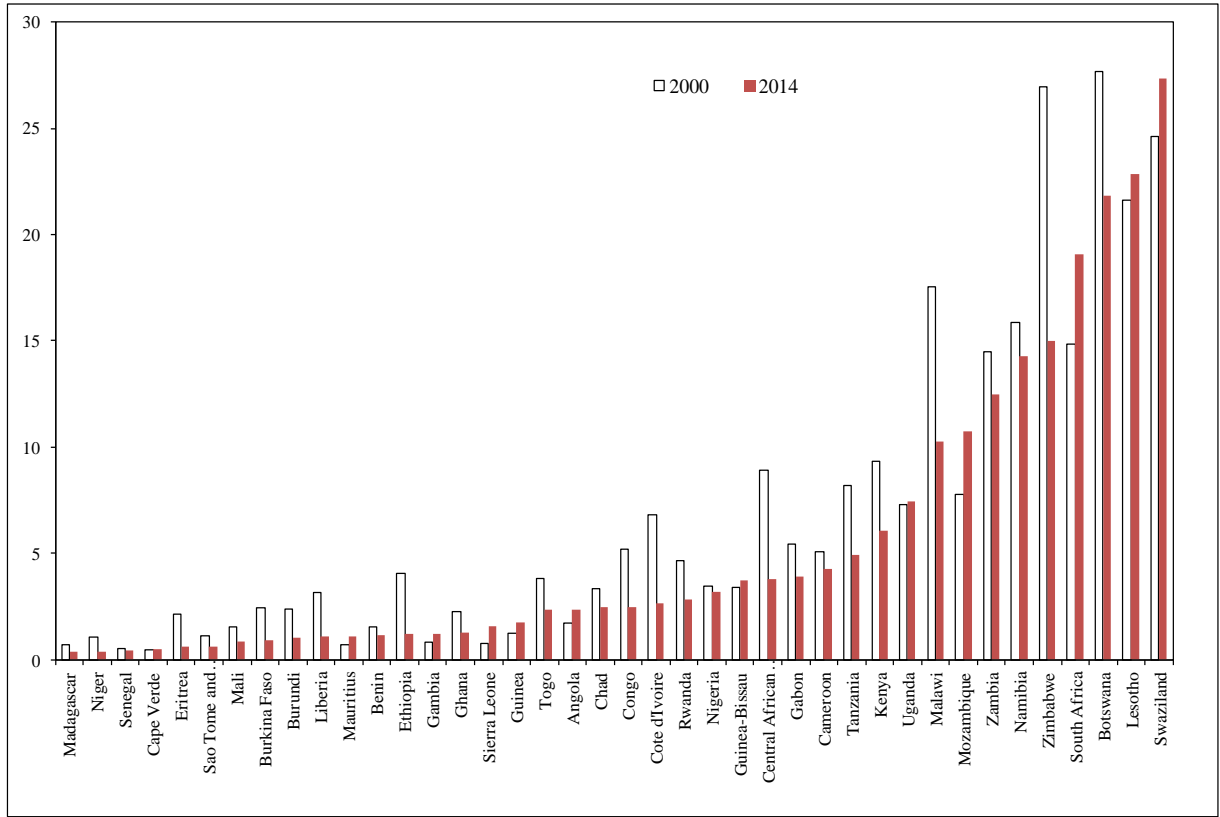
Source: United Nations Statistics Division, 2015

Chart 29 - Tuberculosis treatment success rate, %
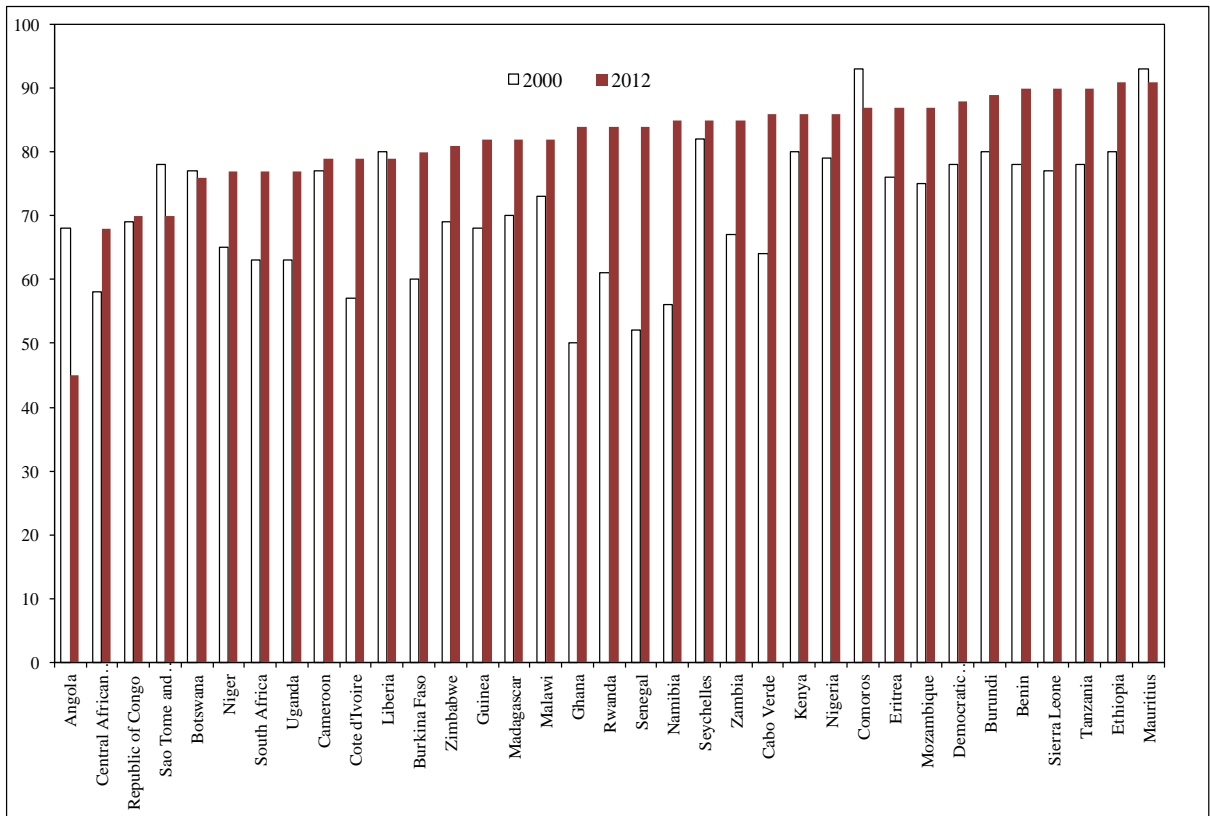
Source: United Nations Statistics Division, 2015

3.4 Concluding remarks

Therefore, it is interesting to note the situation of Sub-Saharan African Countries at two point in times whereby we have a situation where according to the 2008 Global Monitoring Report (World Bank, 2008) and the MDGs Report 2007 (UN, 2007) overall *'the picture is that of a half full and half empty glass'*. Global progress had been outstanding on income poverty thanks to the high performance of mostly Asian countries. At midpoint between the adoption of the MDGs in 2000 and their target date in 2015, the review of progress led to a mixed picture of significant improvement and formidable challenges ahead. It was referred to as mixed because progress was uneven across MDGs, with goals related to human development (primary school completion, child and maternal mortality) recording slower progress than those more immediately influenced by economic growth or the expansion of infrastructure networks (income poverty, gender parity at school, access to water and sanitation); mixed because progress differs significantly across countries, regions, income groups, or institutional status—with fragile and conflict-affected states lagging behind on all counts. New global challenges threatened the advances against poverty many countries have made. Additionally, developing countries have been affected by the falling prices of their export commodities, the devaluation of their currencies against the dollar, the rising interest rates on their debts, outflow of foreign investments and lack of credit.

Having reached 2015, it is interesting to note that the region expanded moderately in 2014 but the pace of expansion was slower in many of the larger economies (Angola, Ghana, Kenya, and South Africa) as a result of subdued global demand, soft commodity prices, weak foreign direct investment flows, low business confidence, and

capacity shortages, especially infrastructure constraints. The Ebola epidemic has severely disrupted activity in Guinea, Liberia, and Sierra Leone. Economic losses in these countries, however, should begin diminish as effective containment strategies are put in place. Regional spillovers from Ebola should then remain modest. The sharp oil price decline will benefit oil importing countries but adversely affect several countries in Sub Saharan Africa that are oil exporters. Large fiscal and current account deficits persist in Ghana, Kenya, and South Africa. South Africa is exposed to potential capital outflows, due to its reliance on portfolio investment. Public investment in infrastructure and mining, improved agricultural production, and buoyant service sectors are expected to continue to support growth in the region.

4. EU'S ODA TO SUB-SAHARAN AFRICA

4.1 Background

Development is an increasingly important part of the EU's external relations, along with its foreign, security and trade policies. The EU accounts for 23 per cent of the developed countries' imports and 21 per cent of their exports (World Bank, 2015). In terms of Official Development Assistance as a ratio of Gross National Income, the EU is the world's largest donor, towards the Sub Saharan African countries. Together with EU MS' disbursements, 55 per cent of ODA has its origins in this vast economic bloc. Clearly then, its potential influence is far-reaching. The EU has styled itself as the champion of developed countries' interests, with the lofty ambition to *'reduce poverty with a view to its eventual eradication'* (European Commission 2004).

The EU has led the global effort to increase aid flows to developing countries since Monterrey. The EU continues to shoulder the major share of global aid commitments and pledges to Africa. In 2007 the enlarged EU of 27 countries mobilised again large amounts of ODA equivalent to around €100 per European citizen to support developing countries in achieving the MDGs. Over the years, the EU has funded thousands of development projects across the third world. The ultimate objective of Union policy is to give disadvantaged people in the third world control over their own development. This means attacking the sources of their vulnerability, including poor access to food and clean water, or to education, health, employment, land, social services, infrastructure and a sound environment. It also means disease eradication and access to cheap medicines to combat scourges like HIV/Aids, as well as action to

reduce the debt burden that diverts scarce resources from vital public investments back to rich lenders in the industrialised countries.

The EU also promotes self-help and poverty eradication strategies which enable developing countries to consolidate the democratic process, expand social programmes, strengthen their institutional framework, expand the capacities of the private and public sectors, and reinforce respect for human rights, including equality between men and women. Development is at the heart of the EU's external action, along with its foreign, security and trade policies. The primary and overarching objective of EU development policy is the eradication of poverty in the context of sustainable development, including the achievement of the MDGs.

4.2 Development cooperation

The incorporation of development cooperation in the Maastricht Treaty was a step towards a common European policy in this area and provides a juridical basis and objectives for EU development assistance. The Treaty is built, on an extensive existing aid programme consisting of the expenditures under the Lome Convention's European Development Fund and under the general budget of the Union. The Lome Conventions, whose precursors drew on historical links with former colonies, and the 1957 Treaty of Rome, have provided programmes of development assistance, including aid and trade provisions, for African Cotonou Partnership (ACP) countries. The ACP group expanded from 46 under Lome I in 1975 to 70 countries in 1993, and over time the coverage of the Convention's provisions has been extended. The EDF, funded directly by Member States' contributions to aid for the ACP countries, made up 35 per cent of EU aid disbursements in 1993.

In addition to Lome aid, there have been increasing aid allocations under the general EU budget. Until 1990, food aid accounted for most (66 per cent in 1989 and 50 per cent in 1990) of the aid disbursed from the budget, but recently aid to Asian, Latin American (ALA), and Mediterranean countries in particular, has taken a growing share. On a country basis, however, South Africa, which is the only sub-Saharan country outside the Lome Convention, receives the largest aid programme of all countries funded via the European Commission. New flows to Central and Eastern Europe (CEEC) and the former Soviet Republics (FSR) also took 19 per cent of EU aid in 1993. Most striking in recent years has been the expansion of humanitarian aid, which in 1993 accounted for 9 per cent of EU aid.

The legal and budgetary distinction between development assistance to ACP and non-ACP countries is reinforced by the division of responsibilities among two Directorates-General of the Commission plus a separate humanitarian office and, since January 1995, among four Commissioners. It is further emphasised by the Maastricht Treaty which excludes the Lome Convention from new provisions relating to development co- operation (Art. 130w), at least until 1999. In addition, article 130u states that development policy should be *'complementary to the policies pursued by the Member States'*, indicating that Member States and the European Commission share competence and responsibility for the achievement of these objectives. Their efforts should reinforce each other and lead to greater effectiveness. However, the imprecision of the Treaty on how this can be achieved has encouraged different views as to what complementarity entails. This contrasts with other areas of common policy, such as trade in goods, where Member States have transferred full responsibility to the Union.

Another article of the Treaty with a significant impact on EU development co-operation is 130v which states that the EU should take account of the above objectives in any of its policies likely to affect developing countries. This legally-binding requirement for policy coherence implies that development objectives should be taken into account in every common policy and may well require the EU to amend all its existing policies that have an impact on developing countries.

4.3 European consensus on development

In December 2005, the EU reinforced its key role in global development aid through a shared vision called the European Consensus on Development. This is a policy statement jointly adopted by the Council, the Member States, the European Commission and the European Parliament. It reflects the EU's willingness to make a decisive contribution to the eradication of poverty in the world and to help build a more peaceful and equitable world.

The Consensus identifies shared values, goals, principles and commitments which the European Commission and EU Member States need to implement in their development policies. The focus lies mainly in the areas of reducing poverty, development based on Europe's democratic values and also that developing countries are mainly responsible for their own development. By reducing poverty, with a particular emphasis on the MDGs, will help meet other challenges, especially, sustainable development, HIV/AIDS, security, conflict prevention, and forced migration. However, EU aid will have to be aligned with the national strategies of developing countries developed in collaboration with non-government bodies.

The adoption of the European Consensus on Development means that the Commission's policy is more coherent, taking into account the interaction and complementarities between development policy and other EU policies that have an impact on developing countries, such as trade, agriculture, fisheries agreements, migration and research. The Commission is providing more coordination and harmonisation among EU donors in order to help in deciding the best use of the EU's collective capacities and resources in support of partner countries. In this field the Commission promoted joint programming at national level and put forward a code of conduct on the division of labour among donors to avoid piecemeal approaches or 'aid orphans'.

EU action in the field of development is based on the European Consensus on Development, signed on 20 December 2005, whereby EU Member States, the Council, the European Parliament and the Commission agreed to a common EU vision of development. The 2005 European Consensus on Development is a policy statement that reflects the EU's willingness to eradicate poverty and build a more stable and equitable world. Principles and commitments which the European Commission and EU Member States will implement in their development policies, include in particular the objective of reducing poverty, particularly focusing on the MDGs. This will help meet other challenges such as sustainable development, HIV/AIDS, security, conflict prevention, forced migration, and also to bring about equitable globalisation.

4.4 Official development assistance

EU assistance goes to more than 150 countries, territories and organisations and focuses on the global challenges of the 21st century, that is, tackling poverty, promoting democracy and security, social equity, economic prosperity, and environmental sustainability. The year 2007 has been a difficult year for many EU MS in terms of ODA granting, where, EU aid decreased from €47.7 billion in 2006 (corresponding to 0.41 per cent of the EU's collective Gross National Income (GNI)) in 2006 to €46 billion in 2007 (equivalent to 0.38 per cent in 2007). While the 15 EU countries, which had pledged to achieve together, by 2006, a minimum of 0.39 per cent, remained above that level (0.40 per cent), the overall collective EU result was below that collective target in the past recent years.

The EU, which already provides over 50 per cent of all development aid worldwide, has agreed to increase its ODA to 0.56 per cent of its gross national income by 2010 (on the way to achieving the UN target of 0.7 per cent by 2015). Half the additional aid is expected to go to Africa - with special attention to fragile states, countries with low numbers of donors and poor people in middle-income countries. The EU and its member countries are committed to making the aid they provide more effective, particularly through better coordination and ensuring it complements other development support and work in the beneficiary country. EU partnerships and dialogue with developing countries promote respect for human rights, fundamental freedoms, peace, democracy, good governance, and gender equality, the rule of law, solidarity and justice. As the world's largest donor of ODA, the EU has, in the last years been strongly committed to improve aid effectiveness. The adoption of an

ambitious Paris Declaration on Aid Effectiveness in 2005 was the backbone behind the strong input provided by the EU.

The international context has changed in profound ways since partners met in Monterrey. There has been progress in some areas, but inequality has widened. There has been a substantial increase in public and private flows since 2002, which has contributed to higher economic growth in most developing countries and a reduction in global poverty rates. Yet the international community is now challenged by the severe impact on development of multiple, interrelated global crises and challenges, such as increased food insecurity, volatile energy and commodity prices, climate change and a global financial crisis, as well as the lack of results so far in the multilateral trade negotiations and a loss of confidence in the international economic system.

At the high-level meeting of the General Assembly on the 22 September 2008, the EU has reaffirmed the political declaration on 'Africa's development needs: state of implementation of various commitments, challenges and the way forward'. In this meeting it has further reaffirmed the commitment to provide and strengthen support to the special needs of Africa and has stressed that eradicating poverty, particularly in Africa, is the greatest global challenge facing the world today. Accordingly, the EU has underlined the importance of accelerating sustainable broad-based economic growth, which is pivotal to bringing Africa into the mainstream of the global economy. Furthermore, the EU has reaffirmed the commitment of all States to establish a monitoring mechanism to follow up on all commitments related to the development of Africa as contained in the political declaration on 'Africa's development needs'.

4.5 Policy coherence for development

The EU seeks to build synergies between policies other than development cooperation that have a strong impact on developing countries, for the benefit of overseas development, that is, the policy coherence for development. Making development policy in isolation will not bring sufficient results. To this end, in 2005, the EU agreed to apply the Policy Coherence for Development approach in 12 policy areas that were aimed to accelerate progress towards the UN's MDGs: environment and climate change; security; agriculture; bilateral fisheries agreements; social policies (employment); migration; research/innovation; information technologies; and transport and energy. Through the Policy Coherence for Development, the EU seeks to take account of development objectives in all policies that are likely to affect developing countries. The promotion of this tool is to minimize contradictions and build synergies between different EU policies to benefit developing countries and increase the effectiveness of development cooperation. Policy Coherence for Development plays a central role in reinforcing the EU'S contribution to developing countries progress towards the MDGs. The aim behind this policy is to maximise the positive impact of these policies on partner countries and to correct incoherence. In October 2015, the European Commissioner for International Cooperation and Development launched the 2015 Report on Policy Coherence for Development. It shows that the EU has made good progress in this over the previous two years since 2013. Furthermore, the Commissioner (2015: IP/13/19) argued that this policy has been further enhanced in its impact in the context of the new 2030 Agenda for Sustainable Development.

In addition, in 2011 the EU adopted two reforms designed to make its development policy both more strategic and more targeted: the 12-points Agenda for Change and new policy and rules for budget support. Through these new rules, EU aid should be targeting the countries in greatest need, where external support can really make a difference.

These changes have the objective of ensuring that EU aid targets the countries in greatest need, where external support can really make a difference in terms of poverty reduction, by also including fragile states. Countries already experiencing sustained growth or with sufficient resources of their own should get different types of EU assistance. The Agenda's main principles will be progressively reflected in the remainder of the current programming cycles and in future EU programming, with EU assistance thereby concentrating on two overall priority areas: (i) human rights, democracy and other aspects of good governance; (ii) inclusive and sustainable growth. The idea is to help create growth in developing countries, such that poor people have the means to lift themselves out of poverty. This aid will target social protection, health, education and jobs creation, to make growth inclusive. It will also target business environment, regional integration and access to world markets, as well as sustainable agriculture and energy. The reforms also include greater emphasis on more effective aid, especially though joint programming and a common results framework with EU Member States. It will also include an enhanced effort on innovative ways of financing development, like blending grants and loans, along with greater alignment of internal and external policies.

With regards to budget support it should be noted that a significant share of EU aid is provided in such a form. The proposed reform will make it more effective and efficient in delivering results through greater coordination and by strengthening the contractual partnerships with developing countries.

4.6 European development funds

Created in 1957 by the Treaty of Rome and launched in 1959, the European Development Fund (EDF) is the EU's main instrument for providing development aid to African, Caribbean and Pacific (ACP) countries and to overseas countries and territories (OCTs). The EDF funds are used for cooperation activities in the fields of economic development, social and human development as well as regional cooperation and integration.

It is financed by direct contributions from EU Member States according to a contribution key and is covered by its own financial rules. The total financial resources of the 11th EDF amount to €30.5 billion for the period 2014-2020. In the field of the external actions of the EU, the applicable legislation is composed in particular by the international agreement of Cotonou for the aid financed from the European Development Fund, by the basic regulations related to the different cooperation programmes adopted by the Council and the European Parliament, and by the financial regulations.

The 11th EDF was created by an intergovernmental agreement signed in June 2013 – as it is not part of the EU Budget – and entered into force on the 1stMarch 2015, after ratification by all Member States. In order to ensure continuity of funding for

cooperation with ACPs and OCTs, a 'Bridging Facility' was set-up to cover the period between the end of the 10th EDF (December 2013) and the start of the 11th EDF (March 2015). This 'Bridging Facility' seized to exist when the 11th EDF entered into force. There are only minor modifications in the 11th EDF compared to the 10thEDF. Mainly, Member States' contributions keys to the Fund are further aligned with the keys used for the EU budget. Furthermore, it aims to ensure more flexibility and fast reaction in case of unexpected events. Regional funding also includes allocations to cover unforeseen needs with a regional dimension and a new shock-absorbing scheme is set up to help ACP countries to mitigate the short-term effects of exogenous shocks such as economic crisis or natural disaster.

Through the European Development Fund, EU countries together provided over €20 billion in development aid to ACP countries between 2008 and 2013 (European Commission, 2015). Of this, almost a quarter went on aid for trade. In addition, some individual EU countries also provide support on their own.

4.7 Effectiveness of EU aid

How effective is aid at helping developing countries eradicate poverty? In March 2005, more than 100 countries made a firm commitment in the Paris Declaration to measure their success, or failure, in making aid more effective. The Paris Declaration, endorsed on 2 March 2005, is an international agreement to which over one hundred Ministers, Heads of Agencies and other Senior Officials adhered and committed their countries and organisations to continue to increase efforts in harmonisation, alignment and managing aid for results with a set of monitorable actions and indicators.

The international aid effectiveness movement began taking shape in the late 1990s. Donors/aid agencies, in particular, began to realize the costs they imposed on aid recipients by their many different approaches and requirements. They began working with each other, and with partner countries, to harmonize these approaches and requirements. The movement picked up steam in 2002 at the International Conference on Financing for Development in Monterrey, Mexico. The international community agreed that it would be important to provide more financing for development—but more money alone was not enough. Donors and partner countries alike wanted to ensure that aid would be used as effectively as possible.

The following year, various donors, and partner countries met at the first Rome High-Level Forum. Leaders of the major multilateral development banks and international and bilateral organizations, and donor and recipient country representatives gathered in Rome for the High-Level Forum on Harmonization (HLF-Rome). They committed to take action to improve the management and effectiveness of aid and to take stock of concrete progress, before meeting again in early 2005.

The Rome Declaration on Harmonization set out an ambitious program of activities aimed at ensuring that harmonization efforts are adapted to the country context and that donor assistance is aligned with the development recipient's priorities. It also was oriented towards expanding country-led efforts to streamline donor procedures and practices. In addition, it was intended to review and identify ways to adapt institutions' and countries' policies, procedures, and practices to facilitate harmonization, as well as to implement the good practices principles and standards formulated by the development community as the foundation for harmonization. In 2008 the Third High-

Level Forum on Aid Effectiveness in Accra built on the legacy of these previous meetings. Representatives of partner country governments, donor agencies and development banks, international agencies, emerging donors, private foundations and civil society met to take stock of progress in implementing the Paris Declaration and plan continued and intensified efforts.

Additionally, the EU Parliament (2008) called on Member States and the Commission to work towards aid effectiveness within the wider framework of values enshrined in the Universal Declaration of Human Rights and United Nations (UN) conventions such as the International Covenant on Economic, Social and Cultural Rights. It called on Member States and the Commission to make every effort to ensure that the EU speaks with one voice, in order to establish and sustain a leadership based not only on the size of the amounts allocated to development cooperation but also on increased effectiveness. Parliament considers that, for action against poverty to be effective, a much larger proportion of the ODA granted by international donors should be channeled as a priority towards the poorest countries and populations, and regrets the fact that the Union has no specific targets for doing so. Parliament also believes that the fisheries agreements concluded with developing countries should be aimed at improving the ability of those countries to properly manage fisheries in their waters, including to control and monitor fishing activities and to conduct scientific research, rather than simply involve payment for the right to catch fish. It called on the EU to incorporate in its development policy the recommendations of the UN Millennium Ecosystem Assessment Report, which state that the destruction of the world's ecosystems will act as a barrier to achieving the MDGs and to take action to reverse the widespread degradation.

EU Parliament stressed that aid effectiveness must be pursued through a two-pronged approach: focusing on process issues such as coordination, complementarity, harmonisation and alignment, but also on content and substance. It stressed that issues such as the fight against corruption, capacity-building linked to serious efforts to prevent the brain drain and disaster risk reduction are key areas in this context. Better coordination should go hand-in-hand with greater complementarity of action involving a better division of work between the Member States themselves and between Member States and the Commission, with a focus at country level and with partner countries in the lead, in order to tackle the problem of orphan countries and sectors, and emphasises the relevance of the Donor Atlas in this respect.

Additionally, the EU Parliament called on each Member State to draw up on an annual and fully transparent basis a detailed list making a clear distinction between the sums directly allocated to development aid and those earmarked for other measures that do not come directly within its scope, such as debt relief, on the basis of a common reference document drafted by the Commission. It insisted that such sums be specifically excluded from calculations of total expenditures of development aid and called on the Commission to provide it with details of the procedures for the grant of the mandate it exercises within the Organisation for Economic Cooperation and Development (OECD)'s Development Assistance Committee (DAC), on how the position it upholds within the Development Assistance Committee is defined and on the rules governing the organisation and operation of the Development Assistance Committee. Parliament urged the members of the OECD's DAC to set targets for 2010 against the 12 indicators established in the Paris Declaration - in particular with regard

to conditionality, mutual responsibility and predictability - and to set up an effective monitoring mechanism. Finally, Parliament called on the Commission and the Member States jointly to identify performance indicators geared to the MDG indicators, in particular with regard to budgetary aid, so that national parliaments and local civil society, as well as the European Parliament, can trace back the results of EU contributions.

4.8 The role of new EU member states

Twelve new EU members and former recipients of aid have started bringing funding, invaluable experience, and a strong commitment to reducing global poverty and providing support to poorer nations in pursuing the MDGs. During the International Poverty Eradication Day (October 2007) – the UNDP, the European Commission, and national NGOs helped these efforts by organizing parliamentary debates on the role of the new members of the EU in providing development assistance. In the capital cities of the new EU Member States, these debates brought together over 700 experts, politicians, ambassadors, government officials and NGO representatives to discuss national, European and global development policies. The debates aimed to raise awareness of the MDGs, and European development policy, in preparation for the European Development Days in Lisbon, Portugal in November 2007. Through these debates it resulted that across Europe, only around one in five people has heard of the MDGs, and in some countries, politicians and officials had never discussed development assistance before these debates. Raising the issue of development cooperation is particularly challenging in some of the newer member states of the EU as it is still a new topic for these nations.

The new EU members have received significant support from other nations and now are in a position to help others. They are ranked in the UNDP Human Development Index amongst the 60 most developed countries in the world ranging from Slovenia (27) to Romania (60). Despite their internal developmental challenges, these twelve countries are considered role models of transition for over 100 other nations where living conditions are harsh and unforgiving. Having been recipients of development aid for a decade and a half, the twelve countries which joined the EU after May 2004 are now making their own contributions to international development efforts. In total, the 12 new EU members contributed to approximately €500 million to global development assistance in 2006. They have committed to increasing their ODA to 0.17 per cent of their gross national income by 2010, which combined should exceed €1 billion. This amount is enough to lift millions of people out of extreme poverty. The 22 richest countries spent €80 billion on development assistance in 2006 (OECD data).

4.9 Aid for trade

The EU is the first partner among the developed countries to have adopted a strategy of aid for trade (Council of the EU, 2007). This was a major step forward which should enable the EU to achieve its planned financing targets and put into practice the principles of aid effectiveness in this area. The EU has collectively pledged to devote €2 billion a year between now and 2010 (€1 billion from the Community and €1 billion from the Member States) for trade-related technical assistance and to increase its aid in the other areas (production capacity and infrastructure). Priority is given to the ACP states because of their special situation and the challenges posed the Economic Partnership Agreements that were being negotiated with the EU, whereby 50 per cent of the increase in trade-related technical assistance will go to the ACP countries.

In addition to the financial dimension, the other pillar of the strategy is constituted by the principles of effectiveness, in particular alignment and ownership by the partner countries. Aid for trade is now an integral part of EU development cooperation. In 2006, trade-related technical assistance provided by the Member States totalled €641 million, while the Community's aid amounted to €941 million, that is, almost 60 per cent of the total. The Community is therefore already not far short of its commitment to reach €1 billion a year. The Member States, for their part, will have to increase their technical assistance by 56 per cent between now and 2010 if they are to bring their collective assistance to one billion as a priori planned.

4.10 Economic partnership agreements

Economic Partnership Agreements (EPAs) are trade and development agreements negotiated between the EU and African, Caribbean and Pacific (ACP) partners engaged in regional economic integration processes. The EPAs reflect a process that was initiatied with the signing of the Cotonou Agreement and is specifically tailor-made to suit specific regional circumstances. The EPAs refer also to WTO-compatible agreements, but go beyond conventional free-trade agreements, focusing on ACP development, taking account of their socio-economic circumstances and including co-operation and assistance to help ACP countries benefit from the agreements. Through the EPAs there was the opportunity of opening up EU markets fully and immediately, but allow ACP countries long transition periods to open up partially to EU imports while providing protection for sensitive sectors. Thus, the EPAs provide scope for wide-ranging trade co-operation on areas such as sanitary norms and other standards. Accordingly, EPAs create joint institutions that monitor the implementation of the agreements and address trade issues in a cooperative way. In addition, EPAs are also

designed to be drivers of change that will help kick-start reform and contribute to good economic governance. This will help ACP partners attract investment and boost their economic growth.

Thus, the EPAs between the EU and African, Caribbean and Pacific countries and regions aim at promoting ACP-EU trade, and contribute, through trade and investment, to sustainable development and poverty reduction. This is even more important when one takes into consideration the fact that trade with ACP countries represents more than 5 per cent of EU imports and exports (European Commission, 2015). In fact, the EU is a major trading partner for ACP countries and is the main destination for agricultural and transformed goods from ACP partners. However, commodities such as oil still forms a large part of ACP-EU trade. The EPAs intend to support trade diversification by shifting ACP countries' reliance on commodities to higher-value products and services. It is to be noted that the majority of ACP countries are either implementing an EPA or have concluded EPA negotiations with the EU. EPAs have as the main goal that of helping ACP countries grow their economies. EPAs aim to help individuals and businesses in ACP countries, by making it as easy as possible for them to sell their goods and services in Europe. EPAs also make it easier for them to buy imported goods for less, acquire new technology, attract investment through clearer, simpler rules for doing business, paying taxes, and clearing customs, an easier access to legal advice and other services which businesses depend on. EPAs also enable ACP countries to get their goods into export markets, by helping them meet international quality standards.

The EU concluded negotiations on an EPA on 15 July 2014 with the Southern African Development Community (SADC) EPA Group comprising Botswana, Lesotho, Mozambique, Namibia, South Africa and Swaziland. Angola has an option to join the agreement in future. The other six members of the Southern African Development Community region – the Democratic Republic of the Congo, Madagascar, Malawi, Mauritius, Zambia and Zimbabwe – are negotiating Economic Partnership Agreements with the EU as part of other regional groups, namely Central Africa or Eastern and Southern Africa. The EPA gives asymmetric access to the partners in the SADC EPA region. They can shield sensitive products from full liberalisation and safeguards can be deployed when imports are growing too quickly. The EPA guarantees access to the EU market without any duties or quotas for Botswana, Lesotho, Mozambique, Namibia, and Swaziland. South Africa will benefit from new market access additional to the Trade, Development and Cooperation Agreement, that currently governs the trade relations with the EU. The new access includes better trading terms mainly in agriculture and fisheries, including for wine, sugar, fisheries products, flowers and canned fruits. The EU will obtain meaningful new market access into Southern African Customs Union (products include wheat, barley, cheese, meat products and butter), and will have the security of a bilateral agreement with Mozambique. Furthermore, the EPA includes a bilateral protocol between the EU and South Africa on the protection of geographical indications and on trade in wines and spirits. Therefere, EPAs can promote diversification by creating export opportunities for new business sectors, lowering the costs of capital investment and providing technical support and assistance to key infrastructure for the development of the economy.

4.11 EU aid to Africa

Africa is the continent least likely to meet the MDGs by 2015. As Africa's biggest donor, Europe, therefore decided to focus the spending of additional ODA becoming available on this continents: in 2005 the EU pledged to channel 50 per cent of collective aid increases to Africa, contributing to the pledge made to channel an additional US$25 billion annually to the continent by 2010 compared to 2004 levels. From 2005 to 2006 the EU has demonstrated the re-focusing of its aid by directing an additional €3.7 billion, thus reaching a total of €23.7 billion, to the continent. In 2006 the EU (Member States and the European Commission) gave together 62 per cent of its bilateral, regionally allocated aid to Africa, up from 51 per cent in 2005 and it provided more than half of the global aid flows to the region.

The Monterrey survey 2008 (European Commission) intended to check how far the EU's Africa commitment, which was only defined as a collective result, was underpinned by the readiness of individual Member States to provide at least half of their scaled up aid to the region and to contribute to the common goal. The replies to this survey revealed that there is overwhelming support whereby 13 Member States (BE, DE, DK, FI, FR, IE, IT, LU, MT, NL, PT, SI, UK) that together mobilize 80 per cent of Europe's aid declared that at least half of their aid increases will go the continent and almost all others confirmed their intention to increase ODA to Africa (AT, BG, EE, ES, HU, LT, LV, PL, SE). Some of the Member States that are new donors highlighted their preference for focusing their bilateral development cooperation in other regions where they have accumulated expertise and contributing to Europe's support to Africa through the EC budget and the European Development Fund.

According to the European Commission (2008), if all the Member States manage to keep their commitments, the EU may well provide more than 90 per cent of the G8's US$25 billion pledge for Africa over the period 2004-2010, increasing aid in real terms by more than €18 billion per year in 2010. 22 out of 27 EU countries will channel additional funds to Africa through bilateral aid to individual countries in project mode and through budget support 10 out of 27 EU MS. Contributions to multilateral trust funds are also a favoured way to increase aid to Africa by 15 out of 27 EU MS.

4.12 External debt

The debt stock of developing countries as a group continues to increase, while key debt sustainability indicators have improved significantly since Monterrey. Debt repayment by several developing countries, debt relief under the Heavily Indebted Poor Countries Initiative (HIPC), the Multilateral Debt Relief Initiative (MDRI) and the Evian treatment in the Paris Club, together with other debtor countries' efforts and ongoing initiatives, such as the World Bank/IMF Debt Sustainability Framework, have contributed to achieving such progress. The HIPC initiative is estimated to provide a total of US$ 71 billion to 41 eligible countries, while MDRI is expected to provide an additional US$ 28 billion. Borrowing countries have also enhanced their debt management programmes and many have built reserves. Debt relief initiatives also helped beneficiary countries mobilize much-needed resources for poverty reduction, as part of wider efforts to mobilize financial resources for development. We recognize that the current global financial and economic crises carry the possibility of undoing years of hard work and gains made in relation to the debt of developing countries. The situation demands the implementation of existing and any future bold and

encompassing initiatives and mechanisms to resolve the current debt problems of developing countries, particularly for Africa and the least developed countries, in an effective and equitable manner, including through debt cancellation.

4.13 Concluding remarks

In sum, development cooperation is a shared competence between the European Community and the Member States. Community policy in the sphere of development cooperation is complementary to the policies pursued by the Member States. The EU provides over half of the world's aid and has committed to increase this assistance, together with its quality and effectiveness. The EU is also the most important economic and trade partner for developing countries, offering specific trading benefits to developing countries. Development policy is at the heart of the EU's relations with all developing countries. The EU's trade and development policy emphasises the importance of developing countries' good governance and ownership of their own development strategies, which is a key to their success. Developing countries therefore need to implement sound domestic policies and undertake necessary domestic reforms to stimulate trade and investment, ensure that the poor benefit from trade-led growth and secure the sustainability of their development.

5. DONOR PERFORMANCE IN ODA GRANTING

5.1 Background

The consensus that is emerging from various sources is that while there were increases in Official Development Assistance (ODA), these were fuelled by high levels of debt relief. The United Nations Economic Commission for Africa reported that while ODA flows to Africa were indeed rising, donors were not meeting their commitments. CONCORD, the confederation of European NGOs, argued that ODA from the EU Member States has been inflated by as much as 30 per cent with the inclusion of debt cancellation, funds for refugees and grants for foreign students studying in Europe. In addition, it should be noted that for aid to be effective it must be directed towards the poorest Sub-Saharan African countries. The theoretical insight provided in chapter 2 has identified the fact that aid directed towards the poorest developing countries will assist in addressing poverty and lead to improved development (White, 1994). However, what are the genuine levels of ODA being granted? Also are donor countries distributing aid to those that are really in need or is it being disproportionately allocated? This chapter addresses these questions by first assessing the quantity of ODA being granted, along with the allocation of ODA, as well as the distribution of the aid financial burden among the EU Member States.

5.2 Amount of aid given

Throughout 2007, the consensus emerging from various sources was that while 2005 was a record year for ODA increases, these were fuelled by high levels of debt relief with the increases tapering off in 2006. In fact, the aid organizations appealed to the EU Member States to stop inflating its aid statistics and to agree to a rigorous annual timetable by which commitments made could be respected. It was recommended that costs to cover debt relief and payments to cover housing of refugee claimants in Europe should not be included in ODA figures, as was the case in several EU countries. Alliances argued that such assistance is not new aid and should not be included as such, stating that *'Figures provided in recent years were distorted and over-flattering. The official figures still fail to provide citizens with a true picture of their government's contribution.'* Research by CONCORD AidWatch, the confederation of European NGOs, has showed over its annual reports that EU donors do not always deliver effective aid. In the 2008 report by CONCORD AidWatch, this confederation showed that in 2007 EU nations spent around €8 billion (US$12.5 billion) in what aid groups claim to be non-aid items, €5 billion (US$7.8 billion) of which was on cancelling debts of poor countries. Therefore, when excluding these items, it appears that the EU will have given €75 billion less than what was promised between 2005 and 2010. In addition, according to CONCORD AidWatch, in 2013, approximately €5.2 billion of the aid reported by EU countries was 'inflated'.

Quoting OECD statistics, it follows that the EU has kept its place as the world's largest aid donor in 2014. The total aid of the 28 EU Member States alone rose from €54.0 billion in 2013 to €56.1 billion in 2014, remaining at 0.41 per cent of GNI as indicated in table 7 and table 8. According to OECD statistics, additional ODA from the own

resources of the European Investment Bank contributes to the collective EU amount, bringing the total to €58.2 billion. It is interesting to note that the OECD (2015) put forward the argument that almost all EU Member States reported their 2014 ODA levels using a new methodology for calculating their gross national income. This resulted in an increase in the national income levels for those Member States, resulting in a relative decline in their ODA/GNI levels, despite an overall increase in EU collective ODA of almost 2.4 per cent. Therefore, as reported by OECD, without this change in the gross national income methodology, EU collective ODA in 2014 would have reached 0.44 per cent of the EU national income. However, as shown in Table 10 the aid figures reflected a mixed performance of the EU Member States. The above figures reflect the mixed performance of EU Member States. In 2014, 10 Member States increased the aid by more than 0.01 per cent and 7 maintained their ODA/GNI levels. 11 Member States experienced a decrease in their ODA/GNI levels of more than 0.01 per cent, while four EU Member States exceeded the 0.7 per cent ODA/GNI threshold, Member States' own and Commission estimates show that collective EU ODA is likely to increase to 0.44 per cent of GNI in 2015. To reach the collective EU target of 0.7 per cent of GNI by 2015, the EU and its Member States would need to mobilise an additional amount of approximately €38.58 billion .

Table 7 - EU28 Official Development Assistance

Member State	2004		2005		2006		2007		2008		2009	
	€ m	% GNI	€ m	% GNI	€ m	% GNI	€ m	% GNI	€ m	% GNI	€ m	% GNI
Austria	545	0.23	1,266	0.52	1,194	0.47	1,321	0.50	1,188	0.43	820	0.30
Belgium	1,178	0.41	1,580	0.53	1,575	0.50	1,425	0.43	1,654	0.48	1,874	0.55
Bulgaria	-	-	-	-	1	0.00	17	0.06	13	0.04	12	0.04
Croatia												
Cyprus	4	0.03	12	0.09	21	0.15	25	0.17	26	0.17	33	0.20
Czech Republic	87	0.11	109	0.11	128	0.12	131	0.11	173	0.12	154	0.12
Denmark	1,640	0.85	1,697	0.81	1,782	0.80	1,872	0.81	1,944	0.82	2,018	0.88
Estonia	4	0.05	8	0.08	11	0.09	12	0.08	15	0.10	13	0.10
Finland	547	0.37	726	0.46	665	0.40	717	0.39	808	0.44	926	0.54
France	6,820	0.41	8,067	0.47	8,445	0.47	7,220	0.38	7,562	0.39	9,049	0.47
Germany	6,064	0.28	8,112	0.36	8,313	0.36	8,978	0.37	9,693	0.38	8,674	0.35
Greece	258	0.16	309	0.17	338	0.17	366	0.16	488	0.21	436	0.19
Hungary	56	0.07	81	0.11	119	0.13	76	0.08	74	0.08	84	0.10
Ireland	489	0.39	578	0.42	814	0.54	871	0.55	921	0.59	722	0.54
Italy	1,981	0.15	4,096	0.29	2,901	0.20	2,901	0.19	3,370	0.22	2,368	0.16
Latvia	7	0.06	9	0.07	9	0.06	12	0.06	15	0.07	15	0.07
Lithuania	7	0.04	12	0.06	20	0.08	35	0.11	33	0.11	26	0.11
Luxembourg	190	0.79	206	0.79	232	0.89	274	0.92	288	0.97	298	1.04
Malta	8	0.18	7	0.17	7	0.15	8	0.15	11	0.20	10	0.18
The Netherlands	3,384	0.73	4,115	0.82	4,343	0.81	4,547	0.81	4,848	0.80	4,615	0.82
Poland	95	0.05	165	0.07	239	0.09	265	0.10	258	0.08	269	0.09
Portugal	830	0.63	303	0.21	316	0.21	344	0.22	430	0.27	368	0.23
Romania					3	0.00	84	0.07	85	0.09	110	0.08
Slovak Republic	23	0.07	46	0.12	44	0.10	49	0.09	64	0.10	54	0.09
Slovenia	25	0.10	28	0.11	35	0.12	40	0.12	47	0.13	51	0.15
Spain	1,962	0.24	2,429	0.27	3,038	0.32	3,755	0.37	4,761	0.45	4,728	0.46
Sweden	2,191	0.78	2,705	0.94	3,151	1.02	3,170	0.93	3,281	0.98	3,266	1.12
UK	6,362	0.36	8,667	0.47	9,926	0.51	7,194	0.36	7,973	0.43	8,102	0.51
EU15 Total	34,441	0.35	44,856	0.44	47,033	0.43	44,954	0.39	49,207	0.43	48,264	0.45
EU13 Total	316	0.07	476	0.09	637	0.09	753	0.09	815	0.09	831	0.10
EU28 Total	34,756	0.34	45,332	0.42	47,670	0.41	45,706	0.37	50,021	0.40	49,096	0.42
Collective EU ODA	35,929	0.35	46,717	0.43	49,306	0.42	47,638	0.39	52,303	0.42	51,791	0.44

Table 8 - EU28 Official Development Assistance

Member State	2010		2011		2012		2013		2014	
	€ m	% GNI	€ m	% GNI	€ m	% GNI	€ m	% GNI	€ m	% GNI
Austria	912	0.32	799	0.27	860	0.28	882	0.27	863	0.26
Belgium	2,268	0.64	2,019	0.54	1,801	0.47	1,732	0.45	1,797	0.46
Bulgaria	31	0.09	35	0.09	31	0.08	37	0.10	32	0.08
Croatia			15	0.03	15	0.03	32	0.07	49	0.11
Cyprus	39	0.23	27	0.16	20	0.12	15	0.10	15	0.10
Czech Republic	172	0.13	180	0.12	171	0.12	159	0.11	158	0.11
Denmark	2,168	0.91	2,108	0.85	2,095	0.83	2,205	0.85	2,258	0.85
Estonia	14	0.10	17	0.11	18	0.11	23	0.13	28	0.15
Finland	1,006	0.55	1,011	0.53	1,027	0.53	1,081	0.54	1,232	0.60
France	9,751	0.50	9,348	0.46	9,358	0.45	8,543	0.41	7,817	0.36
Germany	9,804	0.39	10,136	0.39	10,067	0.37	10,717	0.38	12,247	0.41
Greece	383	0.17	305	0.15	255	0.13	180	0.10	187	0.11
Hungary	86	0.09	100	0.11	92	0.10	97	0.10	118	0.12
Ireland	676	0.52	657	0.51	629	0.47	637	0.46	610	0.38
Italy	2,262	0.15	3,111	0.20	2,129	0.14	2,566	0.17	2,519	0.16
Latvia	12	0.06	14	0.07	16	0.08	18	0.08	19	0.08
Lithuania	28	0.10	37	0.13	40	0.13	38	0.11	30	0.09
Luxembourg	304	1.05	294	0.97	310	1.00	323	1.00	322	1.07
Malta	10	0.18	14	0.25	14	0.23	14	0.20	16	0.20
The Netherlands	4,800	0.81	4,563	0.75	4,297	0.71	4,094	0.67	4,200	0.64
Poland	285	0.08	300	0.08	328	0.09	355	0.10	329	0.08
Portugal	490	0.29	509	0.31	452	0.28	368	0.23	316	0.19
Romania	86	0.07	118	0.09	111	0.08	101	0.07	151	0.10
Slovak Republic	56	0.09	62	0.09	62	0.09	65	0.09	61	0.08
Slovenia	44	0.13	45	0.13	45	0.13	46	0.13	46	0.12
Spain	4,492	0.43	3,001	0.29	1,585	0.16	1,789	0.17	1,427	0.14
Sweden	3,423	0.97	4,030	1.02	4,077	0.97	4,389	1.01	4,690	1.10
UK	9,855	0.57	9,948	0.56	10,808	0.56	13,498	0.71	14,612	0.71
EU15 Total	52,594	0.46	51,840	0.44	49,749	0.42	53,003	0.44	55,094	0.43
EU13 Total	863	0.09	965	0.10	964	0.10	1,000	0.10	1,053	0.10
EU28 Total	53,457	0.44	52,805	0.42	50,713	0.39	54,004	0.41	56,147	0.41
Collective EU ODA	56,640	0.46	56,258	0.45	55,257	0.43	56,877	0.43	58,214	0.42

Source: European Commission, 2015

Table 9 - EU ODA 2012-2015

Member State	2013		2014	
	EUR Mn	% GNI	EUR Mn	% GNI
Austria	882	0.27	863	0.26
Belgium	1,732	0.45	1,797	0.46
Bulgaria	37	0.10	32	0.08
Croatia	32	0.07	49	0.11
Cyprus	15	0.10	15	0.10
Czech Republic	159	0.11	158	0.11
Denmark	2,205	0.85	2,258	0.85
Estonia	23	0.13	28	0.15
Finland	1,081	0.54	1,232	0.60
France	8,543	0.41	7,817	0.36
Germany	10,717	0.38	12,247	0.41
Greece	180	0.10	187	0.11
Hungary	97	0.10	118	0.12
Ireland	637	0.46	610	0.38
Italy	2,566	0.17	2,519	0.16
Latvia	18	0.08	19	0.08
Lithuania	38	0.11	30	0.09
Luxembourg	323	1.00	322	1.07
Malta	14	0.20	16	0.20
The Netherlands	4,094	0.67	4,200	0.64
Poland	355	0.10	329	0.08
Portugal	368	0.23	316	0.19
Romania	101	0.07	151	0.10
Slovak Republic	65	0.09	61	0.08
Slovenia	46	0.13	46	0.12
Spain	1,789	0.17	1,427	0.14
Sweden	4,389	1.01	4,690	1.10
UK	13,498	0.71	14,612	0.71
EU15 Total	53,003	0.44	55,094	0.43
EU13 Total	1,000	0.10	1,053	0.10
EU28 Total	54,004	0.41	56,147	0.41

Source: European Commission, 2015

Table 10 - EU ODA 2012-2015

Member State	2015		2015 commitment		2015 financial gap	
	EUR Mn	%GNI	EUR Mn	% GNI	EUR Mn	% GNI
Austria	834	0.25	2,356	0.70	1,522	0.45
Belgium	1,772	0.43	2,862	0.70	1,090	0.27
Bulgaria	38	0.09	137	0.33	98	0.24
Croatia	49	0.12	217	0.33	168	0.21
Cyprus	13	0.08	56	0.33	43	0.25
Czech Republic	148	0.10	486	0.33	338	0.23
Denmark	2,379	0.87	2,740	1.00	361	0.13
Estonia	26	0.13	65	0.33	39	0.20
Finland	1012	0.49	1,458	0.70	446	0.21
France	9349	0.42	15,493	0.70	6,144	0.28
Germany	13,121	0.43	21,406	0.70	8,284	0.27
Greece	158	0.09	1,294	0.70	1,136	0.61
Hungary	126	0.13	333	0.33	206	0.20
Ireland	602	0.37	1,131	0.70	529	0.33
Italy	2,660	0.16	11,436	0.70	8,776	0.54
Latvia	19	0.08	83	0.33	64	0.25
Lithuania	31	0.08	125	0.33	93	0.25
Luxembourg	323	1.06	304	1.00	(19)	(0.06)
Malta	15	0.19	26	0.33	11	0.14
The Netherlands	3,953	0.59	4,652	0.70	699	0.11
Poland	498	0.12	1,325	0.33	827	0.21
Portugal	306	0.17	1,227	0.70	920	0.53
Romania	161	0.11	505	0.33	344	0.22
Slovak Republic	77	0.10	252	0.33	175	0.23
Slovenia	-	0.12	124	0.33	78	0.21
Spain	1,782	0.17	7,523	0.70	5,740	0.53
Sweden	4,441	1.00	4,441	1.00	-	-
UK	16,830	0.70	16,830	0.70	-	-
EU15 Total	59,522	0.45	95,150	0.72	35,629	0.27
EU13 Total	1,248	0.11	3,733	0.33	2,485	0.22
EU28 Total	60,770	0.42	98,883	0.69	38,113	0.27

Source: European Commission, 2015

5.2.1 Total and genuine aid

According to a report by CONCORD AidWatch (2014) in 2013 approximately €5.2 billion of the aid reported by the EU Member States was inflated. This implies that the amount of genuine aid amounts actually to €48.4 billion, which means that once inflated aid has been discounted, the amount of genuine aid provided by EU MS

decreases to 0.38 per cent of their collective GNI. As argued in the CONCORD AidWatch report, under the Development Assistance Committee's (DAC) official definition of aid, donors are able to report a number of financial flows that, in CONCORD AidWatch's view, do not genuinely contribute to development. To give a more accurate picture of donors' efforts to reduce poverty and inequality, the AidWatch methodology discounts spending on students in the donor country, spending on refugees in the donor country, repayments of interest on concessional loans and future interest on cancelled debts, debt relief and tied aid from net ODA flows.

The rationale for discounting these items is related to whether such items contribute to development, based on the aid effectiveness principles, and whether they represent a genuine transfer of resources to developing countries. These are ODA reportable items which do not amount to a real transfer of resources to partner countries and are difficult to link to clear development results. According to CONCORD AidWatch, when donors provide debt relief, they can report as ODA not only the amount of debt forgiven, but also the interest they are owed now, and in the future. Donors can also report as ODA the cancellation of loans that did not have a developmental purpose, such as export credits. Moreover, with regards to refugee costs, CONCORD AidWatch reports that this spending does not reflect a real transfer of resources to partner countries. The money stays in the donor country and is in no way directly connected with any development or poverty reduction goal. With regards to student costs, it is stressed that there is no evidence that this money contributes to poverty reduction in partner countries, neither do these funds represent a transfer of resources to partner countries. Furthermore, CONCORD AidWatch argue that under the current reporting system, reimbursements of amounts initially borrowed by partner governments – the

loan's principal – are deducted from net aid flows. However, this is not the case for interest repayments, resulting in a distorted picture of the real transfers to developing countries. Figures from CONCORD AidWatch (2014) indicate that in 2013, EU donors received €914 million in interest repayments from DCs, with the majority of this directed to three major loan-giving donors: EU institutions (€384 million), France (€239 million) and Germany (€235 million). The AidWatch methodology applies exclusively to bilateral aid flows, as it refers to the money that member states manage directly.

As shown in table 11, bilateral aid was, in relative terms, almost fully genuine in Luxembourg, Ireland and the UK. At the other end of the spectrum, bilateral aid from Greece was completely composed of inflated aid as a result of student and refugee costs. In addition, as reported by CONCORD AidWatch (2014), over one-third of all bilateral aid provided by France and Spain was inflated. As for EU-13 MSs, bilateral aid in Malta, Hungary and Latvia was inflated by 90 per cent, 55 per cent and 40 per cent, respectively. In absolute terms, three countries reported the largest amounts of inflated aid, accounting altogether for two-thirds of the EU's total inflated aid (65 per cent): France (€1.8 billion), Germany (€1.2 billion) and Sweden (€514 million).

Table 11 - Total and Genuine Aid

Country	TOTAL AID		BILATERAL AID		INFLATED AID			GENUINE AID	
	€ m	% GNI	€ m	% total	€ m	Bilateral	% total	€ m	% GNI
Austria	883	0	406	0.46	203	0.5	0.23	680	0
Belgium	1,718	0	991	0.58	184	0.19	0.11	1,534	0
Bulgaria	37	0	0	0.01	0	0	0	37	0
Croatia	34	0	18	0.54	-	-	-	34	0
Cyprus	16	0	11	0.64	2	0.23	0.14	14	0
Czech Republic	159	0	43	0.27	9	0.21	0.06	150	0
Denmark	2,206	0.01	1,616	0.73	143	0.09	0.07	2,062	0.01
Estonia	23	0	8	0.34	0	0.04	0.01	23	0
Finland	1,081	0.01	617	0.57	33	0.05	0.03	1,048	0.01
France	8,568	0	5,111	0.6	1,863	0.37	0.22	6,705	0
Germany	10,590	0	6,917	0.65	1,200	0.17	0.11	9,389	0
Greece	230	0	73	0.32	97	1.33	0.42	133	0
Hungary	91	0	22	0.24	13	0.58	0.14	78	0
Ireland	619	0	410	0.66	2	0.01	0	617	0
Italy	2,450	0	507	0.21	144	0.28	0.06	2,306	0
Latvia	18	0	1	0.06	0	0.4	0.03	17	0
Lithuania	38	0	13	0.34	0	0.03	0.01	38	0
Luxembourg	324	0.01	220	0.68	1	0	0	324	0.01
Malta	14	0	9	0.66	8	0.89	0.58	6	0
Netherlands	4,094	0.01	2,718	0.66	405	0.15	0.1	3,689	0.01
Poland	352	0	92	0.26	30	0.33	0.09	322	0
Portugal	365	0	223	0.61	83	0.37	0.23	282	0
Romania	101	0	15	0.15	13	0.83	0.13	88	0
Slovakia	64	0	12	0.19	2	0.2	0.04	62	0
Slovenia	45	0	15	0.34	2	0.14	0.05	43	0
Spain	1,656	0	583	0.35	255	0.44	0.15	1,402	0

Source: CONCORD AidWatch, 2015

In addition, according to CONCORD AidWatch (2014) almost 80 per cent of EU aid is untied and some countries are leading the way by having their aid fully untied such as Ireland and the UK. Research indicates that making aid conditional on the purchase of goods and services from a donor country or a restricted set of countries significantly reduces the developmental impact of aid. CONCORD AidWatch in their report have estimated that tied aid (measured for EU-15 countries and the Czech Republic only) accounted for €1.4 billion in 2013, therefore leading to inflated aid. Using the AidWatch methodology for counting the inflated aid, in 2013, the countries with the highest

estimated levels of inflated tied aid were Germany (€93 million), Netherlands (€78 million), Austria (€61 million), Portugal (€59 million), Italy (€46 million), France (€28 million), and Spain (€19 million). Aid provided by the European institutions was also inflated by €354 million as result of tied aid.

5.3 Aid concentration curves and Suits index

The methodology used to examine the progressivity (or regressivity) of aid is that of aid concentration curves and their statistical counterpart, the Suits index. Aid concentration curves are a graphical device for showing whether the distribution of aid is targeted toward or away from the poorest and most deprived countries. If most of a donor's aid goes to the poorest countries, then its aid concentration curve will lie above the diagonal (and vice versa). This section assesses the poverty focus of aid using aid concentration curves and the Suits index. Aid concentration curves are a graphical way to show whether the distribution of aid is targeted toward or away from the poorest and most deprived countries. If most of a donor's aid goes to the poorest countries, then its aid concentration curve will lie above the diagonal (45 degree line). On the other hand, if most of a donor's aid goes to relative prosperous developing countries, its aid concentration curve will lie below the diagonal. The use of aid concentration curves for the analysis of the distribution of aid was originally suggested by Mosley (1987) and has been applied and extended by Clark (1992), White and McGillivray (1995) and Baulch (2006).

To be more precise, an aid concentration curve plots the cumulative percentage of aid against the cumulative percentage of a measure of the number of people who are poor or deprived. Aid can be measured in a number of different ways but we focus on the most

commonly used measure, disbursements of net ODA. For the poverty and deprivation, a number of alternatives measures exist including, inter alia, the cumulative percentage of the extreme or moderately poor and the cumulative percentage of people suffering some other kind of deprivation. Aid concentration curves resemble conventional Lorenz curves but with an additional variable (per capita incomes measured in terms of Atlas GNI) used to rank countries before the cumulative percentages are calculated. This additional ranking allows aid concentration curves to cross the diagonal when aid is targeted towards the poorest or most deprived countries.

The Suits index is a statistic which summarises the progressivity or regressivity of a distribution (Suits, 1977). Unlike the Gini coefficient, of which it is an analogue, the Suits index can vary between -1 and +1. When applied to aid concentration curves, a Suits index of -1 would correspond to the (not necessarily desirable) situation in which a donor gave all its aid to the poorest country in the world. In this, admittedly extreme case, the aid concentration curve would coincide with the left-hand and top axes of Figure 1. Similarly, a Suits index of +1 would correspond to the opposite case, when a donor gave all its aid to the richest developing country. In this case, the aid concentration curve would coincide with the bottom and right hand axes. A Suits index of zero corresponds to the situation in which a donor distributes its aid in exact proportion to the number of moderately poor people in the world. In this case, the aid concentration curve coincides with the leading diagonal of the aid concentration curve box. Against this background, this section analyses the poverty focus in 2012 of France, Germany, the United Kingdom, Netherlands, the EU-27, Japan and the United States. Monetary poverty is measured using the revised measure of poverty of the number of people living on income or expenditures of less than $1.9 in 2011 Purchasing Power Parity terms.

Recipients of disbursed ODA are the Sub Saharan African countries with the exclusion of Cape Verde, Equatorial Guinea, Eritrea, Guinea-Bissau, Kenya and Zimbabwe for which data was not available. Two data sources are used for this section. Information on aid is taken from the OECD DAC's on-line database on the Geographical Distribution of Financial Flows to Aid Recipients. Information on poverty is taken from PovcalNet since this source aligns the survey-based poverty estimates from different years with 2012 (the year taken into consideration for the analysis) using growth in mean consumption from the national accounts. This data is used for the aid concentration curve presented below in Chart1, where the horizontal axis plots the cumulative proportion of the population living on less than $1.9 a day (in 2011 PPP terms) while the vertical axis shows the cumulative proportion of net ODA received by these countries. Countries are ranked in accordance to their per capita incomes. The diagonal line represents perfect equality, that is, an index of zero with aid being distributed in exact proportion to the population.

Chart 30 -   Aid concentration curve for the extremely poor ($1.9 a day) of the Sub Saharan African countries (2012)
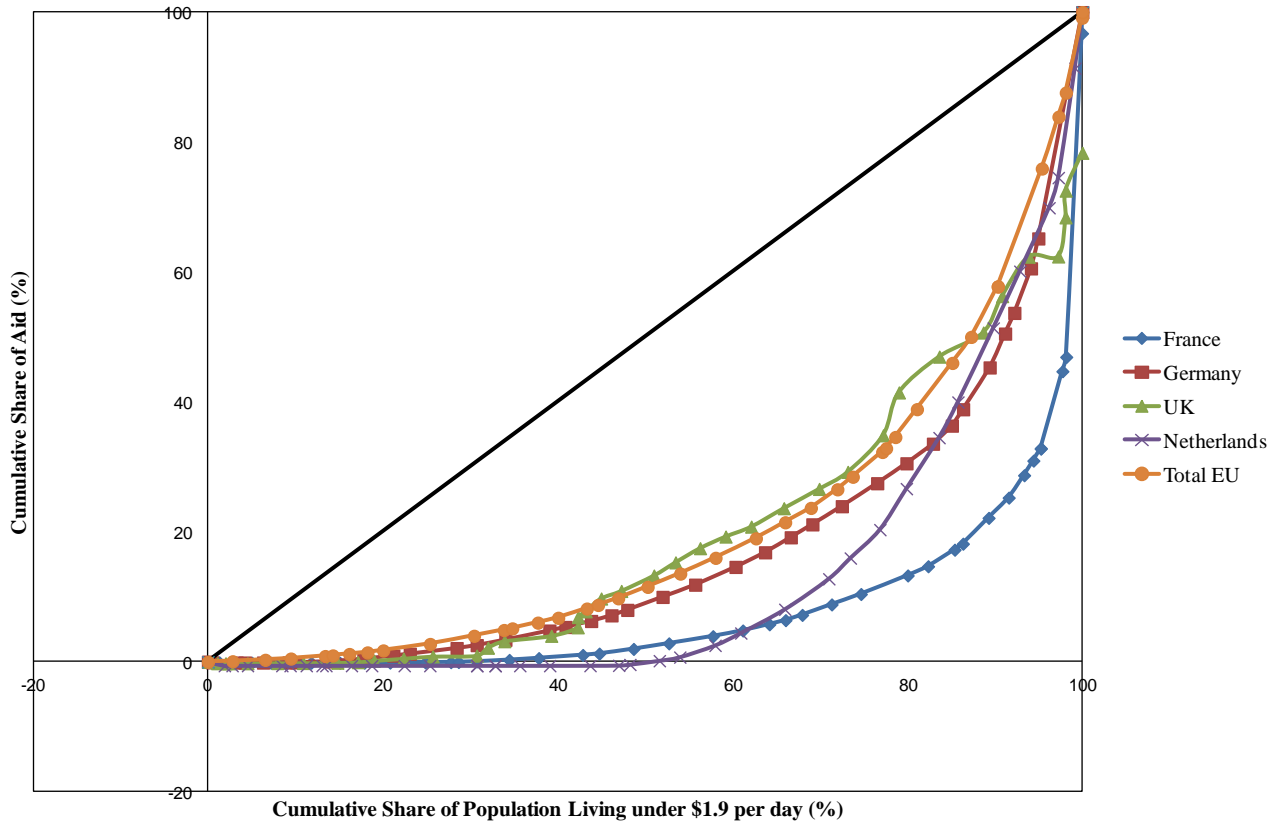
Source: Own workings

If aid is to be allocated on the basis of recipient needs, the poorest countries should receive more, and the richest countries less. In other words, if aid allocation policies were redistributive, the curve representing the distribution of aid would be above the diagonal. Chart 24 shows that none of the curves lies above the diagonal line, with the curves for Germany and the EU-27 being the most poverty focused. Table 12 shows the Suits index for these bilateral donors, whereby the positive values correspond to a more regressive distribution, with aid being targeted toward the less poor countries rather than the poorest.

Table 12 - Suits index for major bilateral donors

	Population living under $1.9 per day
France	0.85
Germany	0.82
UK	0.85
Netherlands	0.84
EU-28	0.73
Japan	0.72
USA	0.76

Source: own workings

Chart 31 - Pre and post EU enlargement
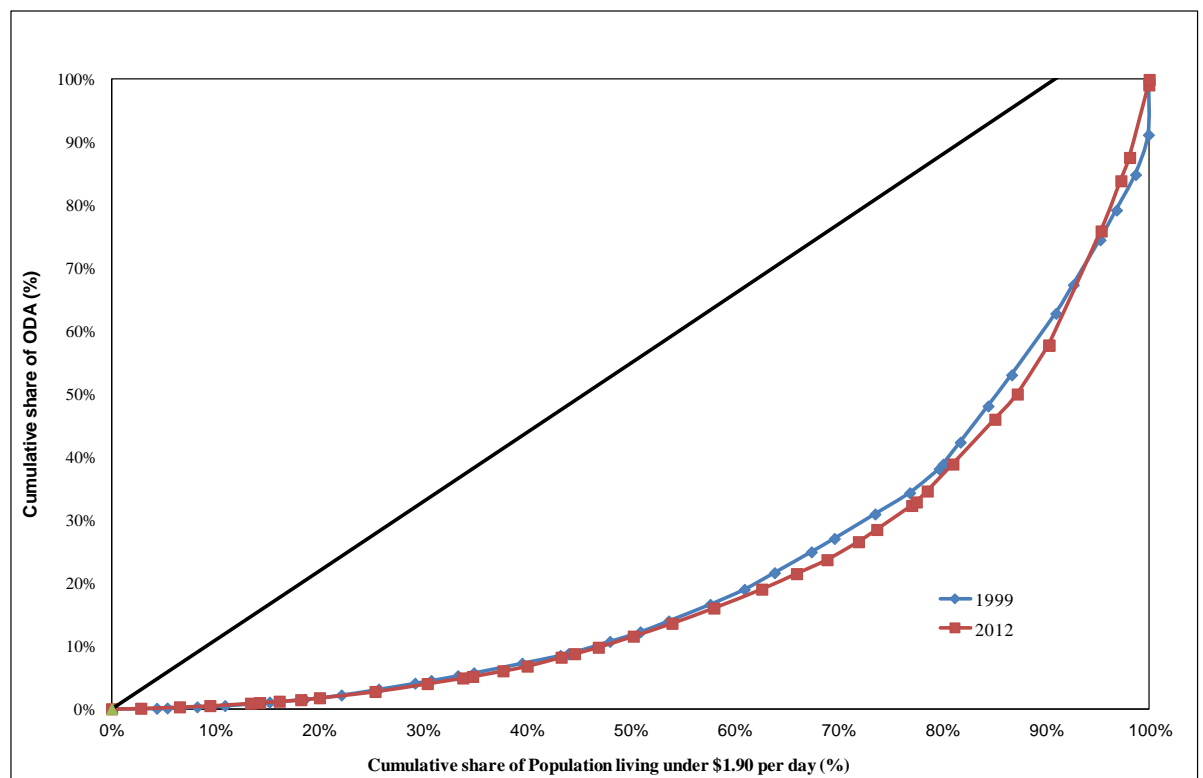
Source: Own workings

It is also interesting to note Chart 25, which shows the aid concentration curve for pre (2000 data) and post EU enlargement (2011 data). As also suggested by the Suits index, the post EU enlargement with an index of 0.73 is more regressive than the pre EU enlargement with an index of 0.70.

5.4 Distribution of the aid financial burden

Currently, it is stipulated that 0.7 per cent of the GNI of the donor country should be distributed to the recipient countries as ODA. As argued by Vazquez and Montellano (2015:2) *'the 0.7 per cent target offers a simple – yet dubious – rationale: all donors should contribute the same amount of aid in relation to their GNI, regardless of their abilities to finance public policies.'* However, the results of this approach have been fairly disappointing whereby for example in 2011 only five country members of the DAC out of the 23 donors, fulfilled this commitment and distributed the 0.7 per cent of GNI (Vazquez and Montellano, 2015).

Table 13 shows this measure of donor performance for 2008 and table 14 for year 2013 for the EU MS using data from the European Commission and from the World Development Indicators. In this table, column (1) shows the donor ODA/GNI performance; column (2) shows the progressive targets as calculated by the UNDP formula; column (3) and column (4) show the 'performance' measures, whereby column (3) shows the actual ODA/GNI as a ratio of the 0.7 per cent target, while column (4) shows the actual ODA/GNI as a ratio of the UNDP target. In column (4), if the ratio is greater than unity, then this implies that the donor's GNP/ODA ratio is sufficiently high to more than fulfill the progressive target. It is interesting to note that in table 5 which shows the aid situation as in 2008, Netherlands and Sweden recorded a ratio greater than unity in column 4. The other countries that recorded a GNP per capita higher than the average GNP per capita of all donors, for example Italy and Luxembourg, did not record a ratio greater than unity. In table 14, for 2013, Cyprus and Denmark recorded a ratio greater than unity even though their respective GNP per capita was lower than the average GNP per capita of all the donors. Therefore, this

implies that the richer EU donor countries are not paying more than the poorer EU donor countries.

Table 13 - System of proportion taxation measure – 2008

EU countries	Average GNP per Capita of all Donors = EUR33,839	Column (1)	Column (2)	Performance	
				Column (3)	Coumn (4)
	GNP per capita	ODA in % of GNI	Proposed Progressive Target % of GNP	(Column 1) / 0.70	(Column 1) / (Column 2)
Italy	**101,935**	0.22	2.11	0.31	**0.10**
Luxembourg	**61,370**	0.97	1.27	1.39	**0.76**
Denmark	**43,295**	0.82	0.90	1.17	**0.92**
The Netherlands	**36,939**	0.80	0.76	1.14	**1.05**
Sweden	**36,459**	0.98	0.75	1.40	**1.30**
Ireland	**35,467**	0.59	0.73	0.84	**0.80**
Finland	**34,645**	0.44	0.72	0.63	**0.61**
Austria	33,212	0.43	0.69	0.61	**0.63**
Belgium	32,304	0.48	0.67	0.69	**0.72**
Germany	31,025	0.38	0.64	0.54	**0.59**
UK	30,307	0.43	0.63	0.61	**0.69**
France	30,294	0.39	0.63	0.56	**0.62**
Spain	23,364	0.45	0.48	0.64	**0.93**
Greece	20,723	0.21	0.43	0.30	**0.49**
Cyprus	19,378	0.17	0.40	0.24	**0.42**
Portugal	15,000	0.27	0.31	0.39	**0.87**
Czech Republic	13,887	0.12	0.29	0.17	**0.42**
Malta	13,405	0.20	0.28	0.29	**0.72**
Estonia	11,932	0.10	0.25	0.14	**0.41**
Slovak Republic	11,850	0.10	0.25	0.14	**0.41**
Lithuania	9,452	0.11	0.20	0.16	**0.56**
Latvia	9,436	0.07	0.20	0.10	**0.36**
Hungary	9,208	0.08	0.19	0.11	**0.42**
Poland	8,461	0.08	0.18	0.11	**0.46**
Slovenia	6,694	0.13	0.14	0.19	**0.94**
Romania	6,238	0.07	0.13	0.10	**0.54**
Bulgaria	4,254	0.04	0.09	0.06	**0.45**

Source: Own workings

Table 14 - System of proportional taxation – 2013

EU countries	Average GNP per Capita of all Donors = EUR26,187	Column (1)	Column (2)	Performance	
				Column (3)	Coumn (4)
	GNP per capita	ODA in % of GNI	Proposed Progressive Target % of GNP	(Column 1) / 0.70	(Column 1) / (Column 2)
Czech Republic	**164,070**	0.11	4.39	0.16	**0.03**
Luxembourg	**59,266**	1.00	1.58	1.43	**0.63**
Sweden	**45,055**	1.01	1.20	1.44	**0.84**
Austria	**38,504**	0.27	1.03	0.39	**0.26**
Finland	**36,724**	0.54	0.98	0.77	**0.55**
Netherlands	**36,363**	0.67	0.97	0.96	**0.69**
Germany	**34,919**	0.38	0.93	0.54	**0.41**
Belgium	**34,482**	0.45	0.92	0.64	**0.49**
France	**32,735**	0.41	0.88	0.59	**0.47**
Ireland	**30,150**	0.46	0.81	0.66	**0.57**
UK	**29,665**	0.71	0.79	1.01	**0.90**
Italy	25,290	0.17	0.68	0.24	**0.25**
Denmark	24,668	0.85	0.66	1.21	**1.29**
Spain	22,586	0.17	0.60	0.24	**0.28**
Slovenia	17,185	0.13	0.46	0.19	**0.28**
Malta	16,627	0.20	0.44	0.29	**0.45**
Greece	16,270	0.10	0.43	0.14	**0.23**
Portugal	15,301	0.23	0.41	0.33	**0.56**
Estonia	13,403	0.13	0.36	0.19	**0.36**
Slovak Republic	13,347	0.09	0.36	0.13	**0.25**
Lithuania	11,679	0.11	0.31	0.16	**0.35**
Latvia	11,035	0.08	0.29	0.11	**0.27**
Hungary	9,789	0.10	0.26	0.14	**0.38**
Poland	9,327	0.10	0.25	0.14	**0.40**
Romania	6,778	0.07	0.18	0.10	**0.39**
Bulgaria	5,112	0.10	0.14	0.14	**0.73**
Cyprus	3,524	0.10	0.09	0.14	**1.06**

Source: Own workings

5.5 Concluding remarks

In recent years there is an increased emphasis about the quality of the aid that is

being granted. Those in favour of aid granting, argue that aid could lift people out

of poverty but this is not possible given that rich countries are not giving enough or

else their aid granted is inflated and not genuine aid. Research indicates that while

there were increases in ODA, these were fuelled by high levels of debt relief. Furthermore, the United Nations Economic Commission for Africa reported that while ODA flows to Africa were indeed rising, donors were not meeting their commitments. CONCORD, the confederation of European NGOs, argued that in ODA from the European countries has been inflated by as much as 30 per cent with the inclusion of debt cancellation, funds for refugees and grants for foreign students studying in Europe. To ensure that only genuine aid is granted to DCs, aid should exclude student costs, refugee costs, debt relief, interest on loans and tied aid. In addition, only the net grant equivalent of concessional loans measured in relation to the borrowing costs of donors should be reported as ODA. As a final yardstick, donor countries should avoid including the securitisation of aid, certain forms of support to the private sector which do not promote development, climate finance and tax rebates.

In addition, if aid is to be allocated on the basis of recipient needs then the poorest countries should receive more and the richest countries less. Thus, if aid allocation policies were redistributive, then the concentration curve would lie above the diagonal. The empirical analysis carried out in this chapter showed that none f the curves lies above the diagonal line of equality, with the curves for Germany and the EU-28 being the most poverty focused. In addition, when assessing the way that the distribution of ODA being granted is allocated between the donors, it was concluded that the richer EU donor countries are not paying more than the poorer EU donor countries.

6. METHODOLOGICAL APPROACH

6.1 Introduction

The literature review on the relationship between economic growth and Official Development Assistance (ODA) is mainly centered around three basic arguments. There are those that are in favour of development assistance and view this type of assistance as a means of filling a financing gap. This reflects mainly the post-war literature, where hindrance to development was explained by the 'capital bottleneck theories' (Meier and Stiglitz, 2001; Chenery and Strout, 1966). In this line of thinking, capital scarcity was considered as the major contributory factor to economic backwardness, and external finance was the means of addressing this scarcity by providing the needed and scarce investment goods. However, this type of model eventually gave rise to a lot of controversy about the role and impact of foreign aid. The model inspired several theoretical debates as well as a considerable amount of empirical investigations of aid effectiveness with the result being that aid was viewed as a distortion to efficiency leading to an ineffective dependency. Subsequent to this 'macro-micro paradox' (Mosley et al 1987) a new emerging consensus gave way whereby development assistance started being viewed as instrumental in promoting good governance, which in turn leads to improved aid effectiveness (Burnside and Dollar, 2004; Bennedsen and Meisner, 2005).

Against this mixed picture, this thesis tests the hypothesis that there is a positive relationship between the level of European Union ODA granted to SSA countries and these countries' economic growth, keeping other factors that affect growth constant. To test this hypothesis, this chapter presents a description of the methodological

procedure used. It also describes the regression model adopted and the sources of data used. The focus of the study is on the SSA countries as recipients of ODA while the donors of ODA taken into consideration are the European Union Member States. The SSA countries taken into consideration for the study are: Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mozambique, Rwanda, Senegal, Sierra Leone, Tanzania, Togo, Uganda, and Zimbabwe.

6.2 Regression model

The estimation method adopted in this study is the pooled Ordinary Least Squares panel data approach, with STATA14 as the software package. Panel data (also known as longitudinal or cross-sectional time-series data) is a dataset in which the behavior of entities is observed across time (Torres-Reyna, 2007). Various specifications of the relationship between ODA and economic growth were tested for this thesis, with the best performing equation being:

$$y_{it} = \beta_0 + ODA_{it}\beta_{ODA} + L_{it}\beta_L + K_{it}\beta_K + x_{it}\beta_x + \varepsilon_{it}$$

where all the variables are in natural logarithm form and,

where y_{it} is equal to the percentage growth rate in the real GDP per capita of the recipient country, a proxy for economic development of the country, ODA_{it} is the net disbursements of ODA as a percentage of GDP of the recipient country in current prices, L_{it} is the employment growth a proxy for the labour force of the population in the recipient country, K_{it} is the gross fixed capital formation as a percentage of GDP, a proxy for the capital stock of the recipient country and x_{it} represents the other variables affecting growth including the primary exports as a percentage of the GDP of the recipient country, macroeconomic stability in the recipient country, which is proxied by a ratio composed of the inflation rate, current account balance and government's fiscal position, and total

damage in the recipient country made up of the financial impact as a result of different types of disasters, as a percentage of GDP in the recipient country.

The panel regression is based on a balanced panel data set given that there are no missing values in the data used for the regression. The dependent variable is the economic growth rate measured as the percentage growth rate of real GDP per capita. On the right hand side of the regression equation there are the explanatory variables that best explain changes in the dependent variable. All variables are in natural logarithmic terms.

ODA/GNI ratio

The absorptive capacity of ODA is proxied by the total net disbursed ODA including grants and concessionary loans to the recipient country, as a ratio of the recipient country's GNI. Here ODA is defined as those flows to developing countries on the DAC List of ODA Recipients and to multilateral development institutions which are:

- provided by official agencies, including state and local governments, or by their executive agencies;
- each transaction of which:
  - is administered with the promotion of the economic development and welfare of developing countries as its main objective;
  - is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 percent per annum).

In the majority of cases, net ODA flows to developing countries are positive but for a few donor-recipient country pairs they are negative due to the paying off of previous

concessional loans computed as ODA. Disbursements rather than commitments of ODA have been used since research indicates that this is the best measure of how much a donor is actually spending on aid. The impact of ODA is ambiguous but likely to be positive in good-policy countries where the reform is initiated by local government and supported timely and efficiently by donors. However, a number of factors such as the fungibility of aid, poor institutions and corruption or natural disasters may hinder the efficiency of aid thus leading to a negative relationship between the ratio of ODA/GNI and economic growth.

Given that the variable is in natural logarithmic form this addresses also whether thereis a decreasing marginal returns to aid. Aid effectiveness depends on the level of aid itself. However, there might be decreasing marginal returns to aid, empirically evident by the positive coefficient of the aid variable combined with the negative coefficient of its squared value. Several studies have found such results (Burnside and Dollar 2000, Collier and Dollar, 2001, 2002, Hansen and Tarp 2000, 2001, Lensink and White 2000), which reflects limited absorptive capacity for aid. Besides, an upper threshold to aid due to absorptive capacity, there may also be a minimum level of aid needed for effectiveness, justifying the need for a *'big push'* (Gomanee et al 2003, Guillaumont and Guillaumont Jeanneney 2007). This explains the inclusion of the squared value of the aid variable as an explanatory variable in the regression equation. A priori, a positive coefficient is expected for the ODA/GNI coefficient and a negative coefficient is expected for the squared coefficient. Conversely, if the coefficients are respectively negative and positive or only significant and positive for the squared term, it is an argument in favour of a big push.

Disaster proneness

Several studies indicate that natural disasters have adverse macroeconomic impacts. Raddatz (2007) investigated geologic, climatic and human disasters in low-income countries and found that climatic and human disasters were associated with 2 per cent and 4 per cent declines in GDP in the year following the event, whereas geological disasters had a small and insignificant effect. Overall disasters were found to lead to negative economic growth in the mid-term and that aid and remittances attenuate adverse macro-economic impacts. In order to study the relationship between disasters and economic growth, disaster proneness is measured by the total amount of damage as a ratio of GDP. This indicator provides a measure of the impact a disaster might have in terms of a country or region's economy.

Disasters are expected to have a significant impact on the economic growth of this set of countries. Between 2003 and 2013, drought in Sub-Sahara Africa affected 27 countries and nearly 150 million people. Estimates by the Food and Agricultural Organization of the United Nations (FAO) indicate that crop and livestock production losses due to these droughts amounted to $23.5 billion. This represents approximately 77 per cent of all production losses caused by droughts worldwide during the same period. It is likely that production losses due to drought in Sub-Saharan Africa are considerably higher. The above figure is considered to be an underestimate, particularly because of the limited statistics available for the study on the livestock subsector. In addition, as argued by Adesina (2015), following historical patterns, the drought scenario assumes a temporary shock to productivity in agriculture that initially reduces agricultural output by around 10 per cent and dissipates over the next two years. Prices of agricultural products and food would rise following the drop in output

and Sub-Saharan Africa imports would increase in this scenario, reducing GDP by almost one per cent below the baseline. Therefore, against this background, it is expected that total disaster damage as a per cent of GDP negatively affects economic growth of a country.

Macroeconomic stability index

An unstable economy is considered to have a negative impact on economic growth as a result of disequilibrium in the aggregate expenditure and aggregate supply. In fact, according to Briguglio et al (2010) macroeconomic stability is explained in terms of the interaction between an economy's aggregate demand and aggregate supply. If aggregate expenditure and aggregate supply are in equilibrium, then the economy is characterized by an internal balance, thus having a sustainable fiscal position, low price inflation, an unemployment rate close to the natural rate, as well as by the level of external debt. In line with this argument, in their study, Briguglio et al (2010) develop a macroeconomic stability component in their resilience index that consists of the fiscal deficit to GDP ratio, the sum of the unemployment and inflation rates, and the external to GDP ratio. In this thesis, a macroeconomic instability index is constructed rather than a stability index. There are several factors that are named as potential determinant of the macroeconomic instability such as instability in inflation, incorrect fiscal policy, instability of real exchange rate and exchange relationship. The instability index used in this regression model is composed of the inflation rate in the recipient country, which captures amongst other things the effect of monetary policy; the government deficit to GDP in current prices which captures the effect of fiscal policy; and current account balance to GDP in current prices which relates to foreign sector imbalances. It is hypothesized that the GDP volatility prevailing in the Sub-

Saharan Africa countries considered in this thesis, is influenced by these factors. The argument that is being proposed here is that macroeconomic instability has a negative effect on the economic growth of a country.

According to theory, the effect of inflation on growth is rather mixed in nature. According to the Mandel and Tobin hypothesis, inflation has a positive effect on growth, due to the fact that the anticipated inflation led to a lower real interest rate thus leading to a change in the portfolio of assets from real monetary asset to the real physical asset (Ghura, 1995). However, in the set of country that we are assessing inflation is more likely to act as a regressive and arbitrary tax on the lower income brackets. This occurs mainly due to the fact that the poor tend to hold most of their financial assets in the form of cash rather than in interest-bearing assets. In addition, they are generally less able than the better off to protect the real value of their incomes and assets from inflation. Thus, high inflation erodes the real wages and assets of the poor more than those of the non-poor. Moreover, beyond certain thresholds, inflation also curbs output growth, an effect that will impact even those among the poor who infrequently use money for economic transactions.

Fiscal policy is prima facie expected to have a positive effect on economic growth, since as also argued by Briguglio et al (2010) it is one of the main tools available to government and which can be used as a shock-counteracting nature. Thus, a healthy fiscal position is beneficial in times of adverse shocks, since it would allow adjustments to taxation and expenditure policies. However, according to Araghi and Ramezanpour (2001) in many developing countries fiscal policy is also considered as a destabilizing factor. Getting access to resources to meet budget deficit, poor

management of macroeconomic and lack of an appropriate strategy of development have caused in such countries extreme spread of harmful effects of macroeconomic instability, thus casting doubt on the positivity of government interventions.

The current account balance may have a different impact in reality. The current account can be expressed as the difference between the value of exports of goods and services and the value of imports of goods and services. This implies that a current account deficit is when a country's government, businesses and individuals import more goods, services and capital than it exports. A current account deficit may therefore reflect a low level of national savings relative to investment or a high rate of investment. For capital-poor developing countries, which have more investment opportunities than they can afford to undertake because of low levels of domestic savings, a current account deficit is normally the case. A deficit potentially spurs faster output growth and economic development. However, according to Sahin and Mucuk (2014), recent research does not indicate that developing countries that run current account deficits grow faster. Moreover, in practice, private capital often flows from developing to advanced economies.

Given that these three indicators are not in the same unit and more importantly they have different ranges, with different minimums and maximums, their values were not simply aggregated. The index is based on the general formula: $I_t = (X_t - X_{Min}) / (X_{Max} - X_{Min})$, where I_t refers to the index value of variable X, that is, macroeconomic instability indicator X, in year t, X_t refers to the actual value of indicator X in year t, and X_{Min} (X_{Max}) refers to the minimum (maximum) value of indicator X. Note that in line with their construction, all sub-indices have common ranges, that is, they are

bounded between 0 and 1. Then, the index is constructed by taking a simple average of the three sub-indices obtained. Thus, the index is also bounded between 0 and 1.

Political stability

The political stability index is measured through an unweighted average of the six dimensions of governance, that is, voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. This explanatory variable was introduced in the regression model in order to act as a measure of the quality of governance and institutional settings in the recipient countries.

6.3 Sources of data

The regression model used is composed of a panel dataset of 20 SSA countries over the period of 14 years ranging from 2000 to 2014.

The real GDP per capita growth rate of the recipient countries is sourced from the World Bank, specifically the World Development Indicators database (**http://databank .worldbank.org/data/reports.aspx?source=world-development-indicators**).

The data for the ODA/GNI ratio is sourced from the OECD DAC's Geographical Distribution of Financial Flows to Aid Recipients (**http://stats.oecd.org/Index.aspx ?DataSetCode=DACIND**). Donors of the net disbursed ODA are the EU Member

States while the GNI is that of the recipient country. Both indicators are measured in current prices.

The data on population and employment growth is sourced from the World Development Indicators database:

(**http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators**).

Data on the disaster proneness is sourced from the Emergency Events Database (EM-DAT) (**www.emdat.be**), maintained by the WHO Collaborating Centre for Research on the Epidemiology of Disasters (CRED). The EM-DAT database has worldwide coverage, and contains data on the occurrence and effects of natural disasters from 1900 to the present. CRED defines a disaster as a natural event that overcomes local capacity, thus necessitating the need for external assistance.[2] For a disaster to be entered into the EM-DAT database at least one of the following criteria must be fulfilled: (1) 10 or more people have to be reported killed; (2) 100 people have to be reported affected; (3) state of emergency is declared; and/or (4) international assistance is called for. The EM-DAT database includes three measures of the magnitude of the disaster: (1) the number of people killed; (2) the number of people affected; and (3) the amount of direct damage (measured in United States dollars). The indicator used

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[2] These disasters can be hydro-meteorological disasters including floods, wave surges, storms, droughts, landslides and avalanches; geophysical disasters including earthquakes, tsunamis and volcanic eruptions; and biological disasters covering epidemics and insect infestations (though these are much less frequent). Disaster cases include climatological, geophysical, hydrological, and meteorological disasters in EM-DAT definition. Climatological disasters include droughts, extreme temperatures, and wildfires; geophysical disasters are earthquakes and volcano eruptions; hydrological disasters are floods and landslides; and meteorological disasters include storms.

for the regression is the ratio between the total amount of damage and GDP, which provides a measure of the impact a disaster might have in terms of a country or region's economy.

Data used for the macroeconomic stability index are sourced from World Economic Outlook database of the International Monetary Fund (IMF) (**http://www.imf.org/external/ns/cs.aspx?id=28**). The variables used for the construction of this indicator are the inflation rate, the fiscal deficit as a percentage of GDP and the current account balance as a share of GDP, both measured in current prices.

Data on the primary exports of all food items is sourced from United Nations Conference on Trade and Development (UNCTAD):

(**http://unctad.org/en/Pages/statistics.aspx**).

6.4 Method of Estimation

There are three main approaches to regression analysis with panel data, that is, random effects model, fixed effects model and pooled regression. A panel data equation is usually given as follows:

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + u_{it}$$

where, i represents the cross sectional unit and t represents the time dimension of the variable. The estimation of such a model is dependent upon a number of assumptions whereby it is assumed that the:

1. The intercept and slope coefficients are stable over time and, the variances over time and across countries are captured by the error term.

2. There is a constant coefficient for the slopes but with varying intercepts across the countries.

3. There is a constant coefficient for the slopes but with varying intercepts across countries over time.

4. All the coefficients, including the intercept are different for each country.

5. The coefficients and the intercept vary across countries over time.

6.4.1 Fixed effects model

Torres-Reyna (2007) argues that fixed-effects model is used whenever one is interested in analyzing the impact of variables that vary over time. Fixed effects model explores the relationship between predictor and outcome variables within an entity, which in the case of this thesis is the country. Each entity in this model has its own individual characteristics that may or may not influence the predictor variables, such as the political system of a particular country could have some effect on trade or GDP. When using fixed effects it is being assumed that something within the variable may impact or bias the predictor or outcome variables and these must be controlled for. This is the rationale behind the assumption of the correlation between entity's error term and predictor variables. Fixed effect models remove the effect of those time-invariant characteristics such that one can assess the net effect of the predictors on the outcome variable. Another important assumption according to Torres-Reyna (2007) is that those time-invariant characteristics are unique to the country and should not be correlated with other characteristics. Each entity is different therefore the entity's error term and the constant (which captures characteristics) should not be correlated with

the others. If the error terms are correlated, then the fixed effect model is not suitable since inferences may not be correct and therefore one needs to model that relationship through the random-effects model.

Therefore, in line with Torres-Reyna (2007) explanation, the equation for the fixed effects model that includes the effect of the different intercepts, the use of differential intercept dummies is made and the equation is re-written as follows:

$$Y_{it} = \alpha_1 + \alpha_2 D_{2i} + \alpha_3 D_{3i} + \alpha_4 D_{4i} + \beta_2 X_{2it} + \beta_3 X_{3it} + u_{it}$$

where, $D_{2i} = 1$ if that observation is for country 2, 0 otherwise, $D_{3i} = 1$ if the observation is for country 3, 0 otherwise, and $D_{4i} = 1$ if it is for country 4, 0 otherwise. The intercept for country 1 is given by α_1. The number of dummies used is 3 in a four country scenario to avoid experiencing what is known as the dummy variable trap. Intercepts for country 2, 3 and 4 will be given by how much α_2, α_3 and α_4 respectively differ from α_1. A drawback with regards to the used of fixed effect models is that the use of dummy variables leads to a loss in degrees of freedom and that the dummy variables might be used simply to try and cover up some ignorance about the model.

6.4.2   Random effects model

The rationale behind random effects model is that, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model and not whether these effects are stochastic or not (Green, 2008). An advantage of the random effects model is that one can include time invariant variables, for example gender. In the fixed effects model these variables are absorbed by the intercept. The random effects model is:

$$Y_{it} = \beta X_{it} + \alpha + u_{it} + \varepsilon_{it}$$

where u_{it} is the *between* entity error while ε_{it} is the *within* entity error.

According to Torres-Renye (2007) random effects assume that the entity's error term is not correlated with the predictors which allows for time-invariant variables to play a role as explanatory variables. In random-effects one needs to specify those individual characteristics that may or may not influence the predictor variables. The problem with this is that some variables may not be available therefore leading to omitted variable bias in the model. Random effect models allow the generalization of the inferences beyond the sample used in the model.

6.4.3 Pooled ordinary least squares regression

According to Greene (2008), if individual effect u_i (cross-sectional or time specific effect) does not exist ($u_i = 0$), ordinary least squares produces efficient and consistent parameter estimates. Pooled Ordinary Least Squares Regression consists of five core assumptions:

- Linearity, which implies that the dependent variable is formulated as a linear function of a set of independent variable and the error (disturbance) term.

- Exogeneity, which implies that the expected value of disturbances is zero or disturbances are not correlated with any regressors.

- Disturbances have the same variance, thus being homoskedastic and non-autocorrelated.

- The observations on the independent variable are not stochastic but fixed in repeated samples without measurement errors.

- Full rank assumption says that there is no exact linear relationship among independent variables, implying no multicollinearity.

According to Greene (2008) if individual effect u_i is not zero in longitudinal data, heterogeneity may influence assumptions of exogeneity and disturbances. In particular, disturbances have heteroskedasticity and autocorrelation, that is, may not have same variance but vary across individual and/or are related with each other. This is an issue of nonspherical variance-covariance matrix of disturbances. The violation of the assumption on endogeneity renders random effect estimators biased. Hence, the OLS estimator is no longer best unbiased linear estimator and panel data models provide a way to deal with these problems.

6.4.4 Hausman test

Prior to choosing between the fixed effects model and the random effects, the Hausman test needs to be carried out. The Hausman test checks the null hypothesis, which is that the coefficients obtained by the Random Effect Model are similar to those obtained by the Fixed Effect model. If they are, that is, the P-value obtained is insignificant, then using the Random Effect Model is recommended. If, however, the P-value is significant (P < 0.5) then, the Fixed Effect Model should be used. It basically tests whether the unique errors are correlated with the regressors, whereby the null hypothesis is they are not.

6.5 Model specificities

After running the Hausman test to check which model to choose between the fixed effect model or the random effect model in order to see which model yields the most efficient and consistent results, it was found that the Random Effect Model is the better one between the two. This implies that the pooled regression model and the random effect model are left and the Breush Pagan LM test is required to decide between them. As suggested by

Torres-Reyna (2007) the LM test helps you decide between a random effects regression and a simple ordinary least squares regression. The null hypothesis in the LM test is that variances across entities are zero and there is no significant difference across units (i.e. no panel effect). Thus, with a P-value greater than 0.000, then the null hypothesis, which states that the Pooled Regression is the better model, is accepted and hence, the Random effect is not used for interpretation. Thus, this again led to the pooled panel regression equation for estimation purposes.

6.6 Benefits of panel data

The use of panel data provides a data set that is heterogeneous with multiple observations on each country in the sample. Moreover, with the use of panel data there is the benefit of having a large number of data points (N T), increasing the degrees of freedom and reducing the collinearity among explanatory variables hence improving the efficiency of econometric estimates. The larger number of observations and the richer variability provides more informative data, allowing for more precisely estimated parameters and for a more reliable use of the statistics asymptotic properties. The reduced collinearity problems, as a result of the large variability, allows for efficient estimates and for improved ability in discriminating among different hypotheses. In sum, as stated by Baltagi (2001), '*panel data give more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency.*'

6.7 Software used

In order to carry out the empirical analysis, Stata 14 was used. Stata is an excellent tool for data manipulation: moving data from external sources into the program,

cleaning it up, generating new variables, generating summary data sets, merging data sets and checking for merge errors, collapsing cross–section time-series data on either of its dimensions, reshaping data sets from 'long' to 'wide', and so on. In this context, Stata is an excellent program for answering ad hoc questions about any aspect of the data. In addition, Baum (2009) argues that in terms of statistics, Stata provides all of the standard univariate, bivariate and multivariate statistical tools, from descriptive statistics and t-tests through one-, two- and N-way ANOVA, regression, and principal components. In fact, according to Baum (2009) Stata is an excellent tool for data manipulation, including moving data from external sources into the program, cleaning it up, generating new variables, generating summary data sets, merging data sets and checking for merge errors, collapsing cross–section time-series data on either of its dimensions, and reshaping data sets from 'long' to 'wide'.

Stata's regression capabilities are full-featured, including regression diagnostics, prediction, marginal effects, robust estimation of standard errors, instrumental variables and two-stage least squares, seemingly unrelated regressions, vector autoregressions and error correction models, and so on. It has a very powerful set of techniques for the analysis of limited dependent variables. STATA provides also a specialized set of statistical capabilities. These include environments for time-series econometrics (ARCH, ARIMA, VAR, VEC), model simulation and bootstrapping, maximum likelihood estimation, nonlinear least squares and GMM estimation. Stata graphics are excellent tools for exploratory data analysis, and can produce high-quality 2-D publication-quality graphics in several dozen different forms. Every aspect of graphics may be programmed and customized, and new graph types and graph 'schemes' are being continuously developed. The programmability of graphics implies

that a number of similar graphs may be generated without any 'pointing and clicking' to alter aspects of the graphs.

6.8 A priori expectations

The control variables that are used in the empirical estimation include net disbursements of ODA as a ratio of the recipient's country GNI, political stability a proxy for good governance sourced from the Kaufmann Index, employment growth of a country, the proneness to natural disasters measured as a ratio to GDP, a macroeconomic stability index and gross fixed capital formation as a percentage of GDP. As shown in table 15, the control variable of ODA, governance, employment growth, gross fixed capital formation, primary exports, economic stability and political stability are a priori expected to positively affect growth. On the hand, proneness to natural disasters is a priori expected to negatively affect growth.

Table 15 - Expected signs of the control variables

Variable	Expected sign
ODA/GNI ratio	+
Gross fixed capital formation	+
Employment growth	+
Primary exports	+
Total disaster damage	-
Political stability index	+
Macroeconomic stability index	+

Accordingly the next chapter proceeds in presenting the regression results after adopting the empirical methodology outlined in this chapter.

7. EMPIRICAL RESULTS

7.1 Introduction

Aid effectiveness has attracted considerable attention in the economic development literature, both in terms of publications and policy debates. The emerging consensus would seem to be that aid does have a positive impact on growth but its effectiveness should be improved. Increased emphasis is being placed on poverty reduction in policy debates, and the international community has come to expect much of development aid, especially since the adoption of the Millennium Development Goals at the United Nations Millennium Summit in September 2000.

Early research on aid, dating back to the 1950s, was consistent with the optimism of aid effectiveness and was actually the founder of this optimism. Aid was analysed in the context of the two-gap model of aid, which itself was very much of the Harrod-Domar growth tradition. These early models implicitly assumed that one dollar of foreign aid will increase savings and investment by one dollar and therefore lead to increases in growth. If foreign aid was found to have a positive association with savings, it followed that aid impacts favourably on economic growth. However, subsequent studies started painting a mixed picture. In fact, research indicates that there were two strands of reasoning: the one whereby aid has a positive impact and the one that indicates that aid does not (Papanek, 1972; Papanek, 1973; Mosley 1980, Mosley, Hudson and Horrell, 1987). Research on aid effectiveness in the late 1990s has been very important in shaping donor policy. This research was used to develop an argument in favour of the fact that aid works, but only when policies are right (Collier, Burnside and Dollar, 2001). Thus, the emerging consensus seems to be that

aid in the form of ODA should lead to economic growth if utilised well, but this might not be the case due to several factors including the governance situation in the recipient country.

Against this theoretical and empirical background, this chapter presents the empirical analysis to test the hypothesis that there is a positive relationship between the level of EU ODA granted to Sub-Saharan Africa countries and these countries' economic growth, keeping other factors that affect growth constant. In testing this hypothesis, a dynamic panel data regression method is adopted, with the equation to be tested takes the form of:

$$y_{it} = \beta_0 + ODA_{it}\beta_{ODA} + L_{it}\beta_L + K_{it}\beta_K + x_{it}\beta_x + \varepsilon_{it}$$

where y_{it} is equal to the percentage growth rate in the real GDP per capita of the recipient country, a proxy for economic development of the country, ODAit is the net disbursements of ODA as a percentage of GDP of the recipient country in current prices, L_{it} is the employment growth a proxy for the labour force of the population in the recipient country, K_{it} is the gross fixed capital formation as a percentage of GDP, a proxy for the capital stock of the recipient country and xit represents the other variables affecting growth including the primary exports as a percentage of the GDP of the recipient country, macroeconomic stability in the recipient country, which is proxied by a ratio composed of the inflation rate, current account balance and government's fiscal position, and total damage in the recipient country made up of the financial impact as a result of different types of disasters, as a percentage of GDP in the recipient country.

The panel regression is based on a balanced panel data set given that there are no missing values in the data used for the regression. In the subsequent sections, the results obtained from this regression are presented. Diagnostic tests follow, which were carried out in order to have an output that is robust as possible. Caveats in the whole estimation process are presented in the final section which focuses on a discussion of the results including weaknesses.

7.2 Diagnostic tests

This section shows the diagnostic tests carried out in order to have robust estimators. These tests have to be carried out especially given that pooled OLS estimators have small standard errors that end up making the wrong inferences about the data. Errors are generally serially correlated in pooled OLS requiring the need for diagnostic tests.

7.2.1   Correlation coefficient

As a first step the variables were checked in order to determine the level of correlation between the independent variables. Table 16 presents the matrix of the dataset used, which enables to determine whether the regression suffers from multicollinearity and to also explain outcomes of the panel regression. According to theory, the closer the correlation is to 1.0, then the stronger the relationship between the two variables. A positive correlation coefficient means that as variable 1 increases, variable 2 increases, and conversely, as variable 1 decreases, variable 2 decreases. In other words, the variables move in the same direction when there is a positive correlation. A negative correlation means that the variables move in opposite directions when there is a negative correlation.

Table 16 - Correlation between the variables being estimated

```
             | DRGDPpc    DEMP   PRIEXP   NETODA     GFCF   ECSTAB   TOTDAM POLSTAB
-------------+-----------------------------------------------------------------------
-
    DRGDPpc |   1.0000
       DEMP |   0.2092   1.0000
     PRIEXP |  -0.0197  -0.0857   1.0000
     NETODA |   0.1819   0.1583   0.0709   1.0000
       GFCF |   0.2169   0.1015   0.0753  -0.2456   1.0000
     ECSTAB |   0.1794   0.0873   0.0161   0.2603  -0.1403   1.0000
     TOTDAM |  -0.1288  -0.0185   0.1107   0.0276   0.1189  -0.0797   1.0000
    POLSTAB |   0.0356  -0.0826  -0.0954  -0.0289   0.0242   0.0101   0.0120   1.0000
```

The lack of linear correlation between the variables implies that the regression does not suffer multicollinearity, where we would have one variable that is so highly correlated with another variable that there would be a perfect linearity between them. This can be ascertained because with the exlusion of political stability and primary exports, there are no additional variables that have a correlation relatively higher than the critical value of 0.8 (Stevens, 2002). This indicates that the variables used in the regression equation are sufficiently independent of each other. It is interesting to note from this correlation matrix that there is a negative relationship between the ratio of ODA/GDP and the political stability index which in this analysis is a measure of good governance. This means that as the ratio of ODA/GDP increases then the quality of institutions decreases. This calls for further assessment and might be explained by the fact that as aid increases economic growth increases thereby necessitating a lower need in terms of good governance in the form of rule of law and property rights. This lower need might be due to a more stable economy.

In addition, the variability and heterogeneity in the data is shown in table 17 which shows the mean, standard deviation, the minimum and maximum for each explanatory

variable of the regression equation used. From table 17 one cannot make any conclusions regarding the hypothesis being tested. It is just a means to describe the data being used for the empirical analysis and a means of showing the measures of central tendency and the measures of spread.

Table 17 - Summary statistics of the estimated variables

Variable	Obs	Mean	Std. Dev.	Min	Max
DRGDPpc	300	.0157018	.0583467	-.4817706	.2524447
DEMP	300	1.056728	.4940735	-2.592717	2.012478
PRIEXP	300	3.173408	1.408555	-1.75665	5.427281
NETODA	300	1.387177	.6910365	-1.015725	4.285882
GFCF	300	20.24282	1.474444	15.75775	23.476
ECSTAB	300	-1.75825	1.899352	-9.21	0
TOTDAM	300	-.8838901	2.554569	-4.60517	5.262326
POLSTAB	300	-.0301459	.9961023	-5.055827	5.054479

The minimum and maximum statistics for the real growth in GDP are in fact an indication of this measure of spread where we have a minimum value of around -0.5 per cent in and a maximum growth of around 0.3 per cent and with a mean percentage growth rate of around 0.02 per cent.

7.2.2   Autocorrelation

Autocorrelation represents the correlation between a variable and its previous values, you can use the ac and pac commands to investigate it. ac produces a correlogram (a graph of autocorrelations) with pointwise confidence intervals that is based on Bartlett's formula for MA(q) processes. In our case, it shows the correlation between the current value of the logarithmic transformation of the growth in real GDP per capita and its value ten lags ago. It can be used to define the q in MA(q) only in stationary

series. pac produces a partial correlogram (a graph of partial autocorrelations) with confidence intervals calculated using a standard error of 1/sqrt(n). The residual variances for each lag may optionally be included on the graph. It shows also the correlation between the current value of the series and its value ten quarters ago, but without the effect of the nine previous lags. It can be used to define the p in AR(p) only in stationary series. It preferable to use the 'corrgram' command that creates a table in which are shown both ac and pac, graphically and numerically. Apart for AC and PAC, this command displays the Box-Pierce'Q statistic, which tests the null hypothesis that all correlation up to lag k are equal to 0. This series shows significant autocorrelation given that the p-value is less than 0.05. therefore, we can reject the null that all lags are not autocorrelated. The graphic view of the AC shows a slow decay in the trend, suggesting non-stationarity. The graphic view of the PAC instead shows no spikes after the third lag, suggesting that all other lags are mirrors of the third one.

Table 18 - Correlellogram of the Y variable

LAG	AC	PAC	Q	Prob>Q	[Autocorrelation]	[Partial Autocor]
1	0.4330	0.5147	3.4147	0.0646		
2	-0.1717	-0.5782	3.9927	0.1358		
3	-0.3996	-0.4369	7.3856	0.0606		
4	-0.2531	-0.3799	8.8706	0.0644		
5	-0.0166	-0.6612	8.8777	0.1140		
6	0.3024	.	11.468	0.0749		
7	0.1548	.	12.232	0.0932		
8	-0.2241	.	14.062	0.0802		
9	-0.3284	.	18.646	0.0284		
10	-0.2012	.	20.71	0.0232		

Chart 32 - Graphical illustration of the variables in the regression equation
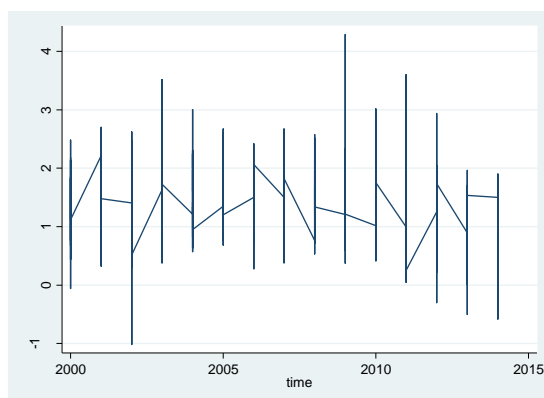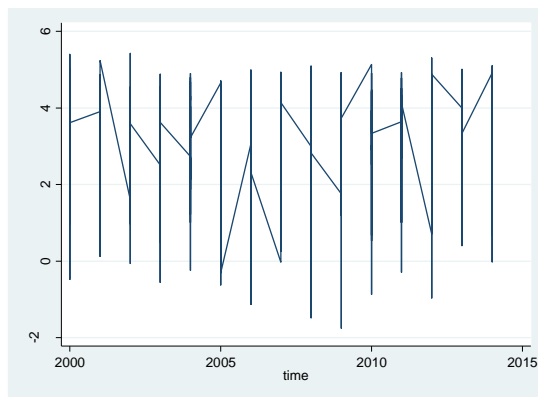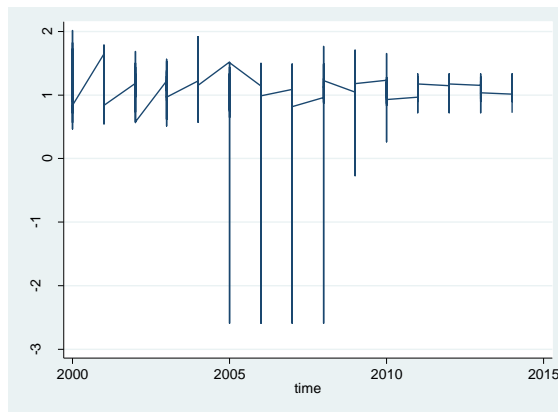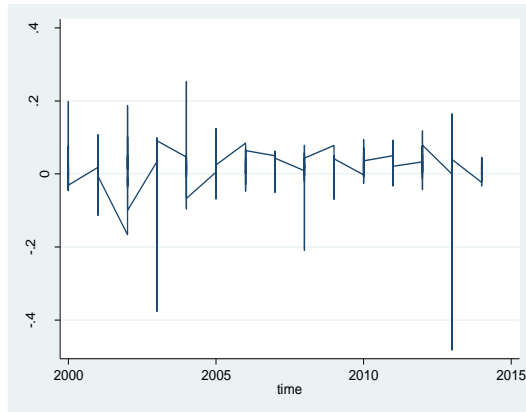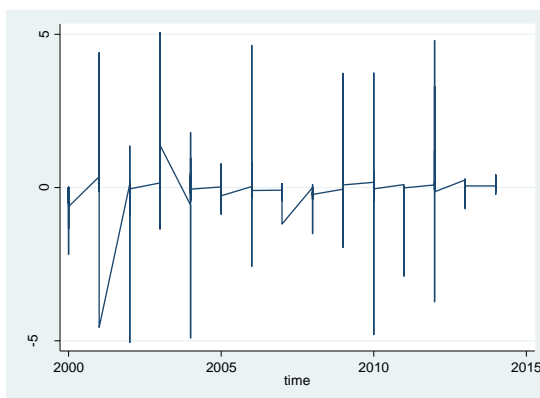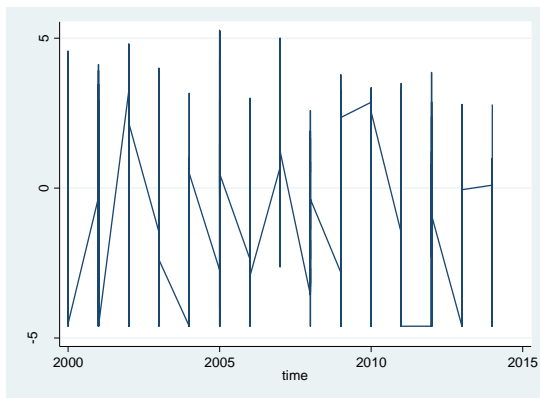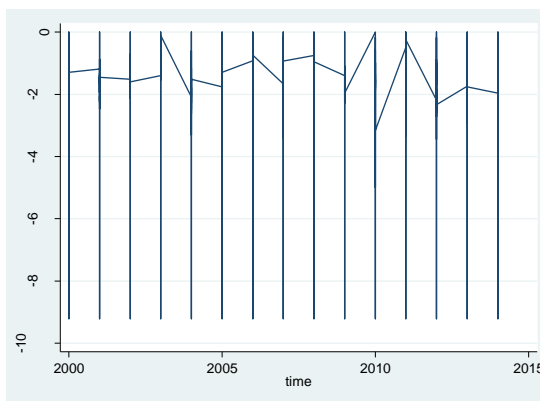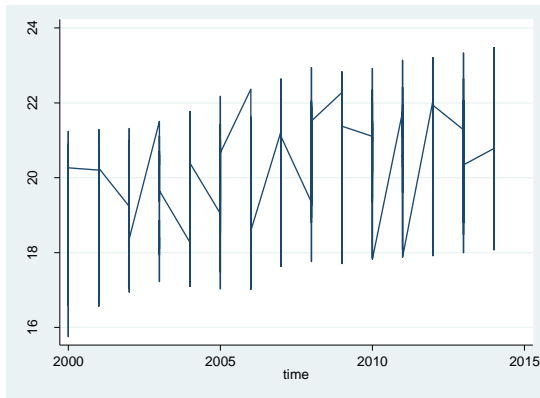
Stata implements a variety of tests for unit roots or stationarity in panel datasets with xtunitroot. The Levin–Lin–Chu (2002), Harris–Tzavalis (1999), Breitung (2000; Breitung and Das 2005), Im–Pesaran–Shin (2003), and Fisher-type (Choi 2001) tests have as the null hypothesis that all the panels contain a unit root. The Hadri (2000) Lagrange multiplier (LM) test has as the null hypothesis that all the panels are (trend) stationary. Options allow you to include fixed effects and time trends in the model of the data-generating process. The assorted tests make different asymptotic assumptions regarding the number of panels in your dataset and the number of time periods in each panel. xtunitroot has all your bases covered, including tests appropriate for datasets with a large number of panels and few time periods, datasets with few panels but many time periods, and datasets with many panels and many time periods. The majority of the tests assume that you have a balanced panel dataset, but the Im–Pesaran–Shin and Fisher-type tests allow for unbalanced panels. In addition, we can carry out the augmented Dickey-Fuller test that a variable follows a unit-root process. The null hypothesis is that the variable contains a unit root, and the alternative is that the variable was generated by a stationary process.

The results of the tests are presented in Appendix A. The null hypothesis is that the series contains a unit root, and the alternative is that the series is stationary. As the output indicates, the Levin–Lin–Chu test assumes a common autoregressive parameter for all panels, so this test does not allow for the possibility that some countries' real exchange rates contain unit roots while other countries' real exchange rates do not. Each test performed by xtunitroot also makes explicit the assumed behavior of the number of panels and time periods. The Levin–Lin–Chu test with panel-specific means but no time trend requires that the number of time periods grow more quickly than the

number of panels, so the ratio of panels to time periods tends to zero. The test involves fitting an augmented Dickey–Fuller regression for each panel. To estimate the long-run variance of the series, xtunitroot by default uses the Bartlett kernel using 10 lags as selected by the method proposed by Levin, Lin, and Chu. The Levin–Lin–Chu bias-adjusted t statistic is −4.5308 for the Y variable, which is significant at all the usual testing levels. Therefore, we reject the null hypothesis and conclude that the series is stationary. With regards to NET ODA this is not stationary at levels but is stationary when differenced.

In order to determine whether foreign aid leads to economic growth one must determine whether there is cointegration, which shows the existence of a long run relationship between the variables under review.

Table 19 - Results of the panel cointegration tests

```
----------------------------------------------+
 Statistic |   Value   |  Z-value  |  P-value  |
----------+----------+----------+----------|
      Gt  |   -3.024  |   -3.618  |   0.000   |
      Ga  |  -10.033  |    1.301  |   0.903   |
      Pt  |   -8.984  |    0.529  |   0.702   |
      Pa  |   -9.565  |   -0.461  |   0.322   |
----------------------------------------------+
```

From the results, the panel ADF-statisctic from the residual test is significant at the 5 per cent level. The coefficient of GDP_t is negative and significant at the 5 per cent level and therefore the panel cointegration test rejects the null hypothesis of no cointegration, providing evidence in support of the belief that aid and GDP are cointegrated for the whole panel. There is evidence of a long-run relationship between foreign adi and GDP per capita growth and therefore it follows that causality tests can be carried out.

7.2.3 Granger causality results

According to Tekin (2012) the Granger causality test is a useful device to determine whether the lags of a variable contribute better forecasting when the lagged values of the variable are introduced in the regression of the y variable on the lagged values of the y variable. According to Tekin (2012), in the panel data context, Granger non-causality can be tested by making use of a finite order panel VAR model wehre a random variable can be expressed as a function of its own past values and past values of other variables in the system. According to Granger (1988) cointegration implies Granger-causality in at least one direction. On this basis, there was as a first stage a cointegration analysis of the aid-growth relationship in the Sub-Saharan African countries and then Granger-causality as a second stage to see whether aid inflows lead to growth or vice versa. In Granger's characterization of causality, a stationary series X_t Grangercauses another stationary series Y_t if the inclusion of past values of X_t significantly decreases the prediction error variance of Y_t. If in a regression of Y_t on its own lags and on lags of X_t, all past values of X_t are jointly statistically significant, then the null hypothesis that X_t does not Granger-cause Y_t can be rejected. Therefore variable X_t is said to Granger-cause variable Y_t .

Table 20 - Results of the panel Granger causality test

```
Dumitrescu & Hurlin (2012) Granger non-causality test results:
------------------------------------------------------------
Lag order: 1
W-bar =          1.9343
Z-bar =          2.9546   (p-value = 0.0031)
Z-bar tilde =    1.5415   (p-value = 0.1232)
------------------------------------------------------------
H0: NETODA does not Granger-cause DRGDPpc.
H1: NETODA does Granger-cause DRGDPpc for at least one panelvar
(country_id).
```

The results of the Panel Granger causality test provide support for the hypothesis that foreign aid leads to economic growth. There is evidence of unidirectional causality running from foreign aid to economic growth at the 5 per cent critical level. From the panel data evidence, we can conclude that there is evidence in support of the foreign-aid leg growth hypothesis for the sample of SSA countries.

7.3 Summary of empirical analysis

This section presents a summary of the empirical analysis adopted in this theses in order to test the hypothesis.

7.3.1 Regression results

The pooled OLS regression was run on Stata with the results shown in table 21, which leads to the below regression equation:

$dRGDPpc_t = -0.26 + 0.015dEMP_t + 0.015EXP_t + 0.014ODA_t + 0.009GFCF_t + 0.006ECSTAB_t - 0.003TOTDAM_t + 0.004 POLSTAB_t$

t-statistic dEMP (1.92) EXP (2.65) ODA (2.37) GFCF(2.18) ECSTAB (3.11) TOTDAM (-1.96) POLSTAB(1.34)

Table 21 - Estimation results

```
------------------------------------------------------------------------------
   DRGDPpc |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------+------------------------------------------------------------------
      DEMP |     .015      .008       1.92   0.056    -.0003      .0294
     PRIEXP |     .015      .006       2.65   0.009     .0038      .0256
     NETODA |     .014      .006       2.37   0.019     .0024      .0264
       GFCF |     .010      .004       2.18   0.030     .0010      .0185
     ECSTAB |     .006      .002       3.11   0.002     .0022      .0096
     TOTDAM |    -.003      .001      -1.96   0.051    -.0053    9.35e-06
    POLSTAB |     .004      .003       1.34   0.183    -.0020      .0103
      _cons |    -.255      .092      -2.78   0.006    -.4359      .0743
-----------+------------------------------------------------------------------
    sigma_u |    .03
    sigma_e |    .05
        rho |    .24   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(19, 273) = 1.87                   Prob > F = 0.0167
```

The variables in the regression equation are all in natural logarithmic form such that the coefficients obtained are measures of elasticity. As shown in table 21 the coefficients of the variables in the model are as a priori expected and the estimated coefficients are statistically significant at the 5 per cent level of significance as shown by their t-statistics, where:

Employment growth

The variable of employment growth represents the human factor in the regression equation considered as an important factor of production for the low-income country. According to the obtained results, a 100 per cent increase in this variable leads to approximately 15 per cent increase in economic growth.

Primary Exports

Theory indicates that the higher the share of primary goods in a country's exports, the more likely it is to be vulnerable to commodity price shocks, thus impacting on the country's economic growth. According to the regression results, a 100 per cent increase in this variable increases economic growth by roughly 15 per cent. This is as a priori expected given that it is the unstable commodity prices that impact negatively economic growth and not primary exports per se.

ODA/GDP coefficient

The ratio of ODA/GDP represents the recipient economy's absorptive capacity of ODA. The foreign aid variable has a positive sign implying that aid has a positive impact on economic growth in the SSA countries, whereby a 100 per cent increase in this variable will increase economic growth by roughly 14 per cent. The variable used

here is net ODA disbursed, which includes grants and concessionary loans to developing countries. Disbursements rather than commitments of ODA have been used since research indicates that this is the best measure of how much a donor is actually spending on aid. This indicator represents also the presence of absorptive capacity through a decrease in the marginal return of aid beyond a certain amount.

Gross fixed capital formation

This variable is expected to have a positive impact on economic growth and as indicated by the regression results, a 100 per cent increase in this variable increases economic growth by around 10 per cent.

Economic Stability index

The economic stability index is as a priori expected positive and statistically significant, whereby a rise of 1 per cent in this index increases the GDP growth rate by 0.01 per cent. A higher numerical value of this index implies more stability. This index was composed through a rescaling or Normalisation of the Observations, whereby given that the components – inflation rate, current account deficit and gross government debt - of a composite index are not generally measured in the same manner, therefore they were converted to a similar scale in order to render them comparable and justifying an averaging procedure. The Max-Min formula: $XR_i = (X_i - X_{min}) / (X_{max} - X_{min})$ $i = 1,2,3,…,n$ was adopted where: XR_i is the re-scaled (or normalized) observation i in an array of n observations. X_i is a particular observation i in the same array of observations. X_{min} is the minimum value the same array of observations. X_{max} is the maximum value in the same array of observations. Regression

results obtained indicate that economic growth has been affected and increased in the years which macroeconomic stability has increased.

Total damage proneness

A negative relationship is present in the proneness to total damage indicator whereby a 1 per cent increase in this variable leads to a decline in the real GDP growth rate of 0.01 per cent. This negative relationship between total damage and economic growth is in line with the disaster theory which stipulates that as countries progress and develop, then they should have sufficient financial and technological resources to better manage disaster risk. Thus this indirect relationship arises through the implementation of counter measures that tend to lead to a better management of the adverse impact of disasters.

Political stability

The political stability index is also showing a positive impact on the economic growth of recipient countries, whereby a 100 per cent increase in this Index leads to an increase in economic growth of 0.4 per cent. This variable is measured through an unweighted average of the six dimensions of governance, that is, voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. This explanatory variable was introduced in the regression model in order to act as a measure of the quality of governance and institutional settings in the recipient countries. The coefficient obtained implies that good governance is important for an effective growth in the low-income economies in order to use resources efficiently.

7.4 Discussion on the results

This thesis has tried to investigate whether or not ODA has an impact on economic growth, and if yes, what kind of relationship exists between them. Using data from the World Bank, the IMF, the OECD as well as OECD-DAC, over the period of 2000 to 2014, and with various economic indicators used as independent variables, the thesis has analyzed the effect that ODA had over economic growth in the SSA countries using a panel dataset through STATA.

7.4.1   The Main Findings

The empirical results indicate that ODA granted does lead to economic growth of the recipient country, keeping other things constant. The control variables included in the regression model are the employment growth used as a proxy for the human capital factor of production, the gross fixed capital formation used as a proxy for the capital factor of production, net disbursements of ODA as a ratio of the recipient country's GNI, primary exports chosen on the basis of the fact that the higher the share of primary goods in a country's exports, the more likely it is to be vulnerable to commodity price shocks, an index for macro-economic stability, proneness to natural disasters measured through the total financial impact as a per cent of GDP in current prices, and an index for political stability.

However, there is scope for improvement in this analysis. It is important to point out that a vast majority of developing countries do not produce reliable figures on, for example, life expectancy, infant and child mortality, water access or poverty. Many, among the poorest and most vulnerable countries, do not report any data on most MDGs. When it is available, data are often plagued with comparability problems, and

MDG indicators often come with considerable time lags. Additionally, only a limited number of countries are equipped with national statistical agencies that produce high quality national survey programmes, and provide the information necessary for the rigorous monitoring of MDGs. Extending such high quality national data gathering to more countries should be a central focus of the Sustainable Development Goals. Reliable data and indicators are essential, not only to enable the international development community to follow progress in the poor countries, but for individual countries to effectively manage their development strategies. In addition, to the problem of data availability, there were more technical issues with the definition of several indicators that were used in monitoring the MDGs. For instance, when international poverty data was revised based on the results of the International Comparison of Prices project, led to drastic changes in the level of poverty for several countries, some of which are difficult to interpret. Moreover, hunger indicators as presented in the MDGs are severely deficient, whilst maternal mortality indicators are most often model-generated and thus lack a measured baseline as well as a reliable measure of progress (Global Monitoring Report, 2013).

Due to data limitations, the analysis was restricted to 20 SSA countries. A wider set of countries along with a longer time period might have led to a better analysis. Moreover, the explanatory variables were mainly limited to economic aspects. Human development is not only related to monetary aspects but also to aspects related to the well being of the individuals. Given data limitations throughout the sample, such indicators were not included, thus limiting the study to just economic aspects. The availability and the quality of data remain a concern in the assessment of both goals, and the robustness of underlying methodologies will require continued scrutiny.

Increasing the availability and quality of data is a key priority to strengthen analysis, policy formulation and policy implementation. Questionnaires were originally aimed at being disseminated to recipient countries of ODA in order to assess their perceptions towards ODA granted as well as to donor countries in order to view their opinion about increased ODA commitments. However, due to the subjectivity involved these questionnaires were not included in the analysis. All this might be fruitful in order to inject some ideas for further research in this area.

8. Case studies and additional empirical analysis

8.1 Objective of this chapter

In order to delve a little bit deeper into the results produced by the regression methodology, it was decided that sme case studies be conducted on a sample of six countries out of the twenty countries included in the regression. These were chosen to represent the lower end of the income per capita scale and the upper end, such as to determine commonalities and differences between them. The focus in this chapter was on the areas of the official development assistance granted to these countries by the EU, poverty, economic growth, primary exports, political stability, macro-economic stability and a non-income development index capturing life expectancy and education. The countries were ranked according to their performance in these variables between 2000 and 2014.

8.2 Background

As of 1 July 2016, the World Bank defines low-income economies as those with a Gross National Income (GNI) per capita, calculated using the World Bank Atlas method, of $1,025 or less in 2015. It is interesting to note that according to World Bank statistics, the percentage of people living in countries defined as low-income has increased by 80 per cent over the past two decades. In 1994, there were 3.1 billion people living in 64 low-income nations, whereas in 2014 there were 613 million people in 31 of the world's poorest countries. These countries have become middle-income economies, which are those with a GNI per capita of between $1,046 and $12,736.

High-income economies are those that yield more than $12,736 GNI per capita a year. In addition, World Bank statistics indicate that nearly every low-income country is now in Sub-Saharan Africa (SSA), with just Afghanistan, Cambodia, Haiti and Nepal ranking in the poorest category from outside Africa. Malawi has raised its GNI per capita by just $70 over the past 20 years to $250 per person. In contrast, Norway has seen its per capita GNI soar from $26,010 to $103,050 over the same period.

Taking into account the World Bank's definition, the low-income SSA countries that were taken into consideration for this thesis are the following: Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Eritrea, Ethiopia, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mozambique, Rwanda, Senegal, Sierra Leone, Somalia, South Sudan, Tanzania, Togo, Uganda, Zimbabwe. However, in order to be able to determine common traits and derive policy implications this section focuses on a set of six countries within this group, namely Benin, Burundi, Central African Republic, Guinea, Liberia and Mali. A common aspect in the economy of these low-income countries is the impact of the price of oil, which is certainly a major headwind for African markets.

The analysis of this section will first provide an insight into the economic aspects of each of the countries and then focusing on the social aspects of these country. In addressing the social aspects, the Human Development index will be reverted to. The HDI is a summary measure for assessing progress in three basic dimensions of human development, mainly a long and healthy life, access to knowledge and a decent standard of living. A long and healthy life is measured by life expectancy at birth. Knowledge level is measured by mean years of education among the adult population,

which is the average number of years of education received in a life-time by people aged 25 years and older; and access to learning and knowledge by expected years of schooling for children of school-entry age, which is the total number of years of schooling a child of school-entry age can expect to receive if prevailing patterns of age-specific enrolment rates stay the same throughout the child's life. The standard of living is measured by Gross National Income (GNI) per capita expressed in constant 2011 international dollars converted using purchasing power parity (PPP) conversion rates.

Furthermore, the Multilevel Poverty Index (MPI) will also be used. This index identifies multiple overlapping deprivations suffered by households in three dimensions: education, health and living standards. The education and health dimensions are each based on two indicators, while standard of living is based on six indicators. All of the indicators needed to construct the MPI for a country are taken from the same household survey. The indicators are weighted to create a deprivation score, and the deprivation scores are computed for each household in the survey. A deprivation score of 33.3 per cent (one-third of the weighted indicators) is used to distinguish between the poor and nonpoor. If the household deprivation score is 33.3 per cent or greater, the household (and everyone in it) is classified as multidimensionally poor. Households with a deprivation score greater than or equal to 20 per cent but less than 33.3 percent live near multidimensional poverty. Finally, households with a deprivation score greater than or equal to 50 per cent live in severe multidimensional poverty.

8.2.1   Benin

Out of the six sample countries, Benin is one of the countries that recorded a high average real GDP per capita over the 2000 to 2014 period. Similar to the other low-income countries in the sample, Benin is characterized by a significant rural sector and a more formal but less competitive urban sector. A look at Benin's economy indicates that this country relies heavily on informal re-export and transit trade to Nigeria, which makes up roughly 20 per cent of GDP, and on agricultural production. According to World Bank reports, Benin is vulnerable to exogenous shocks, primarily: adverse weather conditions, terms of trade shocks (cotton and oil prices), and developments in Nigeria.

Following satisfactory macroeconomic results during the 1990s, Benin currently faces a significant slowdown of growth; the real growth rate was only 3.4 per cent in 2004, while it averaged 5 per cent during the 1990s. With a population growth rate fluctuating around 3 per cent, poverty reduction is inevitably very slow. This slowdown is due to both temporary and structural factors. The year 2004 was characterised by a difficult regional and international environment for Benin's economy, particularly the maintenance of trade restrictions imposed by Nigeria on exports from Benin and unsatisfactory oil and cotton prices. Although Benin's macroeconomic climate showed clear improvement up to the beginning of this decade, Benin's economy remains fragile and vulnerable to external shocks. World Bank statistics indicate that growth has been relatively significant in recent years at 4.8 per cent in 2012, 7.2 per cent in 2013, and 6.4 per cent in 2014 as indicated in Chart 33. In this chart, population growth increased and then started declining while economic

growth fluctuated widely from peaks to throughs with not such a direct relationship between the two variables.

Chart 33 - Real GDP growth and population growth (%)
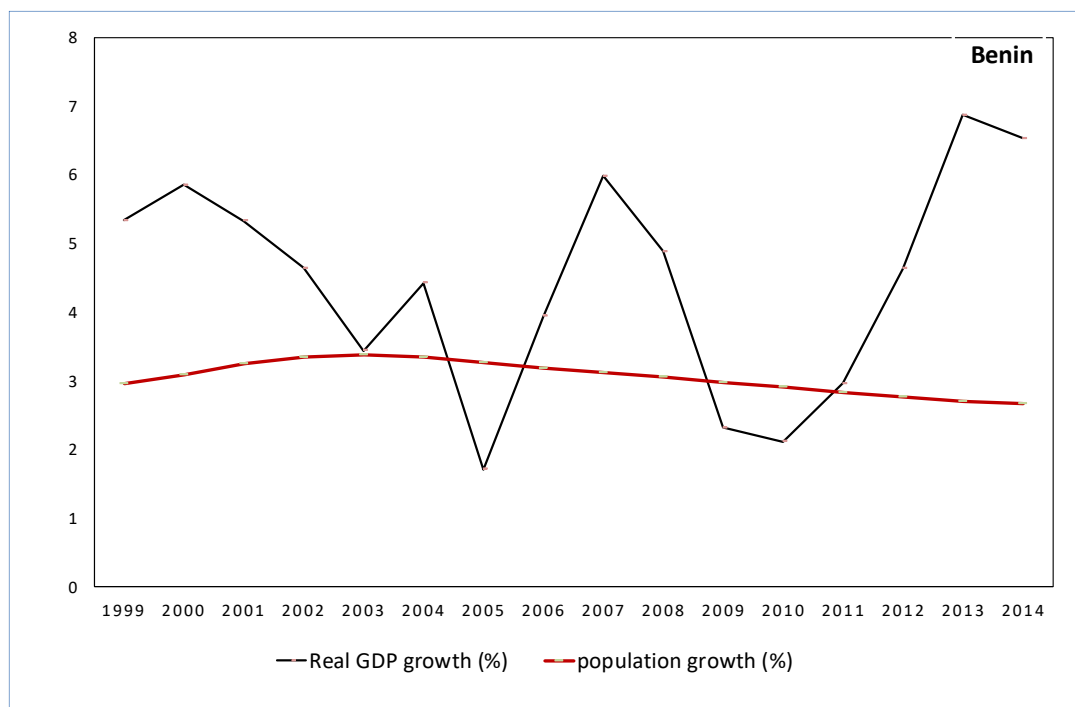
Source: World Bank

While the primary sector was the driving force behind growth in terms of volume in the early years of 2000, the recurring effect on the secondary and tertiary sectors was cancelled out by the weak competitiveness of the industrial sector and the reduction in exports and re-exports to Nigeria. World Bank statistics indicate that the secondary sector recorded a decline in 2004 in comparison to the increase recorded in 2003. This decline was due to the textile, chemical and food industries, since their production is mostly destined for Nigeria. World Bank statistics indicate that the tertiary sector only grew 0.4 per cent, compared with 6.4 per cent in 2003; this was also due to the decline in trade and affected all branches of trade, transport, banking and insurance. These

trends were reversed in the late years of 2000 whereby the decline in cotton production caused a fall in the growth rate of the primary sector. It is interesting to note Benin's reliance on the various economic sectors in order to determine in which it has a comparative advantage. As indicated in Chart 34, Benin relies heavily on food exports followed by fuel exports.

Chart 34 - Benin's reliance on agriculture, services and industrial sectors
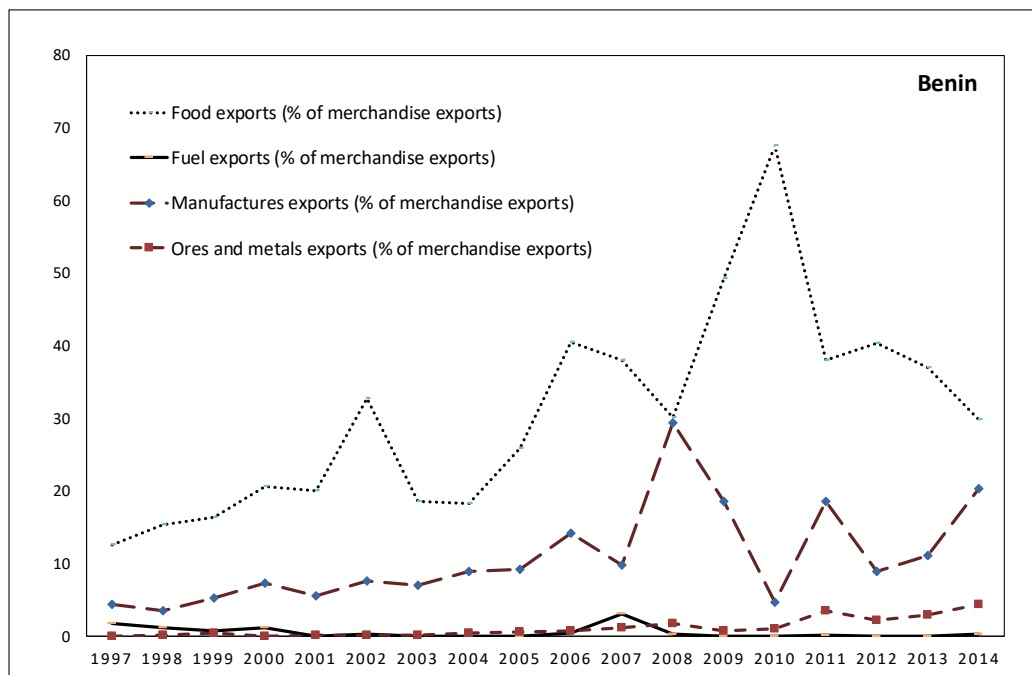
Source: World Bank

Chart 35 - Composition of value added in Benin's economy
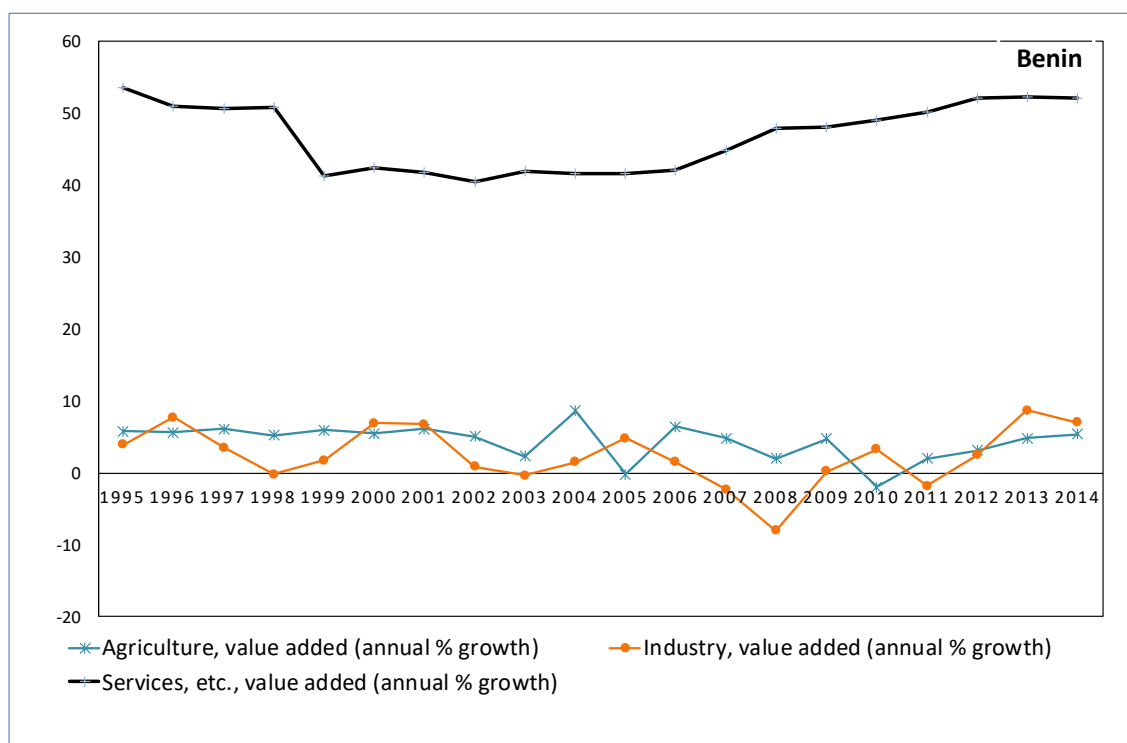
Source: World Bank

According to the Least Developed Countries Report (2010), an analysis of the demand composition shows that public investment increased by 11.2 per cent in 2004, compared with 8.2 per cent in 2003. The increase was smaller in the subsequent years as a result of the poor rate of implementation of the poverty reduction strategy programme and as a result of measures to reduce investment expenditure by 40 billion compared with estimates, in order to limit the budget deficit. This led to the achievement of the Millennium Development Goals (MDGs) being seriously compromised. World Bank statistics indicate that private investment rose by only 1.9 per cent in 2004, in comparison to an increase of 21.5 per cent in 2003. The year 2005 ought to show an improvement in private investment, with a rise forecast at 6 per cent. Consumption rose by only 1.6 per cent in 2004 compared with 5.1 per cent in 2003,

resulting from the dual effect of a reduction in public consumption of 0.9 per cent and an increase in private consumption of 2 per cent.

The economy has largely recovered from loses suffered from the global financial crisis. Real GDP growth rates increased to above 5 per cent. However, growth is highly dependent on external factors, such as price developments in the world market and in neighboring Nigeria. This is why the global financial crisis hit economically marginalized Benin indirectly but sharply. While inflation remained moderate in the medium term, and was softened by favorable oil prices, a general decline in world trade affected the country. The overall level of economic performance was relitvely poor due to the low level of industrial production and export of goods produced in Benin, a high degree of social inequality and extreme vulnerability to external factors. According to the United Nations Economic Commission for Africa (2013) the economy of Benin was affected by the fact that agricultural export prices have eased. After a sharp rise in 2011, the price of cotton declined again during 2012 as demand contracted in the wake of high prices. This affected Benin especially given the fact that in this country cotton is an important commodity.

Benin's social situation

According to the latest Human Development Indicators report, Benin's HDI value for 2015 stood at 0.485, thus implying that it falls under the category of a low human development country. Between 1990 and 2015, Benin's HDI value increased from 0.345 to 0.485, an increase of 40.6 per cent. The following table shows Benin's progress in each of the HDI indicators. Between 1990 and 2015, Benin's life expectancy at birth increased by 6.3 years, mean years of schooling increased by 1.9

years and expected years of schooling increased by 5.4 years. Benin's GNI per capita increased by about 44.0 per cent between 1990 and 2015. Benin's 2015 HDI of 0.485 is below the average of 0.497 for countries in the low human development group and below the average of 0.523 for countries in Sub-Saharan Africa. From Sub-Saharan Africa, countries which are close to Benin in 2015 HDI rank and to some extent in population size are Guinea-Bissau and Rwanda, which have HDIs ranked 178 and 159, respectively.

Table 22 - Benin's HDI trends based on consistent time series data

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	53.5	5.3	1.6	1,374	0.345
1995	54.9	5.9	2.2	1,464	0.371
2000	55.3	6.6	2.6	1,638	0.395
2005	57.1	8.7	2.8	1,687	0.434
2010	58.8	9.8	2.8	1,746	0.454
2011	59.0	10.0	2.8	1,749	0.458
2012	59.2	10.3	3.0	1,779	0.466
2013	59.4	10.7	3.2	1,852	0.475
2014	59.6	10.7	3.3	1,924	0.481
2015	59.8	10.7	3.5	1,979	0.485

Source: UNDP, Human Development Report 2017

The most recent survey data publicly available at the time of writing for Benin's MPI estimation refer to 2011/2012. In Benin, 64.2 per cent of the population equivalent to 6,454 thousand people are multidimensionally poor while an additional 16.9 per cent live near multidimensional poverty (1,699 thousand people). The breadth of deprivation (intensity) in Benin, which is the average deprivation score experienced

by people in multidimensional poverty, is 53.3 per cent. The MPI, which is the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivations, stood at 0.343 as shown in Table 23 which compares multidimensional poverty with income poverty, measured by the percentage of the population living below PPP US$1.90 per day. According to this table, income poverty only tells part of the story. The multidimensional poverty headcount is 11.1 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Table 8 also shows the percentage of Benin's population that lives near multidimensional poverty and that lives in severe multidimensional poverty. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in multidimensional poverty in Benin.

Table 23 - The most recent MPI for Benin

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		
				Near poverty	In severe poverty	Below income poverty line
2011/2012	0.343	64.2	53.3	16.9	37.7	53.1
	Contribution to overall poverty of deprivation in (%)					
	Health	Education	Living standards			
2011/2012	24.8	33.1	42.1			

Source: UNDP, Human Development Report 2017

As indicated in Table 24, the gross primary enrolment rate for both males and females went up from 50.9 per cent in 1990 to 125.6 per cent in 2014, whereas the pupil/teacher

ratio increased from 30.5 in 1990 to 52.6 in 2000 and then declined to 45.9 by 2014.
Both the government expenditure on education and the capital expenditure as a
percentage of total expenditure in primary public institutions suffered declines, where
the latter in primary public institutions declined form 14.7 per cent of the GDP in 2010
to 7.2 per cent in 2014.

Table 24 - Benin's education indicators

	1990	1995	2000	2005	2010	2013	2014
Government expenditure on education as % of GDP (%)	..	..	2.9	3.6	5.0	4.6	4.3
Capital expenditure as % of total expenditure in primary public institutions (%)	..	..	..	..	14.7	9.2	7.2
Pupil-teacher ratio in primary education (headcount basis)	30.5	49.9	52.6	46.8	46.4	43.7	45.9
Gross enrolment ratio, primary, gender parity index (GPI)	0.5	0.6	0.7	0.8	0.9	0.9	0.9
Gross enrolment ratio, primary, both sexes (%)	50.9	69.4	81.2	98.5	116.3	124.3	125.6

Source: World Bank

It is interesting to note the net ODA received as a per cent of the recipient country's
GNI and the growth in real GDP per capita during the period under review, as shown

in Chart 36. According to this chart, whilst net ODA received continued to increase during 2000 to 2014 the growth in real GDP per capita recorded declines.

Chart 36 - Net ODA received and growth in real GDP per capita
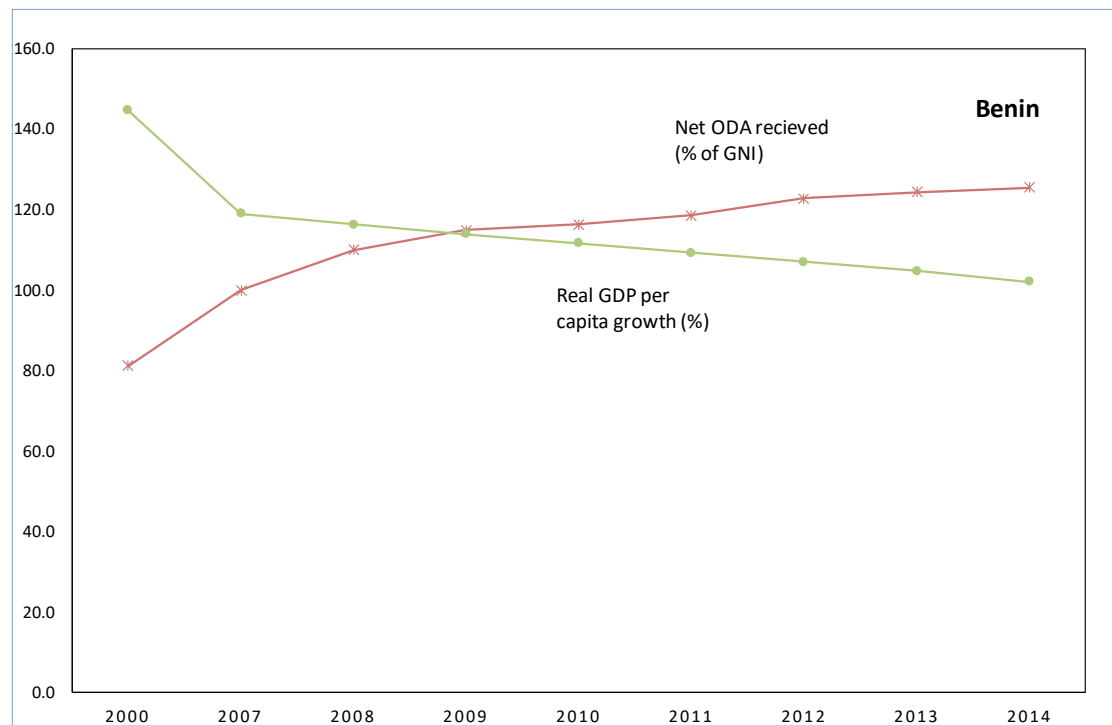
Source: World Bank

Net official development assistance (ODA) consists of disbursements of loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 per cent) that are granted. As can be seen in Chart 36, whilst net ODA received as a per cent of GNI increased, the real GDP per capita growth recorded a declining trend thus implying that there are factors impinging on the overall economic performance. In fact, according to UNCTAD (2016), the persisting presence of corruption hinders the effectiveness of ODA as well as the increasing frequency of disasters drains the resources available that may be used elsewhere.

8.2.2 Burundi

According to the six sample countries, Burundi is among one of the countries that recorded a low performance in economic growth. Research indicates that Burundi is emerging from an extended period of political instability and civil strife, during which the country's economy and business activity were severely damaged. (UNDP, 2016) Data by the World Bank indicates that during 2000 to 2014 there was little investment and little business formation, as wella as that agricultural producers withdrew from the cash economy and lived largely subsistence livelihoods. Prices for Burundi's main export crops declined and the domestic and global market linkages were severely hampered. The share of the secondary sector in Burundi's economy declined from 21.2 per cent in 2000 to 18.3 per cent in 2011. The past decade was marked by heavy investment in information and communications technology, which has become an essential driver of the country's efforts to emerge from isolation. World Bank statistics indicate that economic growth was 4 per cent in 2011. This was due to falling global demand for foodstuffs and a sharp rise in fuel prices. Although inflation rose sharply, even over 10 per cent in the last quarter of 2011, it was 8.3 per cent over the year. Structural reforms and measures to revive the economy and fight poverty were mostly inadequate, because of weak institutional structures, political instability and lack of security. Statistics also show that the country achieved good results in education and health provision thanks to free primary education and health-care for pregnant women and children under 5 years of age.

Chart 37 - Burundi real GDP growth and population growth
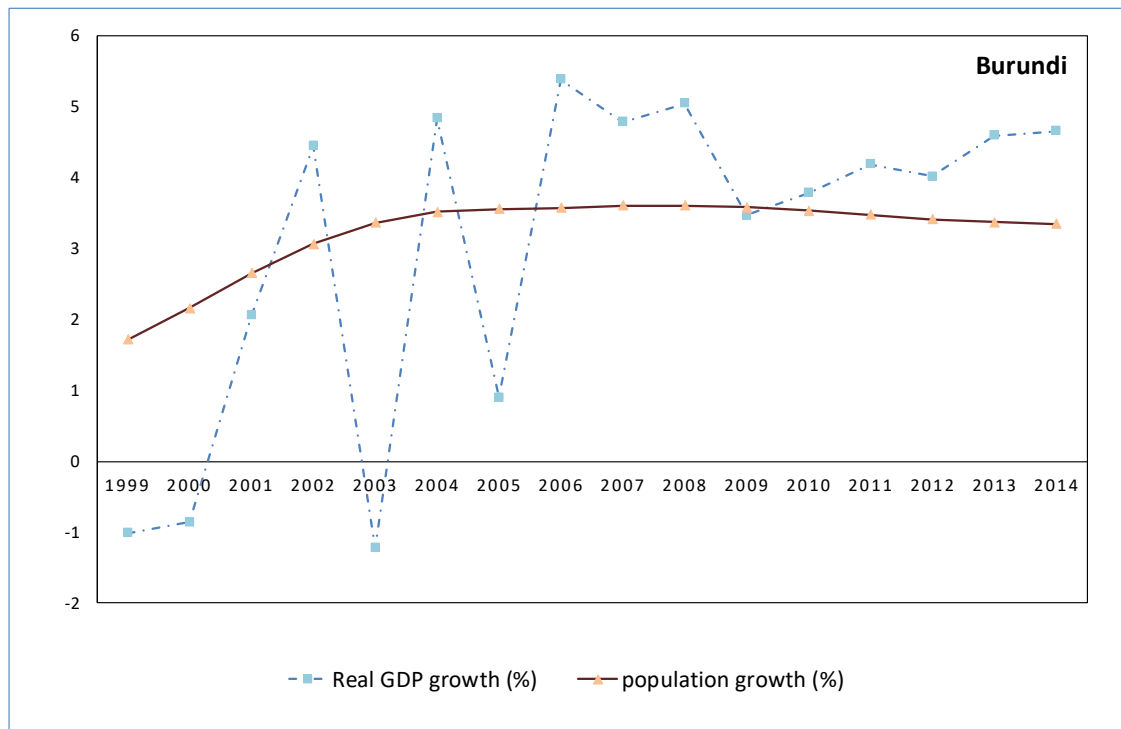
Source :World Bank

Chart 38 - Developments in the main export sectors
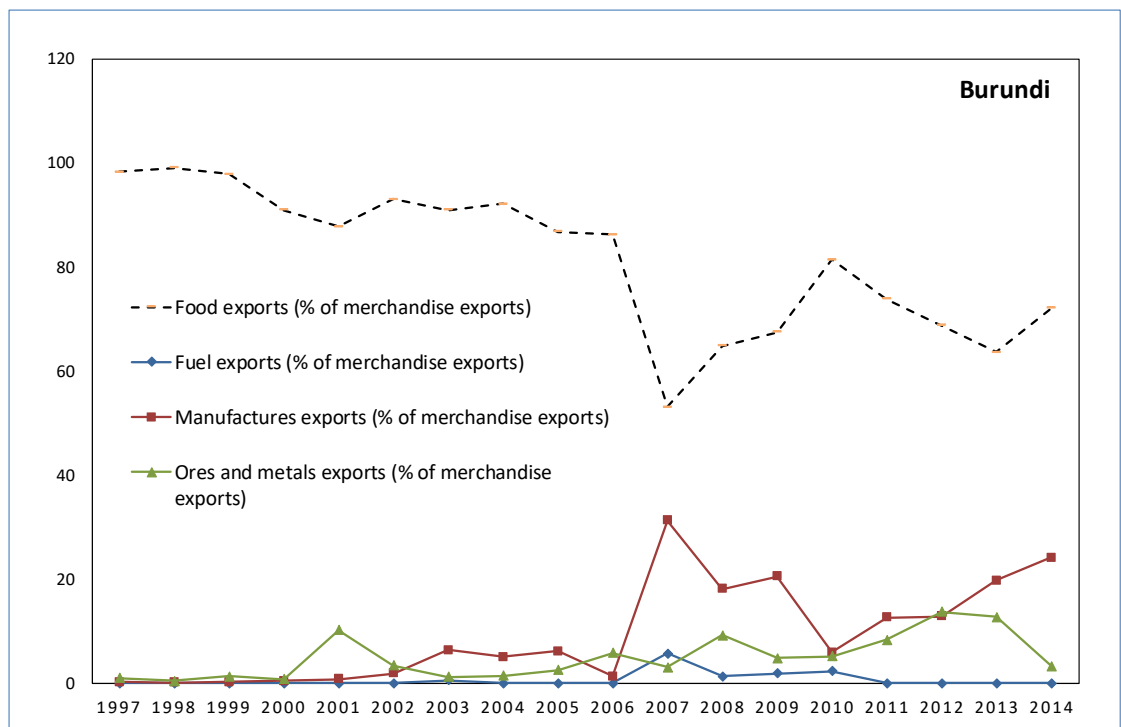
Source: World Bank

Table 25 - GDP by sector (percentage of GDP at current prices)

	2011	2016
Agriculture, forestry, fishing and hunting	41.0	39.2
of which fishing	0.5	0.5
Mining and quarrying	0.4	0.5
of which oil	...	...
Manufacturing	11.2	11.3
Electricity, gas and water	0.6	0.6
Construction	4.3	3.5
Wholesale and retail trade; Repair of vehicles; House	20.3	20.7
of which hotels and restaurants	14.1	15.2
Transport, storage and communication	3.6	4.9
Finance, real estate and business services	0.1	0.7
Public administration and defence	6.3	6.8
Other services	12.1	11.9
Gross domestic product at basic prices / factor cost	**100**	**100**

Source: World Bank

The post-conflict situation remains a handicap for Burundi, and prevents it from enjoying a favourable external environment. However, the economy made progress, with stable growth, at around 4 per cent in 2011, almost the same as in 2010 at 3.9 per cent. Fuel and foodstuff price rises undermined the economy, heavily impacting the country's external position, the state of public finances and living conditions of the population. Agriculture is the mainstay of the Burundi economy, making up over 36.4 per cent of GDP, mainly through coffee and tea crops. Coffee exports represent 70 per cent of the state's foreign exchange. In 2011, good weather and far reaching reforms in networks allowed coffee production to grow in volume, reaching some 30 000 tonnes, compared to 23 000 tonnes in 2010. Tea production is thought to have grown from 8 016 tonnes in 2010 to 9 000 tonnes in 2011. Moreover, more obvious growth was registered in stock-raising, thanks to the distribution of cattle to poor people. Mining output also rose substantially, especially cassiterite and colombite-tantalite ore. However, it is small scale, and its contribution to GDP is still low. Prospecting

shows the country has vast deposits of copper, cobalt, vanadium and especially nickel, which requires extensive infrastructural projects in transport and energy.

On the demand side, gross fixed capital formation rose by close to 5.5 per cent in 2011, but below the 2009 level where it had reached around 25 per cent of GDP. This relatively good performance owes much to continuing investment in public infrastructure, especially in education and health. Despite the rise in coffee exports, the overall contribution of exports to GDP was still negative in 2011, because of imports. Burundi has a chronic external trade deficit. In 2011, imports ran at 31.5 per cent of GDP, exports at 9 per cent. Moreover, exports are almost completely dependent on coffee and tea. The exports/GDP ratio has stayed modest over the years, showing that Burundi has failed to give impetus to export-led growth, unlike other African countries.

Burundi's social situation

As indicated in Table 26, Burudi recorded positive results in education indicators excluding the pupil to teacher ratio in the primary level. According to the IMF (2016) the positive results in education and health provision were attainable as a result of free primary education and health care for pregnant women and children under five years of age, as well as due to the increase of the share of these two sectors in public expenditure. However, it is interesting to note that in 2011 the human development index remained low at 0.316/1, and the country ranked 183th out of 185 countries, regardless of this performance. In education, enrolment has risen from 2005 to 2010, which is mainly attributable to the fact that free primary education caused a significant rise in enrolment (from 81.6 per cent to 130 per cent between 2005 and 2010).

Table 26 - Burundi's education indicators

	1990	1995	2000	2005	2010	2013	2014
Government expenditure on education as % of GDP (%)	3.4	5.0	2.6	3.6	6.8	5.4	..
Pupil-teacher ratio in primary education (headcount basis)	65.9	..	55.4	48.7	50.6	45.0	43.7
Literacy rate, population 25-64 years, both sexes (%)	32.4	..	53.3	..	..	..	54.7
Gross enrolment ratio, primary, gender parity index (GPI)	0.8	0.8	0.8	0.8	1.0	1.0	1.0
Gross enrolment ratio, primary, both sexes (%)	67.3	48.2	56.9	79.1	131.5	130.5	127.6
Capital expenditure as % of total expenditure in primary public institutions (%)	..	..	..	..	11.9	1.9	..

Source: World Bank

The proportion of students repeating a year was 35 per cent in 2009/10, and the completion rate 47.7 per cent in 2009/10. Slow growth in the completion rate shows it is impossible to reach the goal of universal completion of primary education by 2015. The rapid expansion of community colleges has led to an 80 per cent increase in numbers at secondary level. In third level education, student numbers have doubled, especially due to the rise in private education. As far as girls' education is concerned, the main outcome is the elimination of the disparity between boys and girls in primary

education, with a parity index of 0.99. On the other hand, this index is low in secondary education (0.73), technical and vocational education (0.52) and third-level education (0.33).

Table 27 - HDI trends

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	48.0	4.4	1.4	583	0.270
1995	48.9	4.6	1.6	474	0.266
2000	51.5	4.5	1.8	409	0.268
2005	52.7	5.9	2.3	381	0.290
2010	54.8	9.9	2.6	703	0.385
2011	55.3	10.3	2.7	707	0.393
2012	55.8	10.5	2.8	714	0.398
2013	56.3	10.6	3.0	725	0.404
2014	56.7	10.6	3.0	735	0.406
2015	57.1	10.6	3.0	691	0.404

Source: UNDP, Human Development Report 2017

Table 28 - MPI indicators

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		
				Near poverty	In severe poverty	Below income poverty line
2010	0.442	81.8	54	12	48.2	77.7
	Contribution to overall poverty of deprivation in (%)					
	Health	Education	Living standards			
2011/2012	26.3	25.00	48.8			

Source: UNDP, Human Development Report 2017

According to the UNDP statistics, while figures for access to education have greatly improved, figures for performance and outcomes show a poor performance. In health provision, the building and equipping of new buildings, training, decentralisation of services – especially the creation of health districts –, free provision of certain drugs (anti-malaria and HIV) and medical care for pregnant women and children under five years of age, have led to a significant progress in terms of accessibility and quality of service, thus leading to an improvement in health indicators. Maternal mortality has fallen from 1 100 per 100 000 live births at the beginning of the 2000s to 886 in 2008. During the same period, infantile mortality fell from 114 to 101 per 1 000 live births, and neonatal mortality fell more sharply, from 21.3 to 7.2 per 1 000 live births. Vaccination cover remained high (over 90 per cent). The percentage of underweight or stunted children under 5 is lower. Contraceptive use rose from 7.3 per cent in 2006, to 11.4 per cent in 2008 and 14 per cent in 2009. Significant resources have been mobilised for the prevention and treatment of HIV/AIDS through information and screening programmes, and the medical and psychological after-care of persons living with HIV, together with orphans and vulnerable children, and the strengthening of institutions. However, it should also be noted that assessing the real situation of poverty in Burundi is difficult because of the lack of statistics, those that are available show an increase since 2006.

Chart 39 - Net ODA received and growth in real GDP per capita
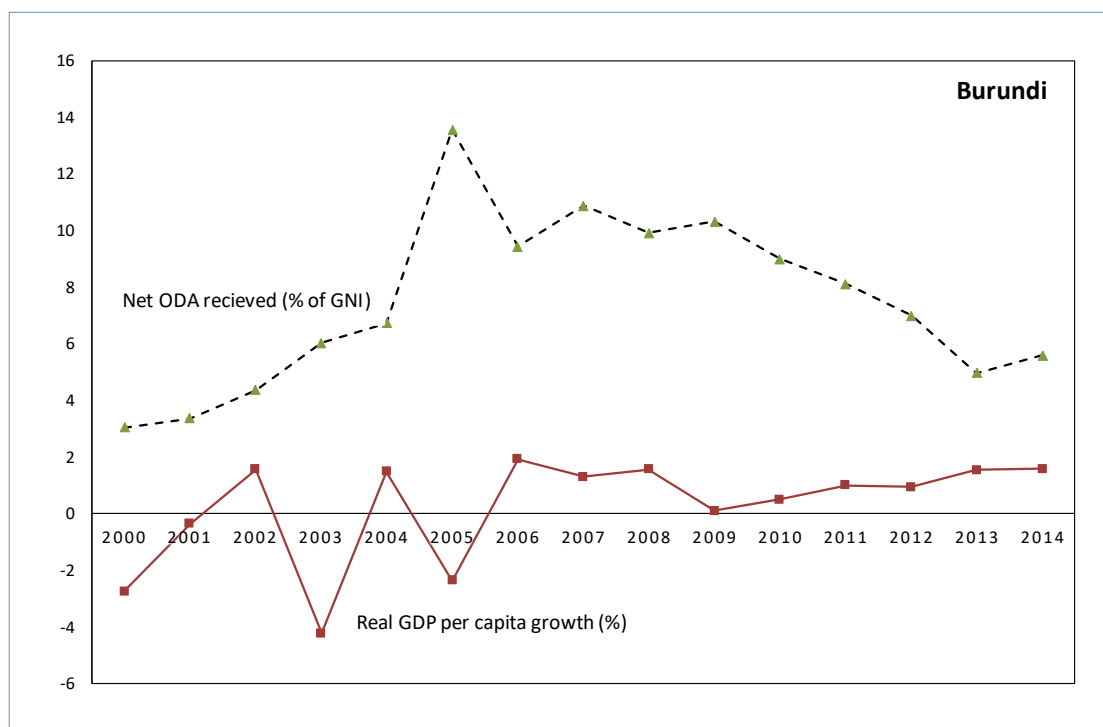
Source: World Bank

8.2.3   Central African Republic

Central Africa is one of the continent's most fragile and vulnerable regions, having witnessed a large number of all the coups d'état, crises and conflicts that have taken place in Africa since 1990. The Central African Republic, a landlocked country with a population of 4.7 million is embarking on a long path to recovery. Its long history is marred by political instability and, in 2013, another major security and humanitarian crisis erupted, unraveling the country's social fabric and displacing over 25 per cent of its population. Central African Republic's HDI value for 2015 is 0.352 – which put the country in the low human development category – positioning it at 188 out of 188 countries and territories. Between 1990 and 2015, Central African Republic's HDI value increased from 0.320 to 0.352, an increase of 10.1 percent. Table 31 reviews Central African Republic's progress in each of the HDI indicators. Between 1990 and

2015, Central African Republic's life expectancy at birth increased by 2.5 years, mean years of schooling increased by 2.1 years and expected years of schooling increased by 1.9 years. Central African Republic's GNI per capita decreased by about 38.9 percent between 1990 and 2015. Economic growth in Central African Republic over the past decades has been insufficient to provide economic stability, employment opportunities, and social development. As a result, poverty remained pervasive and social indicators were weak even before the unfolding of the 2013 crisis, which plunged the country into chaos, significantly contracting the economy, and further cutting into the meager living standards of the population.

Chart 40 - Real GDP growth and population growth
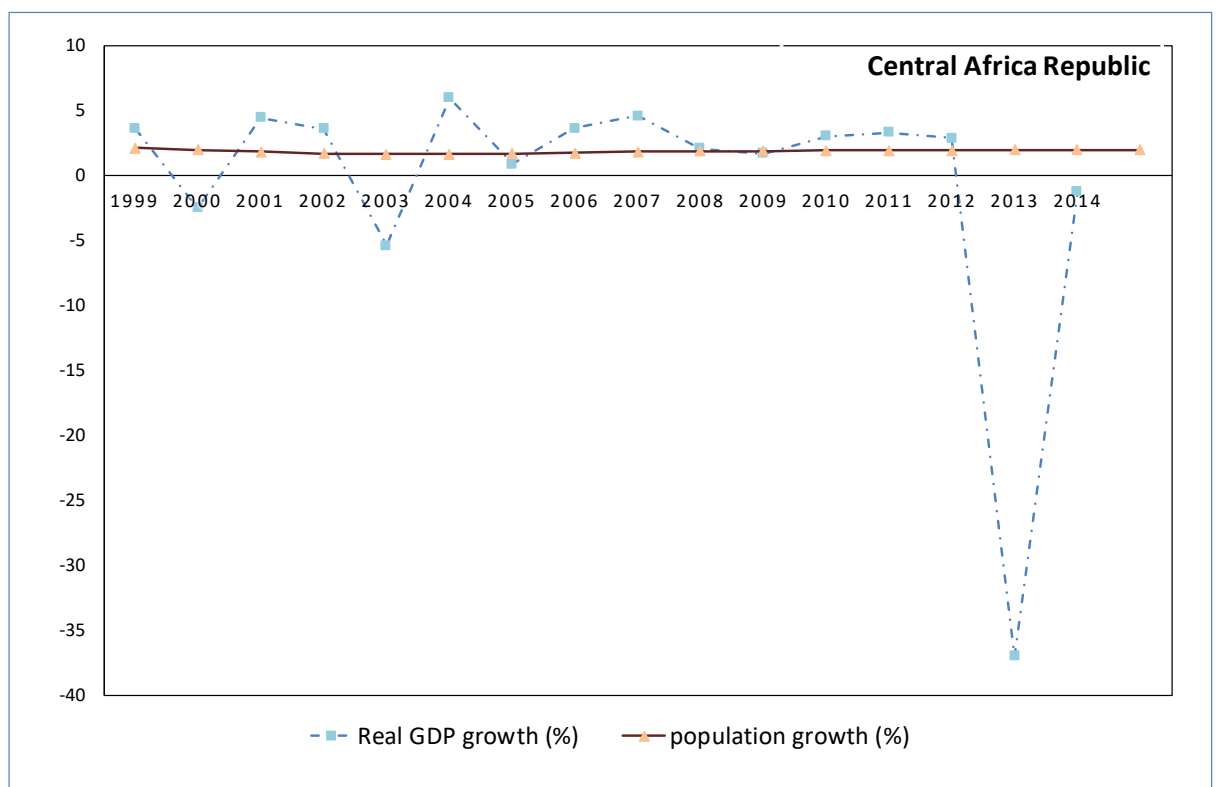
Source: World Bank

The already fragile economic and social context was exacerbated by the recent crisis. Real GDP contracted by 36 per cent and exports and imports fell by 44 per cent and 27 percent in dollar terms, respectively, implying a sharp loss in income. Reflecting a 15 per cent drop in grants, the current account deficit widened to over 10 per cent of GDP in 2013 from nearly 6 per cent a year before. The consumer price index rose by 6.6 percent, twice the level of inflation recorded during the past 4 years before the conflict. Most importantly, the domestic primary deficit significantly widened to reach almost 7 per cent of GDP in 2013, compared with a surplus of 0.5 per cent in 2012, as fiscal revenue dropped by 63 per cent while domestic primary spending fell by 22 percent. The worsening macroeconomic conditions were accompanied by the destruction of a large number of infrastructures and enterprises, and the paralysis of the administration, including the public financial management framework. The crisis also affected the balance sheets and the liquidity of the banking system as the government accumulated arrears and the private sector defaulted on loans.

Table 29 - Developments in the main sectors of the economy

	2008	2015
Agriculture, forestry, fishing and hunting	55.7	45.5
of which fishing	5.6	5.4
Mining and quarrying	1.7	0.6
of which oil	...	...
Manufacturing	6.7	7.8
Electricity, gas and water	0.7	0.8
Construction	4.3	5.9
Wholesale and retail trade; Repair of vehicles; House	12.9	14.0
of which hotels and restaurants	...	...
Transport, storage and communication	5.6	6.4
Finance, real estate and business services	6.5	6.8
Public administration and defence	4.4	3.3
Other services	1.5	8.8
Gross domestic product at basic prices / factor cost	**100**	**100**

Source: World Bank

Central African Republic's 2015 HDI of 0.352 is below the average of 0.497 for countries in the low human development group and below the average of 0.523 for countries in Sub-Saharan Africa. From Sub-Saharan Africa, countries which are close to Central African Republic in 2015 HDI rank and to some extent in population size are Gambia and Liberia, which have HDIs ranked 173 and 177, respectively. The most recent survey data that were publicly available for Central African Republic's MPI estimation refer to 2010. In Central African Republic, 76.3 per cent of the population (3,392 thousand people) are multidimensionally poor while an additional 15.7 per cent live near multidimensional poverty (697 thousand people). The breadth of deprivation (intensity) in Central African Republic, which is the average deprivation score experienced by people in multidimensional poverty, is 55.6 per cent.

Chart 41 - Developments in the main export sectors
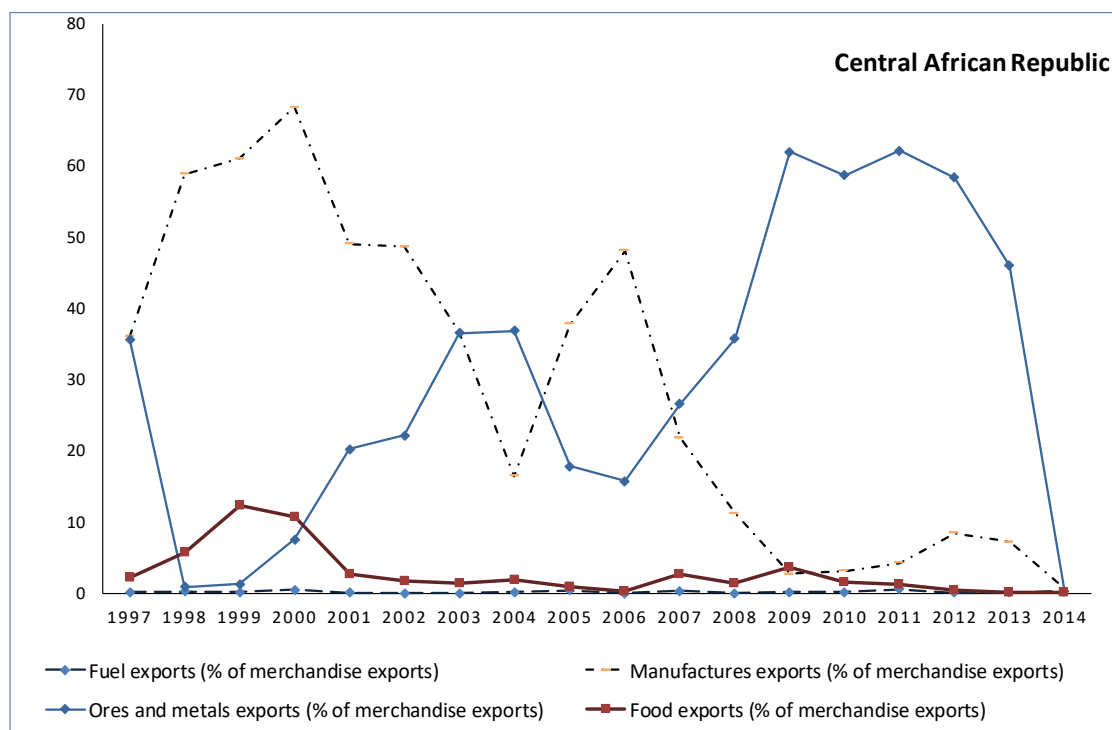
Source: World Bank

Central African Republic's social situation

The MPI, which is the share of the population that is multi-dimensionally poor, adjusted by the intensity of the deprivations, is 0.424. The following table compares the multidimensional poverty with income poverty, measured by the percentage of the population living below PPP US$1.90 per day and shows that income poverty only tells part of the story.

Table 30 - Multidimensional poverty in Central African Republic

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		Below income poverty line
				Near poverty	In severe poverty	
2010	0.424	76.3	55.6	15.7	48.5	66.3
	Contribution to overall poverty of					
	Health	Education	Living standards			
2010	26.2	23.80	50.0			

Source: UNDP, Human Development Report 2017

Table 31 - Central African Republic's HDI trends based on consistent time

series data

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	49.0	5.2	2.1	961	0.320
1995	46.9	4.6	2.4	928	0.307
2000	44.6	5.3	2.9	924	0.314
2005	44.8	6.0	3.3	837	0.323
2010	47.7	6.8	4.2	911	0.361
2011	48.4	7.1	4.2	905	0.366
2012	49.1	7.1	4.2	916	0.370
2013	49.9	7.1	4.2	572	0.345
2014	50.7	7.1	4.2	568	0.347
2015	51.5	7.1	4.2	587	0.352

Source: UNDP, Human Development Report 2017

The multidimensional poverty headcount is 10.0 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. This table also shows the percentage of Central African Republic's population that lives near multidimensional poverty and that lives in severe multidimensional poverty. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in multidimensional poverty in Central African Republic.

Chart 42 - Net ODA received and real GDP per capita growth (%)
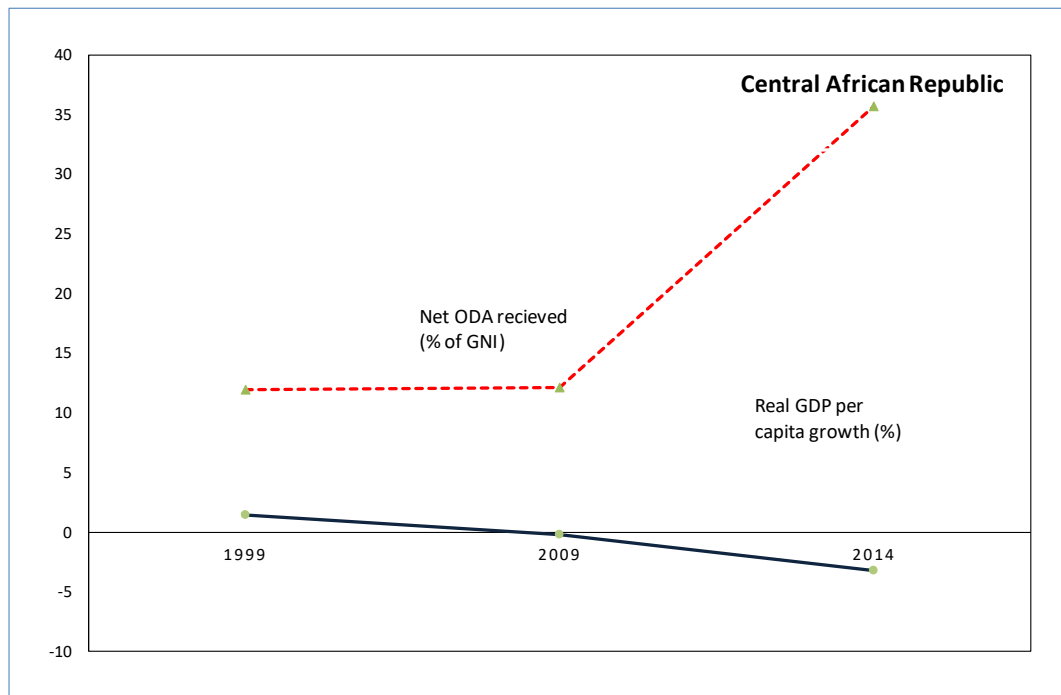
Source: World Bank

8.2.4   Guinea

Guinea is a poor country of approximately 12.9 million people that possesses the world's largest reserves of bauxite and largest untapped high-grade iron ore reserves, as well as gold and diamonds (World Bank, 2015). In fact, gold, bauxite and diamonds are Guinea's main exports. It is a country that has fertile soil, ample rainfall, and is the source of several West African rivers, including the Senegal, Niger, and Gambia.

Following changes in the political system as well as strifes that occurred, international donors, including the G-8, the IMF, and the World Bank, decreased sigfnicantly their contribution to Guinea. However, the IMF approved a 3-year Extended Credit Facility arrangement in 2012, following the December 2010 presidential elections. In September 2012, Guinea achieved the Heavily Indebted Poor Countries completion

point status. In April 2013, the government amended its mining code to reduce taxes and royalties. In 2014, Guinea also complied with requirements of the Extractive Industries Transparency Initiative by publishing its mining contracts and was found to be compliant. In addition, since the focus in this thesis is EU aid it is interesting to note that after the strifes that occurred in 2008, the EU supported Guinea in the process of political transition and return towards constitutional order. Legislative elections were held in 2013 and allowed the full resumption of development co-operation between the EU and Guinea, which had been partially suspended since the coup d'etat.

Chart 43 - Population and economic growth in Guinea
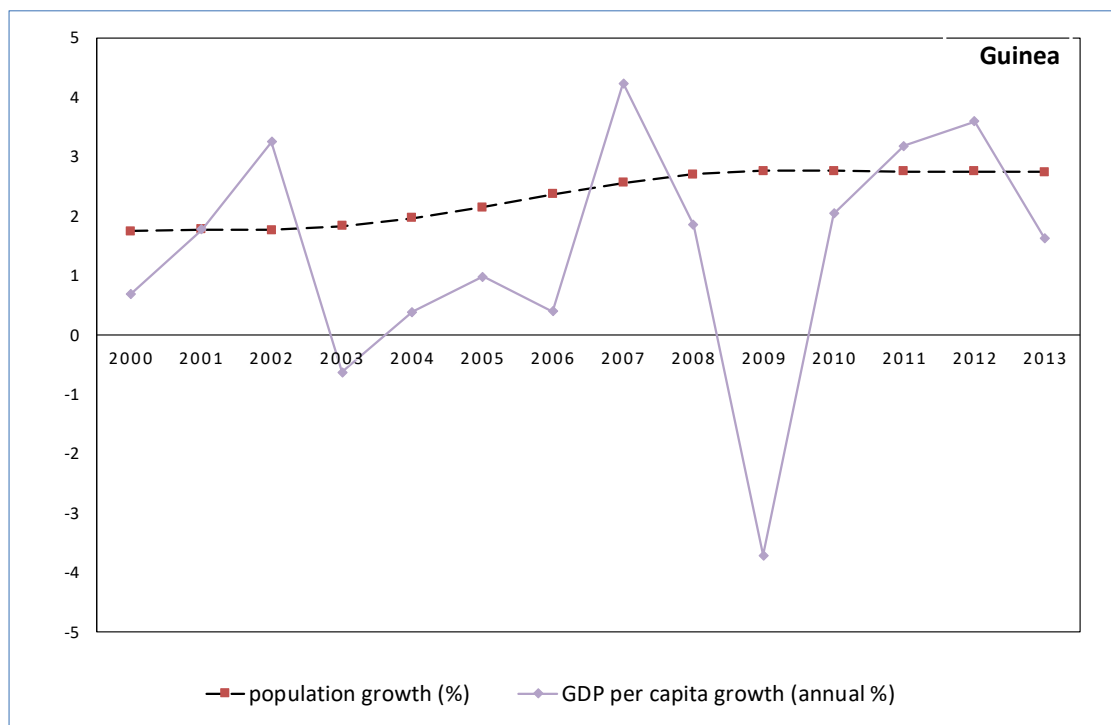
Source: World Bank

The remarkable success of Western economies in the past 200 years is therefore associated with strong population growth. Yet population growth is problematic if it outpaces increases in productivity (Gamble, 2014). Very strong population growth

helps to explain why GDP per capita, and therefore living standards, continue to stagnate – although it may be that aggregate GDP growth would have been even lower without population growth. GDP per capita has stagnated, despite the ostensible economic recovery, precisely because population growth has been so rapid in recent years. The population has continued to grow at an extremely fast rate, while the economy has experienced a severe recession and stagnation, before beginning to recover in 2013. The apparent link between population growth and economic growth has weakened in the past decade. Clearly, economic circumstances since the recession have been unusual, but this shift was in fact evident before the financial crisis.

Chart 44 - Developments in the export sectors
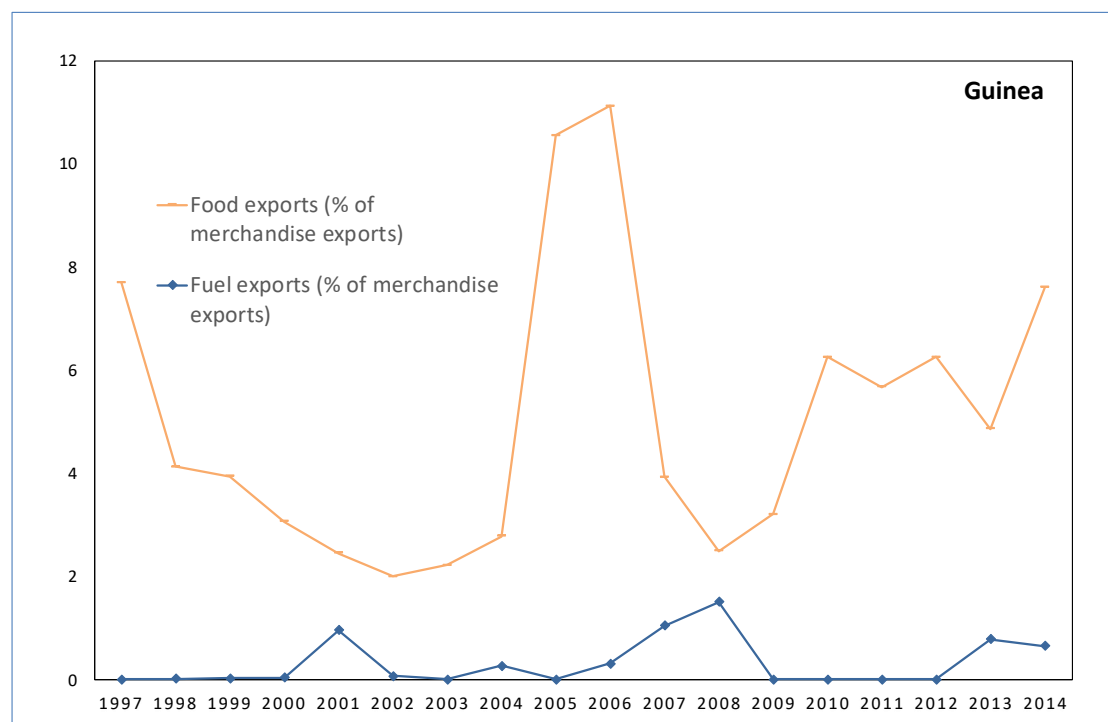
Source: World Bank

Chart 45 - Net ODA received and real GDP per capita growth (%)
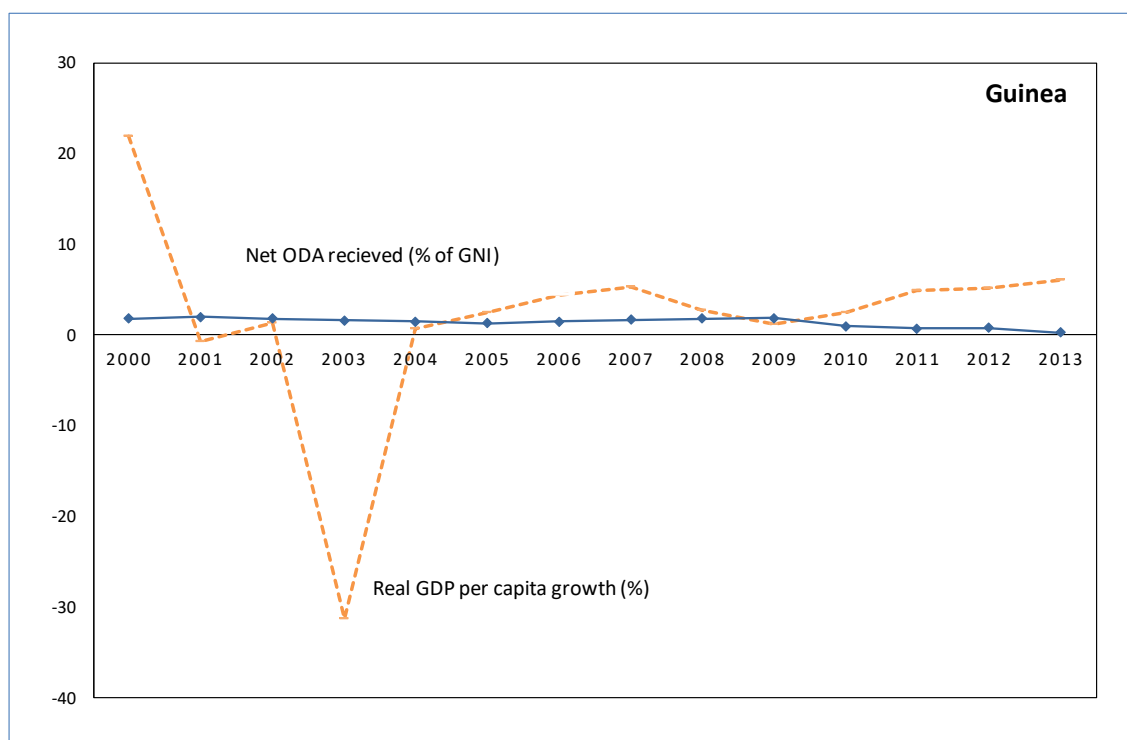
Source: World Bank

Guinea's social situation

Guinea's HDI value for 2015 is 0.414 - which put the country in the low human development category - positioning it at 183 out of 188 countries and territories. Between 1990 and 2015, Guinea's HDI value increased from 0.271 to 0.414, an increase of 52.8 percent. The following table reviews Guinea's progress in each of the HDI indicators. Between 1990 and 2015, Guinea's life expectancy at birth increased by 9.2 years, mean years of schooling increased by 1.4 years and expected years of schooling increased by 5.9 years. Guinea's GNI per capita decreased by about 0.5 percent between 1990 and 2015. Guinea's 2015 HDI of 0.414 is below the average of 0.497 for countries in the low human development group and below the average of 0.523 for countries in Sub-Saharan Africa. From Sub-Saharan Africa, countries which

are close to Guinea in 2015 HDI rank and to some extent in population size are Rwanda and Sierra Leone, which have HDIs ranked 159 and 179, respectively.

The most recent survey data that were publicly available for Guinea's MPI estimation refer to 2012. In Guinea, 73.8 percent of the population (8,588 thousand people) are multidimensionally poor while an additional 12.7 percent live near multidimensional poverty (1,474 thousand people). The breadth of deprivation (intensity) in Guinea, which is the average deprivation score experienced by people in multidimensional poverty, is 57.6 percent. The MPI, which is the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivations, is 0.425. Rwanda and Sierra Leone have MPIs of 0.253 and 0.411 respectively. The following table compares multidimensional poverty with income poverty, measured by the percentage of the population living below PPP US$1.90 per day. It shows that income poverty only tells part of the story. The multidimensional poverty headcount is 38.5 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. The following table also shows the percentage of Guinea's population that lives near multidimensional poverty and that lives in severe multidimensional poverty. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in multidimensional poverty in Guinea.

Table 32 - Education indicators

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	50.0	2.9	1.2	1,063	0.271
1995	51.7	3.5	1.3	1,030	0.290
2000	51.3	5.1	1.5	1,113	0.322
2005	52.6	7.1	1.6	1,068	0.356
2010	56.3	8.4	1.6	1,056	0.385
2011	57.0	8.5	2.0	1,080	0.396
2012	57.7	8.5	2.4	1,118	0.406
2013	58.2	8.6	2.6	1,111	0.412
2014	58.8	8.8	2.6	1,083	0.414
2015	59.2	8.8	2.6	1,058	0.414

Source: UNDP, Human Development Report 2017

Table 33 - MPI indicators for Guinea

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		
				Near poverty	In severe poverty	Below income poverty line
2012	0.425	73.8	57.6	12.7	49.8	35.3
	Contribution to overall poverty of deprivation in (%)					
	Health	Education	Living standards			
2008/2009	22.8	36.6	40.6			

Source: UNDP, Human Development Report 2017

8.2.5 Liberia

Liberia is a low-income country that relies heavily on foreign assistance and remittances from the diaspora. It is richly endowed with water, mineral resources, forests, and a climate favorable to agriculture. Its principal exports are iron ore, rubber,

diamonds, and gold. Palm oil and cocoa are emerging as new export products. The government has attempted to revive raw timber extraction and is encouraging oil exploration. In the 1990s and early 2000s, civil war and government mismanagement destroyed much of Liberia's economy, especially infrastructure in and around the capital. Much of the conflict was fueled by control over Liberia's natural resources. With the conclusion of fighting and the installation of a democratically elected government in 2006, businesses that had fled the country began to return. The country achieved high growth during the period 2010-13 due to favorable world prices for its commodities. However, during the 2014-2015 Ebola crisis, the economy declined and many foreign-owned businesses departed with their capital and expertise. The epidemic forced the government to divert scarce resources to combat the spread of the virus, reducing funds available for needed public investment. The cost of addressing the Ebola epidemic coincided with decreased economic activity reducing government revenue, although higher donor support significantly offset this loss. During the same period, global commodities prices for key exports fell and have yet to recover to pre-Ebola levels.

Liberia's economic growth has been helped by reconstruction and impressive donor assistance since the end of the country's second recent civil war from 1999 to 2003. Real gross domestic product (GDP) was initially estimated to have grown 10.8% in 2009, but this was adjusted down to 4.1 per cent because of delays in getting the key mining and timber industries up to full speed. Growth is expected to be driven by the agriculture (including forestry) and service sectors. Liberia's slow growth in 2009 was largely due to the global economic and financial crisis. World Bank statistics further indicate that foreign exchange inflow fell in 2009 against 2008 because of a drop in

remittances from 959 million US Dollars (USD) in 2008 to USD 782 million in 2009, lower export proceeds and reduced or delayed investment in mining and other key sectors.

Table 34 - Developments in Liberia's economy

	2011	2015
Agriculture, forestry, fishing and hunting	41.0	36.7
of which fishing	...	...
Mining and quarrying	5.4	12.7
of which oil	0.0	0.0
Manufacturing	7.6	7.0
Electricity, gas and water	0.6	0.6
Construction	4.6	5.3
Wholesale and retail trade; Repair of vehicles; House	14.3	13.3
of which hotels and restaurants	...	...
Transport, storage and communication	4.9	4.6
Finance, real estate and business services	10.8	9.7
Public administration and defence	6.2	6.2
Other services	4.7	4.2
Gross domestic product at basic prices / factor cost	**100**	**100**

Source: World Bank

Chart 46 - Real GDP growth and population growth (%)
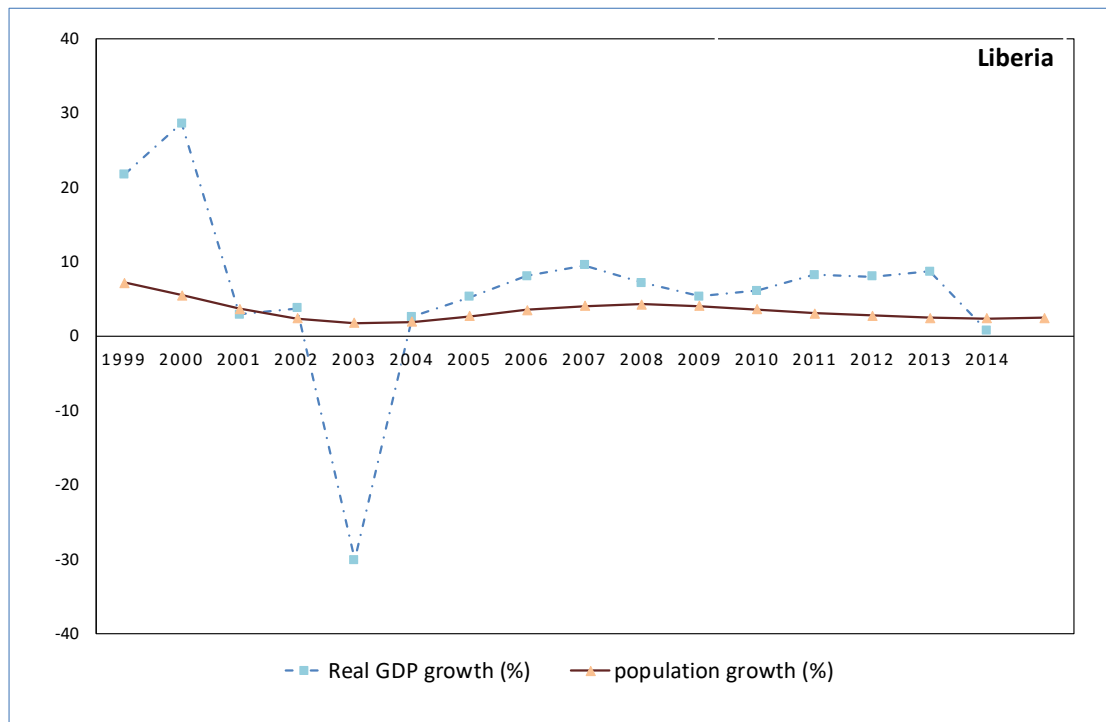
Source: World Bank

Chart 47 - Developments in the value added (%)
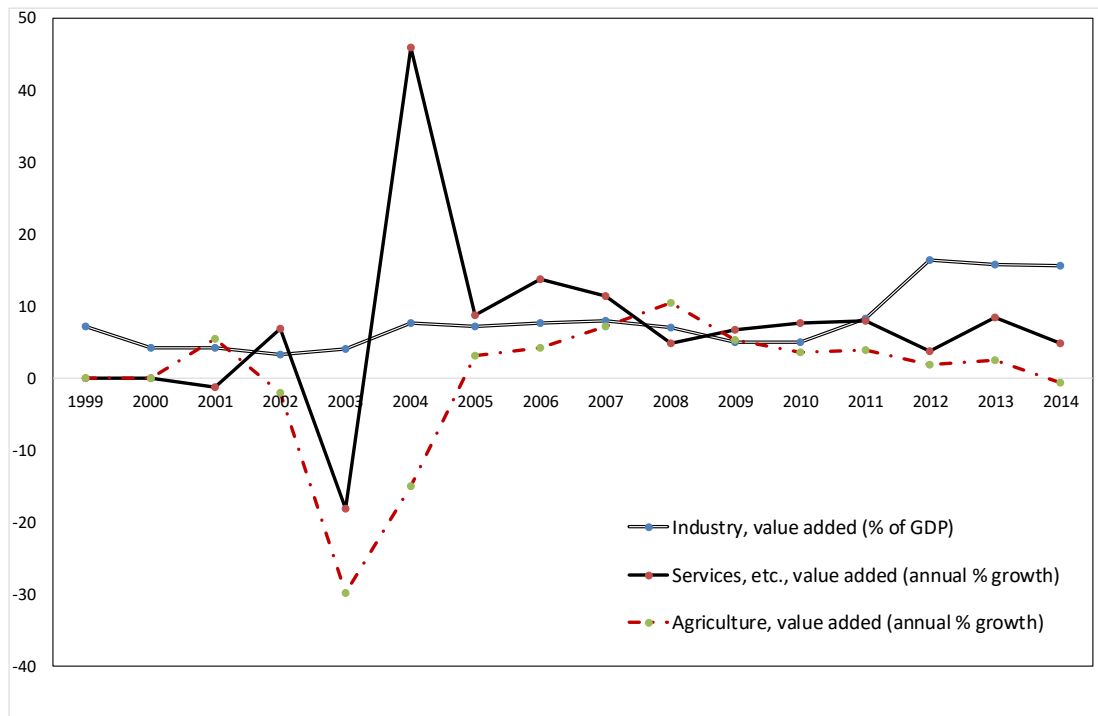
Source: World Bank

Liberia's social situation

Liberia's HDI value for 2015 is 0.427, which put the country in the low human development category— positioning it at 177 out of 188 countries and territories. Between 2000 and 2015, Liberia's HDI value increased from 0.386 to 0.427, an increase of 10.6 percent. The following table reviews Liberia's progress in each of the HDI indicators. Between 1990 and 2015, Liberia's life expectancy at birth increased by 14.0 years, mean years of schooling increased by 1.8 years and expected years of schooling decreased by 0.6 years. Liberia's GNI per capita increased by about 8.4 percent between 1990 and 2015. Statistics by UNDP (2017) further indicate that Liberia's 2015 HDI of 0.427 is below the average of 0.497 for countries in the low human development group and below the average of 0.523 for countries in SSA. From the SSA countries, countries which are close to Liberia in 2015 HDI rank and to some extent in population size are Central African Republic and Guinea-Bissau, which have HDIs of 188 and 178, respectively.

Table 35 - MPI indicators for Liberia

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		
				Near poverty	In severe poverty	Below income poverty line
2012	0.425	73.8	57.6	12.7	49.8	35.3
	Contribution to overall poverty of deprivation in (%)					
	Health	Education	Living standards			
2008/2009	22.8	36.6	40.6			

Source: UNDP, Human Development Report 2017

The most recent survey data that were publicly available for Liberia's MPI estimation refer to 2013. According to UNDP statistics, in Liberia, 70.1 per cent of the population (3,010 thousand people) are multidimensionally poor while an additional 21.5 per cent live near multidimensional poverty (924 thousand people). The breadth of deprivation (intensity) in Liberia, which is the average deprivation score experienced by people in multidimensional poverty, is 50.8 percent. The MPI, which is the share of the population that is multi-dimensionally poor, adjusted by the intensity of the deprivations, is 0.356. Central African Republic and Guinea-Bissau have MPIs of 0.424 and 0.495 respectively. The multidimensional poverty headcount is 1.5 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in multidimensional poverty in Liberia.

The following chart shows the net ODA granted to Liberia and the growth in real GDP per capita for the period 2000 to 2013. In recent years, it can be seen that the growth in real GDP per capita is higher than the net ODA received from the EU countries. This implies that the aid being granted is being used effectively and that there are other factors as well impacting positively on the economic growth of the country.

Chart 48 - Net ODA received and real GDP per capita growth (%)
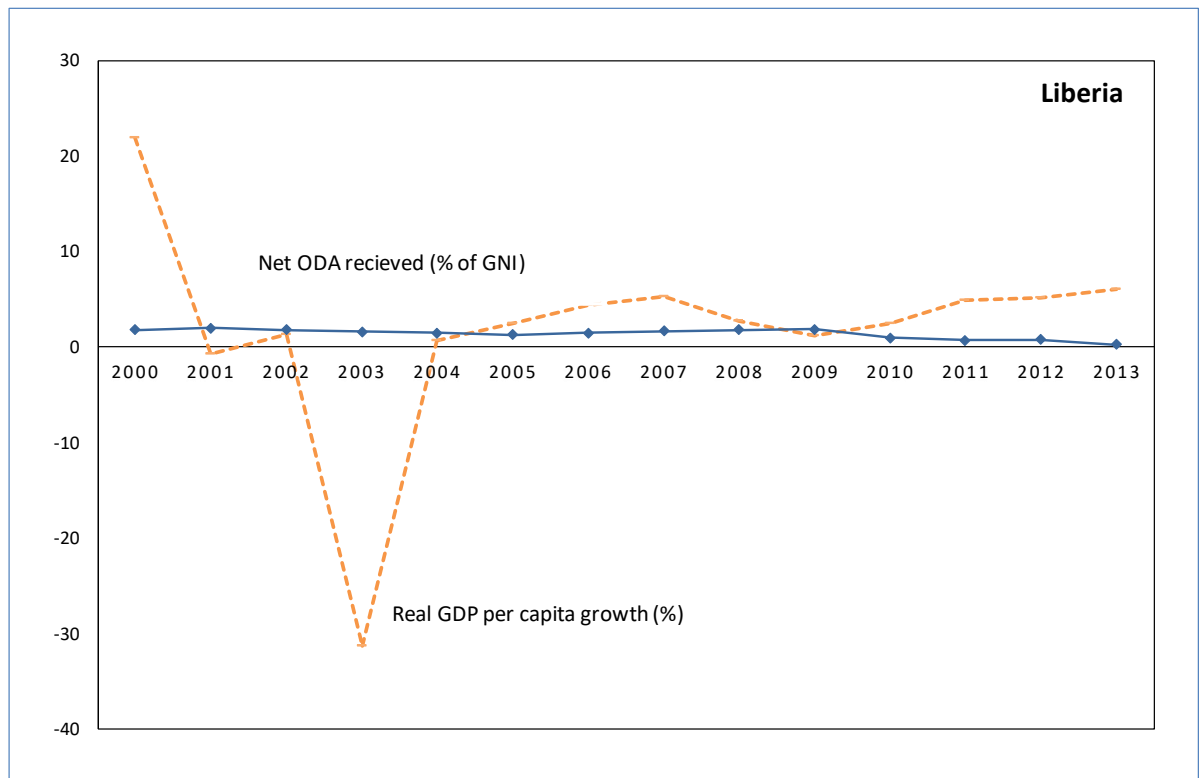
Source: World Bank

8.2.6   Mali

Mali is a vast country with a population of almost 18 million according to World Bank (2014) statistics and appears as a highly undiversified economy. This high degree of undiversification makes it essentially extremely vulnerable to commodity price fluctuations. In addition,k given its geographic position also exposed to climate changes. According to the World Bank (2016) with only 10 per cent of its people living in the north, high population growth rates and drought have fueled food insecurity, poverty, and instability. According to the European Parliament (2014) Mali has been one of the world's highest per capita aid recipients. However, as a result of the persisten high population growth rates, per capita consumption remains low and Mali continues to rank as one of the poorest countries in the world.

Economic growth in recent years has mainly been driven by the primary sector, food crops, rice and livestock, followed by the tertiary sector, while the secondary sector has mainly experienced a decline. Mali's economy is primarily based on agriculture, with 80 per cent of the population deriving its livelihood from this sector. Mining has also been rapidly expanding and has attracted a significant increase in foreign direct investment. Gold's importance in particular has grown and currently accounts for 75 per cent of Mali's exports. In agriculture, the cotton sector represents an investment opportunity and is underdeveloped. Greater productivity could be achieved through diversification of value-added activities such as spinning and the production of fabric. Agricultural potential is also strong for other crops including rice, millet, and horticultural products. The expansion of irrigation and technical improvements have led to higher rice yields and horticulture production, but more could be done to increase diversity in agricultural production to tackle food security concerns and over-dependence on cotton and gold. Much like the cotton sector, gold is another commodity that is primarily processed and marketed abroad. Development of the mining sector has not led to the creation of national operators and service providers, suggesting that mining contracts have included few if any demands in the way of local content and employment.

Mali's GDP has grown steadily, until 2012, at an average rate of 1.7 per cent from 1985-1994, at 5.8 per cent from 1995-2005 and at 4.9 per cent between 2007 and 2010 (GPRSP, 2011). Annual GDP growth was 2.7 per cent in 2011, while in 2012, in the context of the conflict and political crisis, Mali's economy contracted with a negative growth rate of -1.2 per cent and the country experienced an economic recession (AfDB, 2013). Between 2007 and 2010, the growth of the Malian economy was largely

driven by the primary sector, especially food crops, rice and livestock. Growth in this sector was primarily the result of increases in the value of production of rice and other grains. According to OXFAM (2017), if the population growth rate continues at the current level of 3.6 per cent per year, Mali's population will double by 2030.

Chart 49 - Population growth rate (%) and real GDP per capita growth (%)
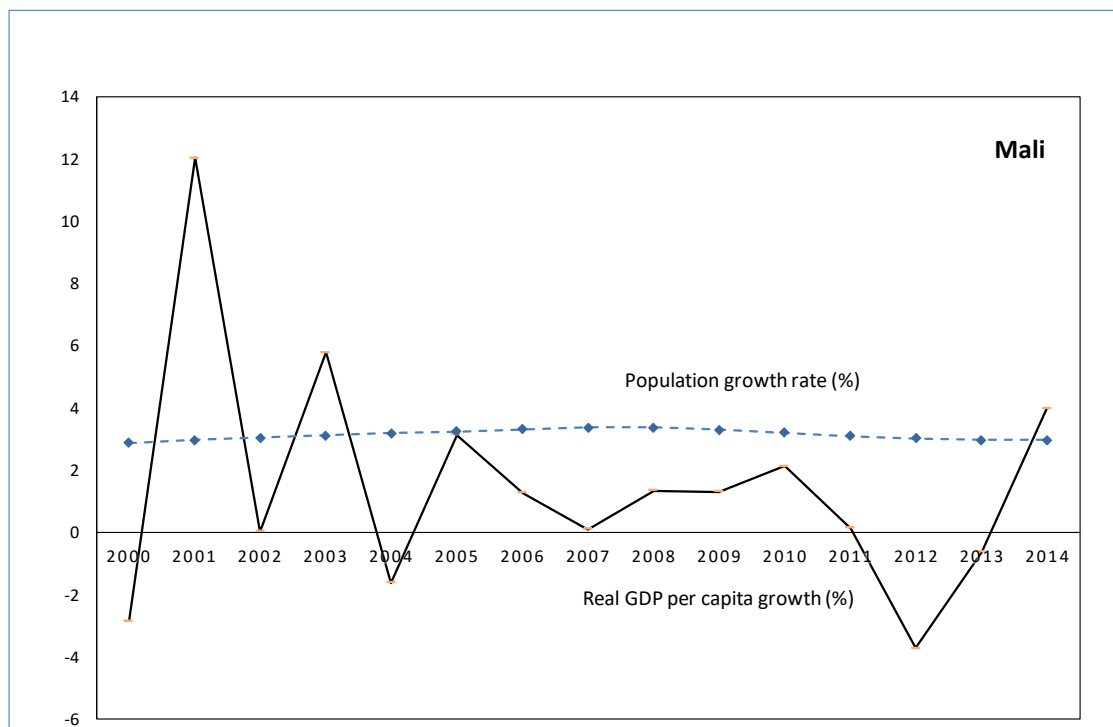
Source: World Bank

Mali's dependence on agriculture and commodities leaves the country highly vulnerable to shocks. It experienced three food crises in seven years as a result of a combination of drought, flooding and poor harvests. The population group that is hardest hit by food-crises tends to be highly dependent on buying cereals and is mainly concentrated in the Northern regions. Weak governance and corruption pose a challenge to economic development and policy. Inefficiencies in government are partly due to the concentration of power in the central executive branch of government

and its lack of accountability to both citizens and other branches of government. Trade contributed most to growth in the tertiary sector (2.1 per cent) between 2007 and 2010. Growth in the tourism and telecommunications also were important, while non-financial market services and non-market services made small contributions to growth (GPRSP, 2011). In 2012, the largest decrease was recorded in the tertiary sector, recording a -8.8 per cent negative growth rate. Nonfinancial services (-15 per cent), trade (-10 per cent) and financial services (-10 per cent) were hit the hardest (AfDB, 2013a).

Two features of Mali's growth merit highlighting here. First, what are sometimes portrayed as good growth rates need to be considered alongside the country's high population growth, leading, in practice, to low growth in per capita GDP. For instance, real GDP growth between 2004 and 2008 was 4.5 per cent, while real per capita GDP growth over the same period was 1.4 per cent (IMF, 2013e). Between 2001 and 2010, private per capita consumption grew at an average annual rate of 1.2 per cent (IMF, 2013c). By these measures, Mali ranks as one of the world's poorest countries and has been described as "suffering from a slow economic growth rate" (IMF, 2013c). Second, Mali's economic growth has not been accompanied by increases in the number of jobs in the formal sector. The lack of job creation was initially accompanied by the growth of the informal sector. More recently, unemployment and underemployment have risen (GPRSP, 2011). Coupled with a growing workforce, such trends risk becoming an ever-growing cause of public discontent and unrest.

From 2006 to 2010, Mali's exports increased on average by 6.9 per cent each year. During the same period, imports increased on average by 26.8 per cent each year,

mainly as a result of sustained demand for capital goods and energy products, as well as higher global prices for oil and food products (WTO, 2010). In 2011 and 2012, favourable gold and cotton prices led to higher increases in exports than imports and, as a result of the slow growth in imports and increase in gold and cotton exports, the current account deficit improved. In contrast, the capital and financial transaction accounts deteriorated in 2012 following the suspension of foreign aid and the overall balance of payments recorded a deficit of 1 per cent of GDP in 2012 (AfDB, 2013). The concentration of Mali's exports in commodities whose prices fluctuate significantly – gold and cotton - has major destabilising impacts on public finance and balance of payments (GPRSP, 2011). Thishas led to calls for the greater diversification of production as a tool for greater economic stability.

Chart 50 - Mali's Exports (%)
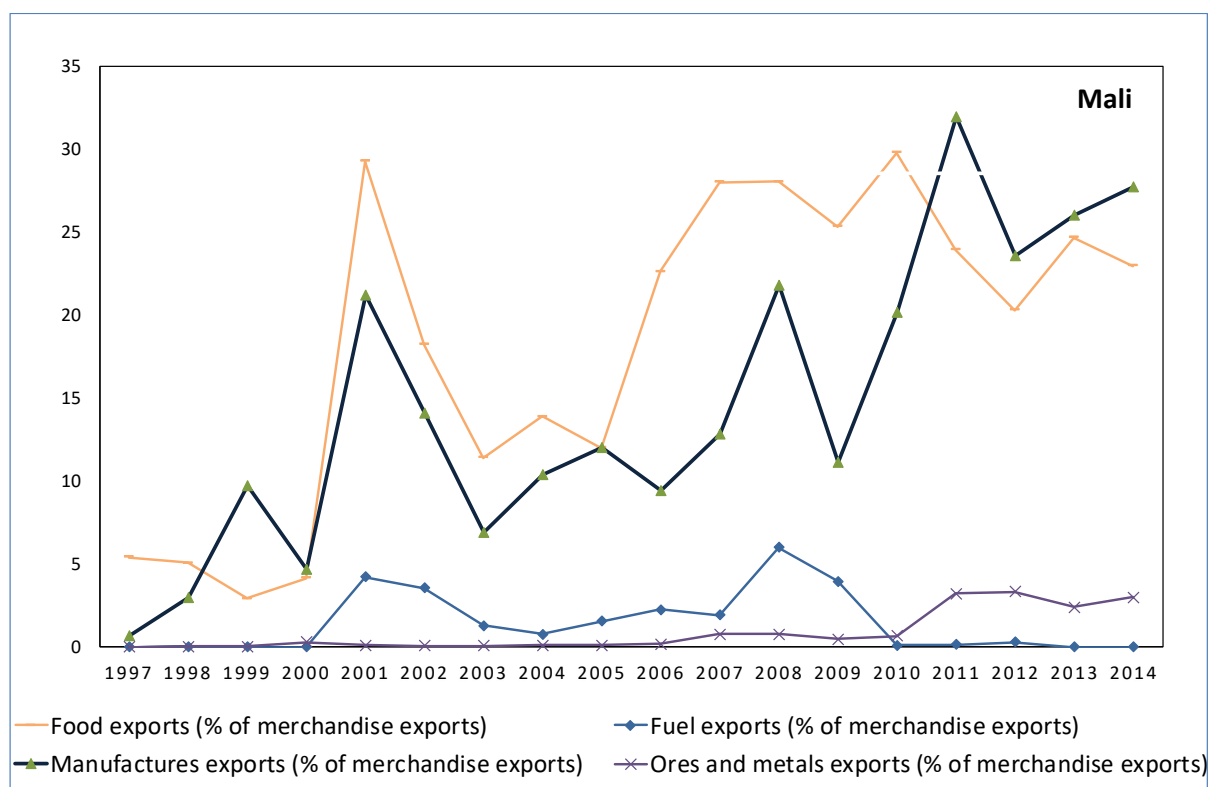
Source: World Development Indicators

Mali's social situation

Despite its positive economic performance, Mali remains one of the poorest countries in the world. Mali's HDI value for 2015 is 0.442— which put the country in the low human development category, placing it at 175 out of 188 countries and territories. Between 1990 and 2015, Mali's HDI value increased from 0.222 to 0.442, an increase of 99.1 percent. Table 21 reviews Mali's progress in each of the HDI indicators. Between 1990 and 2015, Mali's life expectancy at birth increased by 12.0 years, mean years of schooling increased by 1.6 years and expected years of schooling increased by 6.3 years. Mali's GNI per capita increased by about 149.5 percent between 1990 and 2015.

Table 36 - Mali's HDI trends

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	46.5	2.1	0.7	889	0.222
1995	47.7	3.0	0.9	904	0.252
2000	48.9	4.6	1.2	1,013	0.297
2005	52.6	6.1	1.7	1,230	0.350
2010	56.2	7.5	2.0	1,714	0.404
2011	56.7	7.7	2.0	1,797	0.411
2012	57.1	8.0	2.1	1,931	0.421
2013	57.6	8.2	2.2	2,026	0.430
2014	58.0	8.4	2.3	2,132	0.438
2015	58.5	8.4	2.3	2,218	0.442

Source: UNDP, Human Development Report

Mali's HDI for 2015 is 0.442. However, when the value is discounted for inequality, the HDI falls to 0.293, a loss of 33.7 per cent due to inequality in the distribution of

the HDI dimension indices. Burkina Faso and Niger show losses due to inequality of 33.6 percent and 28.3 per cent respectively. The average loss due to 5 inequality for low HDI countries is 32.3 per cent and for SSAa it is 32.2 per cent. Statistics by the United Nations indicated that the Human inequality coefficient for Mali is equal to 32.7 per cent.

The most recent survey data that were publically available for Mali's MPI estimation refer to 2012/2013. In Mali, 78.4 per cent of the population (13,009 thousand people) are multidimensionally poor while an additional 10.8 per cent live near multidimensional poverty (1,792 thousand people). The breadth of deprivation (intensity) in Mali, which is the average deprivation score experienced by people in multidimensional poverty, is 58.2 per cent. The MPI, which is the share of the population that is multi-dimensionally poor, adjusted by the intensity of the deprivations, is 0.456. Burkina Faso and Niger have MPIs of 0.508 and 0.584 respectively. Table 37 compares multidimensional poverty with income poverty, measured by the percentage of the population living below PPP US$1.90 per day. It shows that income poverty only tells part of the story. The multidimensional poverty headcount is 29.1 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Table 37 also shows the percentage of Mali's population that lives near multidimensional poverty and that lives in severe multidimensional poverty. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in multidimensional poverty in Mali.

Table 37 - The most recent MPI for Mali

Survey year	MPI value	Headcount (%)	Intensity of deprivations (%)	Population share (%)		
				Near poverty	In severe poverty	Below income poverty line
2012/2013	0.456	78.4	58.2	10.8	55.9	49.3
	Contribution to overall poverty of deprivation in (%)					
	Health	Education	Living standards			
	22.4	37.90	39.7			

Source: UNDP

Chart 51 - EU Net ODA received and real GDP per capita growth (%)
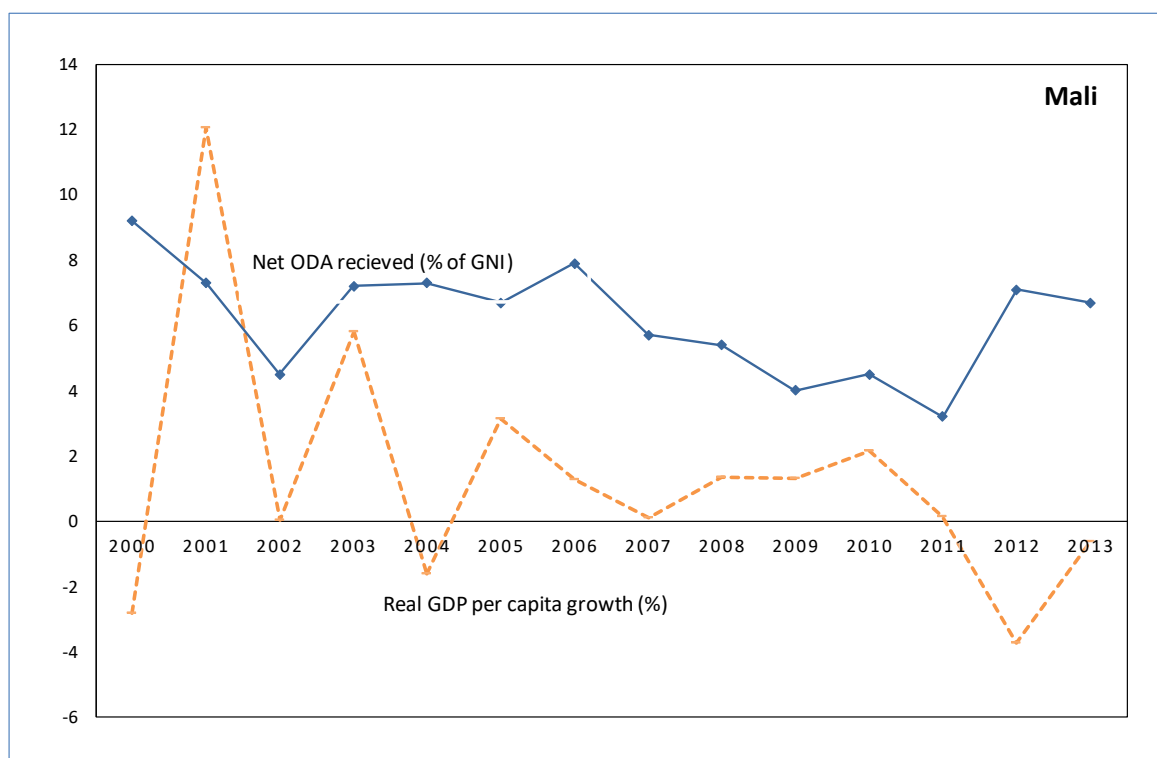
Source: World Bank

As one can see from Chart 51, net ODA received from the EU has as from the 2002

been higher than the growth in the real GDP per capita. According to the International

Journal of Research in Social Sciences (IJRSS, 2016), the main objective of official development assistance was to diminish extreme poverty by half in 2015 but the result seems quite opposite in Mali. In addition, according to this study, Mali is heavily dependent on foreign aid, especially when one takes into consideration the fact that for example in 2008 the OECD estimated that donors provided around 60 to 80 per cent of Mali's special investment budget. As research indicates there are several motives backing this ODA granting to Mali, ranging from moral, huminatirian, political, diplomatic and even economic motives. (IJRSS, 2016) Mali is among the most aid-dependent states in sub-Saharan Africa. Compared to other sub-Saharan African countries, Mali has tended to receive more aid, both in per capita terms and as a share of its economy (van de Walle, 2012).

Therefore, one can say that by some measures, Mali's economy has performed well over the last decade. Reports from the IMF (2016) and the EU (2017) indicate that it has respected most of the West African Economic and Monetary Union's macroeconomic convergence criteria, was made eligible for the debt relief initiative for heavily indebted countries, and assessments by regional and international organisations highlight its fiscal prudence, appropriate economic policy choices and macroeconomic stability. However, as one can see from the above statistics, Mali's positive economic growth in aggregate terms translates into slow per capita growth rates and Mali continues to rank as one of the world's poorest countries. Statistics show that the economy's heavy reliance on a few key sectors and persistent structural weaknesses have led to growing unemployment. The gradual reduction in the national poverty headcount measure conceals an increase in the absolute number of poor people and the persistence of poverty in the country's Northern regions. The food crisis that

preceded the recent escalation of conflict further aggravated regional disparities. In addition to its vulnerability to shocks, Mali's challenges include weak governance, widespread corruption and the recent expansion of the illegal economy. Several policy measures have been taken over the years to address economic and social policy gaps.

Mali's dependence on agriculture and commodity exports, highlighted in the statistics presented above, leaves the country highly vulnerable to shocks that arise from the volatility of commodity prices and climatic or natural disasters. Political and conflict-related events further compound the effects of these shocks. Weak governance poses a challenge to policy implementation in Mali. Studies by the IMF (2017) indicate that poor transparency and accountability have led to episodes of mismanagement and corruption and to growing public disillusionment and discontent with governmental institutions. Furthermore, according to the Corruption Index 2010, Mali ranks among the most corrupt countries (116 out of 181 countries surveyed, up four points from the previous year) (ILO, 2011). Both the World Bank and the ILO (2011) report on the ways in which corruption in Mali negatively affects the economy by impeding the growth of the private sector and the activities of entrepreneurs.

8.2.7 Overall assessment

Therefore, data indicates that a common tendency in these six countries is that despite the progress achieved in the period of the MDGs (2000–2015) in some of these countries poverty remains significant, with almost half of their total population still living in extreme poverty. Most of the labour is engaged in mostly smallholder agriculture, a sector suffering from chronically low labour productivity. Productivity growth has been constrained by the adverse impact of risk aversion on investment, and

often by limits to access to and adoption of new technology. In addition, these countries suffer from a commodity trap, as they depend heavily on commodity production and trade for employment, income, savings and foreign exchange. Commodity dependence increases vulnerability to exogenous shocks (such as adverse terms of trade movements, extreme meteorological events and climate change impacts). It also often gives rise to the natural resource curse, when exchange rate appreciation undermines the competitiveness of the manufacturing sector or when rent-seeking behaviour prevails, and there are limited incentives for public and private incentives to invest, even in human capital. Like poverty traps, commodity dependence tends to be persistent. There is the tendency that these countries face difficulties in upgrading within global value chains and are often kept locked into specialization in primary commodities and low-value-added products. Furthermore, weak productive bases and limited export diversification in low-income countries give rise to a very high import content in production and consumption, and chronic current account deficits. These factors in turn result in aid dependence and the accumulation of foreign debt. These factors can also weigh heavily on the growth rate, as imports of capital goods and intermediate goods for investment projects may be reduced while essential imports such as food and fuels absorb the available foreign exchange.

Therefore, following this overview of the economic and social aspects of Benin, Burundi, Central African Republic, Guinea, Liberia and Mali, it is interesting to note how do they compare in terms of six main indicators. These indicators which are presented in the following table, are: Net ODA as a percentage of GDP, poverty headcount ratio at $1.90 a day, growth in real GDP per capita, primary exports as a

percentage of GDP, political stability index and economic stability index. The source for this data are mainly UNCTAD and the World Bank Development Indicators.

The absorptive capacity of ODA is proxied by the total net disbursed ODA including grants and concessionary loans to the recipient country, as a ratio of the recipient country's GNI. Here ODA is defined as those flows to developing countries that are provided by official agencies, including state and local governments, or by their executive agencies, where each transaction of which is administered with the promotion of the economic development and welfare of developing countries as its main objective, and is concessional in nature and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent per annum).

Poverty headcount ratio at $1.90 a day is the percentage of the population living on less than $1.90 a day at 2011 international prices. The previously commonly used $1 a day standard, measured in 1985 international was used formerly by World Bank because it was typical of the poverty lines in low-income countries at the time. However, as reported by the World Bank (2015) as differences in the cost of living across the world evolve, the international poverty line has to be periodically updated using new PPP price data to reflect these changes. The last change was in October 2015, when World Bank adopted $1.90 as the international poverty line using the 2011 PPP. Prior to that, the 2008 update set the international poverty line at $1.25 using the 2005 PPP. Poverty measures based on international poverty lines attempt to hold the real value of the poverty line constant across countries, as is done when making comparisons over time.

Growth in real GDP per capita is a proxy used for economic growth of a country. Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP per capita is gross domestic product divided by midyear population growth. As indicated by the United Nations (2007) the indicator is a basic economic indicator and measures the level of total economic output relative the population of a country and reflects changes in total well being of the population.

Primary exports as a percentage of GDP is the share of primary exports of all the food items in current prices as a percentage of GDP of the recipient country. The majority of developing countries are dependent on primary commodities for export revenues and for their livelihoods. Also, this variable of primary exports was chosen in line with the IMF (2015) paper that indicates that the higher the share of primary goods in a country's exports, the more likely it is to be vulnerable to commodity price shocks.

The political stability index is a proxy for good governance and a no conflict scenario, which is sourced from the Kaufmann Index. On the other hand, the macroeconomic stability index used in this regression model is composed of the inflation rate in the recipient country, which captures amongst other things the effect of monetary policy; the government deficit to GDP in current prices which captures the effect of fiscal policy and current account imbalances measured relative to GDP.

The non-income index hypothesis utilizes the education and health indicators utilised to construct the UNDP Human Development Index (HDI).[3] The HDI measures the average achievements in a country in three basic dimensions of human development, namely health (measured by life expectancy), education (measured by the average of years of schooling and expected years of schooling) and the standard of living, measured by the log of GNI per capita (PPP $). The indicator 'mean of years of schooling' applies for adults aged 25 years and the indicator 'expected years of schooling' applies for children of school entering age. The values in years for the two indices were first rescaled using the max-min formula and then averaged.

Given that these three indices are made up of indicators that are not in the same unit and that have different ranges, with different minimums and maximums, their values were not simply aggregated. The index is based on the general formula: $I_t = (X_t - X_{Min}) / (X_{Max} - X_{Min})$, where I_t refers to the index value of variable X, that is, macroeconomic instability indicator X, in year t, X_t refers to the actual value of indicator X in year t, and X_{Min} (X_{Max}) refers to the minimum (maximum) value of indicator X. Note that in line with their construction, all sub-indices have common ranges, that is, they are bounded between 0 and 1. Then, the index is constructed by taking a simple average of the three sub-indices obtained. Thus, the index is also bounded between 0 and 1.

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[3] The 3 sub-indices and the 12 pillars are: (I) Basic requirements subindex: 1: Institutions; 2: Infrastructure; Pillar 3: Macroeconomic environment; Pillar 4: Health and primary education. (II) Efficiency enhancers subindex: 5: Higher education and training; 6. Goods market efficiency; 7. Labour market efficiency; 8: Financial market development; 9: Market Size; 10:Technolgocial readiness. Innovation and sophistication factors subindex: 11: Business sophistication; 12: Innovation

The relative data is presented in Appendix A while the country ranking result are presented in Table 38. Countries with a ranking of '1' indicate top performers. Comparisons are made between the periods of 2000-2007 and 2008-2014.

Table 38 - Ranking of Economic and Social Indicators

RANKING	Net ODA as a % of GDP		Poverty headcount ratio at $1.90 a day (2011 PPP)		Growth in real GDP per capita	
	2000-2007	2008-2014	2000-2007	2008-2014	2000-2007	2008-2014
Benin	2	4	6	3	2	2
Burundi	4	2	1	1	4	3
Central African Republic	5	3	3	2	6	5
Guinea	3	5	4	6	3	4
Liberia	6	6	2	5	1	6
Mali	1	1	5	4	5	1
RANKING	Primary exports as a % of GDP		Political stability		Economic stability	
	2000-2007	2008-2014	2000-2007	2008-2014	2000-2007	2008-2014
Benin	2	1	1	1	5	5
Burundi	1	2	6	5	4	3
Central African Republic	4	6	3	6	6	4
Guinea	3	3	4	2	2	1
Liberia	6	5	5	3	1	2
Mali	5	4	2	4	3	6

RANKING	Non-income development index	
	2000-2007	2008-2014
Benin	1	1
Burundi	3	4
Central African Republic	4	6
Guinea	6	3
Liberia	5	5
Mali	4	2

Source: own workings; raw data presented in Appendix A

It is a priori expected that the highest rankings on the governance index are those with the highest rankings in economic growth. This relationship is confirmed in more

rigorous and complicated studies on this issue, notably in Kaufman and Kraay (2002). There is however some debate about the direction of causality. Kaufman and Kraay (2002) show that per capita income and the quality of governance are strongly positively correlated across countries and find a strong positive causal effect running from better governance to higher per capita income, and a weak and even negative causal effect running in the opposite direction from per capita income to governance.

Chart 52 - **Figure 3. Real GDP growth and Net ODA received**
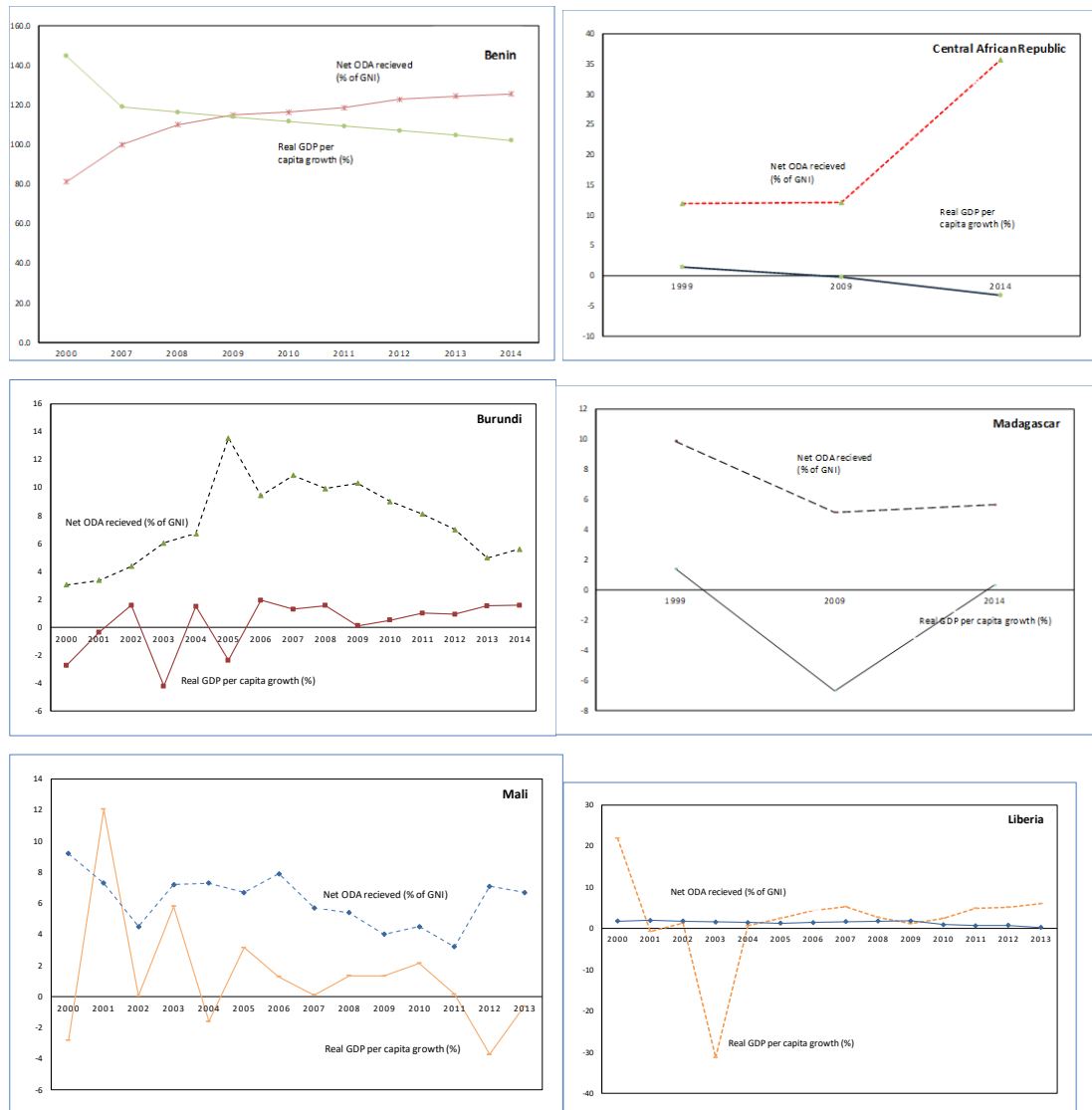
It is interesting to note that Mali is the highest ODA recipient according to the ranking table but then did not perform so well in economic growth in the first period and was a top performer in the second period and also improved performance in the non-income development index. One cannot say here that political and macro-economic stability contributed to the positive performance given that Mali's performance deterioted in this regard. On the other hand, Liberia was a top performer in economic growth in the first period and shiftd to the worst performer in the second period. In this case, Liberia was in both periods the lowest ODA recipient of the sample, poverty increased from one period to the other, and only political stability improved in its performance. Meanwhile, Benin who received less ODA in the second period, recorded the same performance in economic growth in both periods as well as in economic stability and was a top performer with regards to the political stability index in both period. Burundi, who received more ODA in the second period recorded an improvement in economic growth, recorded the lowest poverty headcount ratio in both periods and improved its performance in both the political stability and the macro-economic index. It deteriorated its performance in primary exports as well as in the non-income development index.

In addition, it is interesting to note population growth versus income growth. A scatter chart of population growth rates versus GNP per capita growth rates for the six sample countries for the period 2000 to 2014 suggests no systematic relationship between the rates of population and of economic growth, except for Liberia where there is a positive trend between the two variables. However, as several studies indicate if economic development can slow population growth, it can also increase it. One of the first gains a developing nation can achieve is improvements in such basics as the provision of

clean drinking water, improved sanitation, and public health measures such as vaccination against childhood diseases, which can in fact lead to a decline in the death rate.

Chart 53 - Population and Income Growth (2000-2014)

Source: World Development Indicators, World Bank

However, it is interesting to note that according to the United Nations (2015) nations are likely to enjoy sharp reductions in death rates before they achieve gains in per capita income, which can accelerate population growth early in the development

process. In fact, UN (2015) study indicates that demographers have identified a process of demographic transition in which population growth rises with a fall in death rates and then falls with a reduction in birth rates. The hypothesis that the population size is a function of income has deep roots in economics and can be traced back at least to Malthus (1798) who postulated that the increase in population is limited by the means of subsistence. Malthus claimed that there is a tendency for the population growth rate to surpass the production growth rate because population increases at a geometrical rate while production increases at an arithmetic rate.

Chart 54 - Population growth rates (2000-2014)
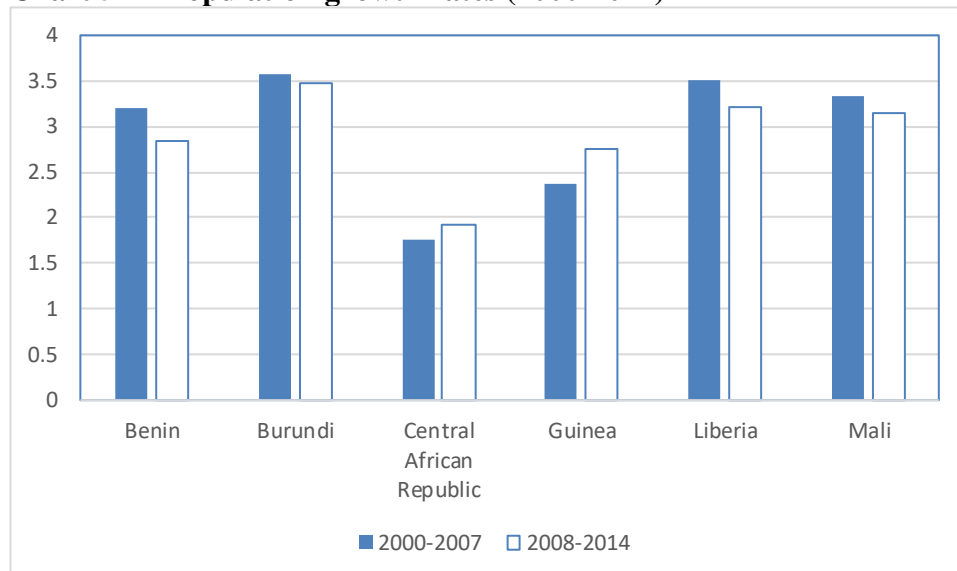
Source: World Development Indicators, World Bank

If one looks at Chart 54 then one can see that Benin recorded a decline in population growth and remained a top performer in economic growth during this period. Burundi recorded a decline in population growth but improved its performance in economic growth. Central African Republic and Guinea increased its population growth rate, but the former improved its performance in economic growth, while Guinea recorded a decline in performance in economic growth. Liberia recorded a decline in population

growth and a downward performance in economic growth while Mali's performance in economic growth improved significantly in the period under review.

8.3 Empirical analysis

To examine whether foreign aid has an adverse impact on the capital accumulation determinants of growth and on per capita GDP growth this chapter presents an empirical assessment of a data set for 18 Sub-Saharan African (SSA) countries during the period of 2000-2014. Liberia and Zimbabwe were not considered in this analysis given that certain indicators were not available and therefore were excluded for consistency purposes.

The regression equations that will be taken into consideration primarily concern the capital accumulation models that are:

Equation 64

$$S_{it} = \beta_0 + ODA_{it}\beta_{ODA} + x_{it}\beta_x + \varepsilon_{it}$$

Equation 65

$$I_{it} = \beta_0 + ODA_{it}\beta_{ODA} + x_{it}\beta_x + \varepsilon_{it}$$

where *i* indexes countries, *t* indexes period, *S* is the ratio of gross domestic savings to GDP, and I_{it} is the ratio of gross domestic investment to GDP, ODA_{it} indicates the level of aid to GDP received, x_{it} refers to the variables that affect savings and investments, and ε_{it} is the error term, which captures the net effect of omitted variables that vary over both time and country. The model that examines the effects of aid on growth is as follows:

Equation 66

$$g_{it} = \beta_0 + ODA_{it}\beta_{ODA} + x_{it}\beta_x + \varepsilon_{it}$$

where g_{it} is real per capita GDP growth, x_{it} refers to the variables that affect growth, these include trade, financial depth, and macroeconomic indicators, ODA_{it} indicates the level of aid to GDP received, and ε_{it} is the error term, which again captures the net effect of omitted variables that vary over both time and country.

The objective of the first and the second regression is to test the hypothesis that aid has no impact on savings and on gross domestic investment, respectively. The alternative hypothesis is that aid has a discernible effect, either positive or negative, on savings and on domestic investment. The regression equation 76 tests the hypothesis that aid has an impact on economic growth. Primarily this set of regression equations is carried out for each country within the data, with the parameters in equations 74 to 76 being estimated with the use of the Ordinary Least Squares technique. Then, in order to assess an aggregate approach of the impact of ODA a cross country regression is carried out by taking averages for the period of 2000-2014.

Appendix 10 presents the correlation matrix of the variables used for each respective country in the regressions. This helps in indicating any potential collinearity among the explanatory variables. The following tables show the empirical results obtained by running the regression equations indicated above. In table 42 primary exports were deducted from GDP. For low-income countries that depend mostly on just a few commodities for the bulk share of their export earnings, commodity price fluctuations directly affect the incidence of poverty, since the vast majority of the poor are dependent on the production of primary commodities for their livelihoods. Therefore, in order to assess properly the impact on ODA on each respective category, primary exports are deducted from the real per capita GDP.

Table 39 - The impact of ODA on savings

	Intercept		Employment		Net ODA		GFCF	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	46.23	0.65	-24.45	-2.47	1.59	0.28	-0.04	-0.01
Burkina Faso	-139.55	-1.68	-0.18	-0.03	6.98	0.78	0.72	0.67
Burundi	116.36	1.58	-12.25	-0.61	12.74	0.62	-6.53	-1.43
Central African Rep.	9.89	0.20	-5.57	-0.50	-2.15	-0.75	0.20	0.06
Chad	171.00	1.01	-107.82	-2.05	-1.58	-0.11	-1.13	-0.16
Comoros	66.18	0.62	-24.25	-0.81	11.01	1.47	-2.63	-0.62
Guinea	-27.92	-0.23	-33.83	-4.10	2.66	0.67	2.81	0.46
Guinea-Bissau	6.88	0.10	-24.29	-1.25	1.01	0.33	1.26	0.35
Madagascar	-205.20	-3.21	-4.91	-0.45	3.32	1.38	10.45	3.31
Malawi	-211.41	-2.83	-11.21	-0.82	13.36	2.17	10.11	3.26
Mali	-27.41	-0.70	18.27	1.40	-0.93	-0.30	0.94	0.48
Mozambique	-18.76	-0.28	-18.76	-0.28	0.95	0.21	-0.29	-0.11
Rwanda	-44.22	-1.69	-4.80	-1.96	-1.17	-0.47	2.93	2.74
Senegal	-51.16	-1.52	-51.16	-1.52	0.89	0.55	3.67	3.66
Sierra Leone	-49.42	-1.40	-49.42	-1.40	-49.42	-1.40	1.91	1.18
Tanzania	-114.12	-2.02	-114.12	-2.02	6.23	1.17	5.57	2.41
Togo	-52.21	-1.17	-52.21	-1.17	-1.63	-1.34	2.95	1.62
Uganda	62.54	1.20	62.54	1.20	0.14	0.04	-1.17	-0.54

	Stability Index		Total Damage		Political Stability	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	0.72	0.67	-0.10	-0.20	3.16	0.97
Burkina Faso	-0.10	-0.20	3.16	0.97	0.00	0.00
Burundi	-2.57	-0.50	-0.83	-0.64	-0.37	-0.22
Central African Rep.	0.40	1.05	0.37	0.77	-0.46	-1.33
Chad	1.55	1.09	1.90	1.61	-0.11	-0.05
Comoros	1.08	0.45	-0.52	-1.18	7.40	1.01
Guinea	-2.01	-0.90	-0.37	-0.57	0.06	0.02
Guinea-Bissau	-0.21	-0.09	-0.05	-0.11	1.80	1.36
Madagascar	-1.26	-0.34	0.57	0.81	15.58	1.11
Malawi	-6.52	-2.09	-0.66	-0.84	-2.79	-0.79
Mali	-0.41	-1.43	-0.10	-0.33	3.79	0.84
Mozambique	3.37	0.97	-0.14	-0.14	-6.87	-0.46
Rwanda	1.97	1.68	-0.31	-1.03	0.45	0.10
Senegal	-0.26	-0.67	-0.46	-1.79	1.35	0.43
Sierra Leone	-5.95	-1.65	2.15	2.22	-0.92	-0.07
Tanzania	-0.09	-0.11	0.23	0.65	1.62	0.50
Togo	-1.45	-0.89	-0.67	-2.73	-0.62	-0.25
Uganda	-0.62	-0.53	0.21	0.52	2.78	0.76

Table 40 - The impact of ODA on Investment

	Intercept		Employment		Net ODA		GFCF	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	-0.18	-0.06	-0.99	-2.35	0.22	0.91	0.20	1.48
Burkina Faso	-2.36	-0.73	-0.12	-0.58	0.30	0.86	0.01	0.21
Burundi	3.31	3.52	0.10	0.40	-0.05	-0.19	-0.04	-0.61
Central African Rep.	-6.30	-2.59	-0.19	-0.35	0.09	0.66	0.46	3.00
Chad	-13.40	-2.88	4.83	3.35	0.04	0.09	0.52	2.65
Comoros	0.46	0.11	-1.48	-1.28	0.43	1.47	0.18	1.07
Guinea	-5.04	-0.71	-1.04	-2.15	-0.50	-2.14	0.42	1.16
Guinea-Bissau	1.33	0.42	-1.45	-1.66	0.03	0.21	0.14	0.85
Madagascar	-12.73	-5.64	-0.15	-0.39	0.32	3.80	0.74	6.67
Malawi	-11.83	-3.45	0.50	0.79	0.31	1.08	0.66	4.60
Mali	-0.97	-0.58	1.14	2.08	0.25	1.96	0.10	1.24
Mozambique	-12.04	-5.05	-12.04	-5.05	0.12	0.73	0.54	5.68
Rwanda	-3.87	-7.58	0.04	0.77	0.01	0.18	0.33	16.00
Senegal	-3.37	-1.80	-3.37	-1.80	0.12	1.30	0.36	6.52
Sierra Leone	-6.03	-3.78	-6.03	-3.78	-6.03	-3.78	0.44	5.95
Tanzania	-9.91	-5.33	-9.91	-5.33	0.46	2.66	0.58	7.58
Togo	-2.09	-0.91	-2.09	-0.91	-0.12	-1.99	0.20	2.13
Uganda	1.84	2.20	1.84	2.20	0.08	1.50	0.07	2.09

	Stability Index		Total Damage		Political Stability	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	0.01	0.21	-0.02	-1.05	-0.04	-0.26
Burkina Faso	-0.02	-1.05	-0.04	-0.26	0.00	0.00
Burundi	-0.04	-0.60	-0.01	-0.61	0.00	0.04
Central African Rep.	-0.01	-0.39	-0.01	-0.48	-0.02	-1.22
Chad	-0.04	-1.12	0.00	-0.08	-0.03	-0.48
Comoros	0.07	0.77	-0.02	-1.35	0.18	0.62
Guinea	-0.07	-0.51	-0.07	-1.96	-0.02	-0.13
Guinea-Bissau	0.03	0.24	0.02	0.97	0.08	1.32
Madagascar	-0.04	-0.29	0.08	3.14	0.88	1.79
Malawi	-0.08	-0.54	0.01	0.23	0.10	0.65
Mali	-0.01	-0.88	0.00	-0.12	-0.16	-0.86
Mozambique	0.19	1.49	0.02	0.57	0.86	1.60
Rwanda	0.02	0.78	0.01	0.91	0.11	1.23
Senegal	0.04	1.82	-0.04	-2.86	0.03	0.20
Sierra Leone	0.34	2.09	0.01	0.21	-1.57	-2.59
Tanzania	0.04	1.50	0.01	0.75	0.00	-0.02
Togo	-0.19	-2.23	-0.03	-2.05	0.05	0.35
Uganda	0.00	0.23	0.01	0.84	-0.04	-0.70

Table 41 - **Regression results for the Growth equation with Exports as an explanatory variable**

	Intercept		Exports		Employment		Net ODA	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	-0.39	-0.68	-0.02	-0.92	-0.13	-1.66	0.02	0.52
Burkina Faso	-0.29	-0.48	0.03	0.94	0.08	2.09	0.03	0.98
Burundi	-0.67	-2.77	0.03	1.47	0.13	2.75	-0.12	-2.75
Central African Rep.	-6.53	-3.85	-0.01	-0.24	-1.57	-3.99	0.14	1.27
Chad	-1.80	-1.10	-0.01	-0.20	0.78	1.45	-0.04	-0.30
Comoros	-0.72	-0.86	0.01	0.86	0.26	1.21	0.06	1.19
Guinea	1.43	3.22	-0.04	-2.04	0.02	0.91	-0.03	-2.58
Guinea-Bissau	-0.26	-0.42	0.02	0.36	-0.09	-0.29	0.01	0.25
Madagascar	-1.21	-1.06	0.01	0.11	0.05	0.29	0.02	0.43
Malawi	-0.54	-1.44	-0.04	-1.35	-0.04	-0.55	0.03	0.86
Mali	-1.13	-0.91	0.02	0.40	0.34	0.92	0.08	0.86
Mozambique	0.45	2.29	0.45	2.29	-0.01	-0.15	-0.04	-2.91
Rwanda	-0.07	-0.10	0.01	0.36	-0.01	-0.09	0.02	0.47
Senegal	0.09	0.20	0.09	0.20	-0.09	-0.59	0.00	-0.13
Sierra Leone	0.45	0.80	0.45	0.80	0.45	0.80	-0.03	-0.50
Tanzania	-0.09	-0.32	-0.09	-0.32	0.02	0.77	0.01	0.28
Togo	-0.97	-2.38	-0.97	-2.38	0.02	0.26	-0.02	-1.90
Uganda	-0.01	-0.03	-0.01	-0.03	-0.05	-1.29	0.02	0.96

	GFCF		Stability Index		Total Damage		Political Stability	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	0.03	0.98	0.01	1.05	0.00	-1.11	-0.02	-0.65
Burkina Faso	0.01	1.05	0.00	-1.11	-0.02	-0.65	0.00	0.00
Burundi	0.03	2.97	-0.01	-0.84	0.01	2.26	0.00	0.55
Central African Rep.	0.40	3.82	0.02	1.27	0.01	0.37	0.01	0.99
Chad	0.05	0.62	0.00	0.29	0.00	0.16	0.02	0.74
Comoros	0.02	0.60	0.02	0.99	0.00	0.77	-0.03	-0.51
Guinea	-0.06	-3.09	0.01	1.68	0.00	-1.86	-0.03	-3.38
Guinea-Bissau	0.01	0.55	0.00	-0.24	0.00	0.49	0.01	0.88
Madagascar	0.06	1.11	0.05	0.76	0.00	0.26	0.32	1.44
Malawi	0.04	2.61	0.00	0.13	0.00	-1.06	-0.02	-1.19
Mali	0.03	0.48	0.00	0.19	0.00	-0.42	0.08	0.58
Mozambique	-0.01	-1.85	0.01	1.11	0.00	0.15	0.17	4.20
Rwanda	0.00	0.08	0.01	0.32	0.00	0.15	0.08	0.94
Senegal	0.00	-0.11	0.00	-1.11	-0.01	-3.49	-0.01	-0.52
Sierra Leone	-0.02	-0.74	0.06	1.16	-0.02	-1.27	-0.04	-0.22
Tanzania	0.01	0.51	0.00	-1.06	0.00	-0.27	0.01	0.56
Togo	0.04	2.72	-0.01	-0.49	0.00	-1.75	-0.01	-0.29
Uganda	0.01	0.94	0.01	0.75	0.00	1.68	-0.01	-0.20

Table 42 - Regression results for the Growth equation with Exports deducted from GDP

	Intercept		Employment		Net ODA		GFCF	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	-27.76	50.67	-13.44	7.03	3.13	4.04	1.99	2.29
Burkina Faso	0.60	-144.61	0.09	-29.66	0.46	-6.18	0.45	0.76
Burundi	-75.77	54.73	6.30	3.64	8.24	5.89	2.73	2.20
Central African Rep.	0.20	-201.98	0.12	-2.10	0.20	-5.35	0.25	-2.35
Chad	-28.71	16.91	7.94	4.59	-7.74	4.71	1.77	1.05
Comoros	0.13	-67.72	0.12	-2.65	0.14	-18.61	0.13	-0.65
Guinea	-543.13	125.28	-128.64	28.82	9.19	7.39	33.60	7.85
Guinea-Bissau	0.00	832.02	0.00	-195.09	0.25	-7.85	0.00	15.50
Madagascar	-191.66	160.82	77.47	49.84	-3.69	13.05	5.30	6.82
Malawi	0.27	562.51	0.16	-37.47	0.78	-33.77	0.46	-10.44
Mali	-44.25	73.47	21.61	20.69	0.85	5.19	1.14	2.93
Mozambique	0.56	-213.66	0.56	-213.66	0.87	-11.12	0.71	-5.61
Rwanda	104.39	39.22	0.60	2.69	-3.18	1.28	-5.05	1.99
Senegal	0.03	13.96	0.03	13.96	0.04	-6.14	0.04	-9.64
Sierra Leone	92.86	63.83	92.86	63.83	92.86	63.83	-3.20	3.28
Tanzania	0.18	-54.34	0.18	-54.34	0.71	-7.37	0.36	-10.76
Togo	-133.26	85.31	-133.26	85.31	3.42	3.21	6.18	4.21
Uganda	0.16	-329.98	0.16	-329.98	0.32	-3.99	0.18	-3.53

	Stability Index		Total Damage		Political Stability	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Benin	0.45	0.76	-0.57	0.36	-2.49	2.31
Burkina Faso	-0.57	0.36	-2.49	2.31	0.00	0.00
Burundi	-0.29	0.25	-0.29	0.27	-1.39	5.47
Central African Rep.	0.26	-0.86	0.31	-0.90	0.81	-14.00
Chad	0.23	1.18	0.26	0.30	0.21	0.39
Comoros	0.85	-2.49	0.41	-0.43	0.61	-0.68
Guinea	1.43	0.97	0.68	1.23	0.79	0.90
Guinea-Bissau	0.18	-0.81	0.59	-2.15	0.40	-1.27
Madagascar	0.58	1.34	0.30	1.12	2.00	2.17
Malawi	0.68	-2.52	0.80	-2.28	0.38	-3.01
Mali	0.23	1.66	0.23	0.30	-2.57	5.09
Mozambique	0.89	-3.60	0.46	-0.47	0.63	-14.31
Rwanda	0.66	0.73	-0.22	0.21	-2.68	0.88
Senegal	0.39	-1.02	0.33	-0.70	0.02	-4.71
Sierra Leone	2.68	2.16	-0.15	0.41	-3.20	1.19
Tanzania	0.25	-2.30	0.72	-1.10	0.03	-5.95
Togo	2.29	4.89	0.55	0.93	29.57	18.62
Uganda	0.65	-8.99	0.57	-1.60	0.15	-13.38

It is interesting to note the coefficient and the significance of ODA in each respective equation. It can be seen that with the exclusion of exports, the impact of ODA on the growth in real GDP per capita is higher. In certain cases, the impact of ODA on savings is higher than in economic growth and investment. For example, Burkina Faso shows a higher impact overall even Burundi, Comoros, Madagascar and Malawi. Foreign aid is assumed to facilitate and accelerate the process of development by generating additional domestic savings as a result of the higher growth rates that it is presumed to induce. Opponents of foreign aid programs, on the other hand, argue that domestic savings decline as a result of aid-induced increased consumption. Only in Central African Republic, Chad, Mali, Rwanda, Togo and Sierra Leone savings as a percentage of GDP declined.

Table 43 - ODA coefficient and t-statistic

	ODA coeff. in growth eq.			ODA coeff. and no exports			ODA coeff. in savings eq.			ODA coeff. in investment eq.	
	Coeff.	t-stat		Coeff.	t-stat		Coeff.	t-stat		Coeff.	t-stat
Benin	0.02	0.52	Benin	3.13	4.04	Benin	1.59	0.28	Benin	0.22	0.91
Burkina Faso	0.03	0.98	Burkina Faso	0.46	-6.18	Burkina Faso	6.98	0.78	Burkina Faso	0.30	0.86
Burundi	-0.12	-2.75	Burundi	8.24	5.89	Burundi	12.74	0.62	Burundi	-0.05	-0.19
CAR	0.14	1.27	CAR	0.20	-5.35	CAR	-2.15	-0.75	CAR	0.09	0.66
Chad	-0.04	-0.30	Chad	-7.74	4.71	Chad	-1.58	-0.11	Chad	0.04	0.09
Comoros	0.06	1.19	Comoros	0.14	-18.61	Comoros	11.01	1.47	Comoros	0.43	1.47
Guinea	-0.03	-2.58	Guinea	9.19	7.39	Guinea	2.66	0.67	Guinea	-0.50	-2.14
Guinea-Bissau	0.01	0.25	Guinea-Bissau	0.25	-7.85	Guinea-Bissa	1.01	0.33	Guinea-Bissau	0.03	0.21
Madagascar	0.02	0.43	Madagascar	-3.69	13.05	Madagascar	3.32	1.38	Madagascar	0.32	3.80
Malawi	0.03	0.86	Malawi	0.78	-33.77	Malawi	13.36	2.17	Malawi	0.31	1.08
Mali	0.08	0.86	Mali	0.85	5.19	Mali	-0.93	-0.30	Mali	0.25	1.96
Mozambique	-0.04	-2.91	Mozambique	0.87	-11.12	Mozambique	0.95	0.21	Mozambique	0.12	0.73
Rwanda	0.02	0.47	Rwanda	-3.18	1.28	Rwanda	-1.17	-0.47	Rwanda	0.01	0.18
Senegal	0.00	-0.13	Senegal	0.04	-6.14	Senegal	0.89	0.55	Senegal	0.12	1.30
Sierra Leone	-0.03	-0.50	Sierra Leone	92.86	63.83	Sierra Leone	-49.42	-1.40	Sierra Leone	-6.03	-3.78
Tanzania	0.01	0.28	Tanzania	0.71	-7.37	Tanzania	6.23	1.17	Tanzania	0.46	2.66
Togo	-0.02	-1.90	Togo	3.42	3.21	Togo	-1.63	-1.34	Togo	-0.12	-1.99
Uganda	0.02	0.96	Uganda	0.32	-3.99	Uganda	0.14	0.04	Uganda	0.08	1.50

To have an overall picture, the time series data from 2000-2014 was averaged, and a cross-country regression was carried out for the 18 SSA countries. The results are as follows:

Table 44 - Cross-country regression

	Growth equation			Savings equation			Investment equation	
	Coefficients	*t Stat*		*Coefficients*	*t Stat*		*Coefficients*	*t*
Intercept	-28.04	-3.21	Intercept	-63.23	-2.24	Intercept	-1.857	-1
LN Emp Growth	3.73	1.23	LN Emp Growth	3.45	0.35	LN Emp Growth	0.853	1
ODA	1.85	2.57	ODA	-2.54	-1.09	ODA	0.160	1
ODA squared	-2.71	-1.68	ODA squared	3.98	0.76	ODA squared	-0.351	-1
LN GFCF	1.08	2.67	LN GFCF	3.52	2.69	LN GFCF	0.189	3
LN STAB	-0.98	-1.48	LN STAB	0.61	0.29	LN STAB	-0.072	-0
LN_TD	-1.11	-2.52	LN_TD	0.05	0.04	LN_TD	-0.043	-0
LN POLSTAB	1.05	0.19	LN POLSTAB	-24.44	-1.37	LN POLSTAB	-0.038	-0

In table 44 there is another explanatory variable included, ODA squared, which captures potential diminishing returns to aid. The inclusion of this quadratic aid term, is based on previous studies by Durbarry et al. (1998) and Hansen and Tarp (2001), which view the aid-growth relationship as being non-linear. In the economic growth equation, ODA has a positive and significant impact on ODA but with diminishing returns in the long-term. Meanwhile, in the savings equation, ODA has a negative impact on the savings ratio and in the investment equation ODA has a positive impact with a diminishing one in the long-term.

8.4 Concluding remarks

In sum, from the taxonomy analysis and from the empirical regressions it appears that most countries within the sample indicate that better scores in political, economic or social indicators are correlated with a better growth in GDP per capita and that ODA leads to economic growth but with a diminishing marginal return. This would seem to suggest that good governance tends to lead to economic prosperity. This conclusion, also often found in the literature, supports intuitive thinking, given that good governance is likely to mean responsive administration, better institutional set-ups and more efficient utilisation of resources. However, one must be cautious in this conclusion in that it may be possible that economic development enables the country to better afford governance institutions. In addition, in the ranking analysis, no attempt

is made here to try to establish causality. Increased ODA also seems to have overall led to an enhanced performance in economic growth. Therefore, this overall is in line with the conclusion reached in the empirical analysis of Chapter 7.

9. CONCLUSION

9.1 Introduction

As stated in the introduction to this thesis, the objective was to assess whether there is a positive relationship between ODA receipts and economic growth in a given country. The focus of this study was on the SSA countries. In order to assess this relationship a regression model was utilized, keeping other variables constant.

9.2 Confirmation of the hypotheses

The results of the panel regression indicate that ODA granted does lead to economic growth of the recipient country, ceteris paribus, thus confirming the hypothesis that there is a positive relationship between the level of EU ODA granted to SSA countries and these countries' economic growth. Several relavant control variables were utilized to respect the ceteris paribus condition. The control variables of ODA, governance, previous level of economic growth, and population size of the recipient country show that there is a positive relationship with the changes in economic growth. On the other hand, proneness to natural disasters as well as the index for macroeconomic stability negatively affect economic growth.

This thesis also presented an extensive literature review focusing primarily on the economic theory on aid, the donors' motivation for granting aid, aid harmonization and aligment, aid tying, the trickle-down effect of aid as well as on the factors that affect aid absorption.

In addition, through the use of concentration curves and the Suits index it was found that European Union Member States are regressive in their nature of ODA granting whereby less is given to the most in need. ODA is not being allocated on the basis of recipient needs which implies that the poorest countries receive more and the more well-off countries less. This was ascertained both by the concentration curves as well as the Suits index. In fact, the Suits index recorded a positive value thus implying a regressive distribution, with aid being targeted toward the less poor rather than the poorest. In addition, with the use of the measure proposed by the UNDP on the system of proportional taxation, it was also concluded that the richer EU donor countries are not paying more in terms of ODA.

In order to delve deeper in the results produced by the regression methodology, case studies on six SSA countries were also conducted. These were chosen to assess whether there were commonalities and differences between the six selected countries, three of which were on the lower end of the income per capita scale and the other three on the upper end. The focus was on the areas of the official development assistance granted to these countries by the EU, poverty, economic growth, primary exports, political stability, macro-economic stability and a non-income development index capturing life expectancy and education. The countries were ranked according to their performance in these variables between 2000 and 2014. In addition, ordinary least squares regression were carried out on 18 SSA countries in order to assess the impact of aid on investment and savings and on the per capita growth in GDP. Through the use of cross-country regressions it was also found that there is an inverted U-shaped relationship between aid and growth. This finding indicates that there are diminishing returns to aid due to recipient countries having absorptive capacity constraints

inhibiting the utilization of foreign aid inflows effectively. It was also concluded that foreign aid is assumed to facilitate and accelerate the process of development by generating additional domestic savings as a result of the higher growth rates that it is presumed to induce. With regards to the impact on savings, ODA was found to have a negative impact on the savings ratio and in the investment equation ODA has a positive impact with a diminishing one in the long-term.

9.3 Suggestions for future research

Although this thesis produced some interesting results a number of shortcomings remain, which it is suggested would be the subject of future research. Although the positive relation between ODA and real growth was confirmed no attempt was made to assess whether ther was a trickling down effect of aid and wthehr ais was used efficiently in the sense as to whether it could have led to higher growth rates then it actually did. This could be a very interesting area of further research in this regards. The fidnings were conditioned by the availability of data with regard to the capital inputs. Proxy variables were used fro this pupose and improved data could lead to a more precise estimation. Furthermore, no attempt was made to assess the environment and demographic impacts of ODA.

Economics is about individuals. Individuals make up an economy and therefore this asks for a deeper insight into how is the well being of individuals being impacted. There has been progress in achieving shared prosperity, with a majority of countries registering solid income growth in the poorest 40 per cent of their income distributions. However, as indicated in the Global Monitoring Report for the past years, in many countries, the incomes of the bottom 40 per cent declined. Ensuring that income is

shared more equitably should be a priority for all countries. Poverty reduction and shared prosperity are held back by unequal progress on the non-income dimensions of development, like access to essential services. These widespread inequalities of opportunity in education, health, and other sectors must be widely researched in order to understand how to address them appropriately.

In addition, another proposal is to analyse the aspect of demographics as well as migration. The recent European refugee crisis only further highlights the importance of making the best out of demographic change. Whether people migrate for more opportunities in life or just a safer life, migration— together with fertility and mortality—is a critical driver of demographic change. Along with capital flows and trade, it is also a key channel through which mutual benefits can be realized in response to diverse demographic trends across countries. Challenges must be managed, but international cooperation is key. With the right policies in place, demographic change can contribute to the movement to end extreme poverty, boost shared prosperity, and achieve the Sustainable Development Goals.

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Appendix A: Sub-Saharan Africa countries dataset

Table 45 - Percentage change in the Gross domestic product - constant prices

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Benin	5.34	4.86	6.20	4.44	3.95	3.08	2.87	3.75	4.63	5.02	2.66	2.55	3.33	5.39	5.65
Botswana	9.84	5.89	0.25	6.07	4.63	2.71	4.56	7.96	8.68	3.90	-7.84	8.59	6.18	4.26	5.89
Burkina Faso	6.24	2.93	6.61	4.35	7.81	4.48	8.67	6.25	4.11	5.80	2.96	8.45	6.63	6.45	6.62
Burundi	-1.01	-0.86	1.67	2.35	2.47	3.77	4.37	5.41	3.44	4.91	3.80	5.05	4.19	4.02	4.47
Cabo Verde	11.86	7.27	6.14	5.28	7.50	4.93	5.81	9.12	9.22	6.65	-1.27	1.47	3.97	1.20	0.52
Cameroon	4.40	4.15	4.51	4.01	4.03	3.70	2.30	3.22	3.26	2.89	1.93	3.27	4.14	4.60	5.58
Central African Republic	3.55	1.90	0.40	0.27	-6.83	2.63	2.47	4.77	4.61	2.05	1.71	3.05	3.30	4.11	-36.05
Chad	-0.68	-0.88	11.66	8.49	14.72	33.63	7.94	0.65	3.27	3.05	4.22	13.55	0.08	8.88	5.69
Comoros	1.92	1.42	3.33	4.15	2.47	-0.24	4.23	1.24	0.49	0.98	1.81	2.05	2.23	2.96	3.52
Democratic Republic of the Congo	-4.27	-6.90	-2.10	2.95	5.58	6.74	6.14	5.32	6.26	6.23	2.86	7.08	6.87	7.16	8.47
Republic of Congo	-2.58	7.58	3.80	4.58	0.81	3.48	7.76	6.24	-1.58	5.57	7.47	8.74	3.41	3.81	3.32
Côte d'Ivoire	1.82	-4.63	0.12	-1.67	-1.36	1.23	1.72	1.52	1.77	2.54	3.25	2.02	-4.39	10.67	8.70
Eritrea	0.19	-12.36	8.76	3.01	-2.66	1.45	2.57	-0.97	1.43	-9.78	3.88	2.19	8.68	7.02	1.33
Ethiopia	6.04	5.93	7.42	1.63	-2.10	11.73	12.64	11.54	11.80	11.19	10.04	10.57	11.39	8.70	9.82
Gabon	-8.94	-1.88	2.15	-1.11	1.70	1.12	-0.79	-1.91	6.33	1.73	-2.28	6.27	6.94	5.49	5.60
The Gambia	6.40	5.53	5.75	-3.25	6.87	7.05	-0.94	1.12	3.63	5.74	6.45	6.53	-4.30	5.60	4.79
Ghana	4.69	4.19	4.50	4.65	5.11	5.32	6.02	6.13	4.49	9.32	5.79	7.90	14.03	8.02	7.33
Guinea	4.51	2.89	3.77	4.17	1.20	2.34	3.00	2.50	1.76	4.94	-0.28	1.94	3.91	3.81	2.31
Guinea-Bissau	7.64	7.51	2.19	-0.99	0.57	2.76	4.27	2.31	3.20	3.21	3.32	4.43	9.03	-2.23	0.33
Kenya	2.41	0.60	3.98	0.48	2.95	4.64	5.67	5.85	6.85	0.23	3.31	8.41	6.12	4.45	5.74

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Lesotho	0.38	5.66	3.28	1.58	4.07	2.40	3.11	4.42	4.99	5.12	4.52	6.88	4.52	5.30	3.49
Liberia	0.00	0.00	2.82	4.35	-28.18	3.88	5.69	8.23	12.72	5.97	5.09	6.09	7.43	8.25	8.66
Madagascar	4.70	4.46	5.98	-12.41	9.79	5.26	4.76	5.40	6.42	7.21	-4.73	0.26	1.46	3.03	2.41
Malawi	3.54	0.78	-4.15	1.70	5.53	5.52	2.57	2.06	9.49	8.34	9.04	6.53	4.35	1.89	5.20
Mali	5.70	-3.28	11.86	4.31	7.62	2.26	6.14	5.25	4.30	4.98	4.46	5.82	2.73	0.02	1.73
Mauritius	4.62	7.20	3.21	1.63	5.98	4.30	1.45	4.51	5.89	5.51	3.05	4.10	3.89	3.22	3.19
Mozambique	8.37	1.53	12.71	9.23	6.87	8.54	7.74	9.10	7.44	5.78	6.48	7.12	7.44	7.08	7.44
Namibia	2.68	4.08	1.17	4.79	4.26	12.27	2.49	7.07	5.38	2.65	0.30	6.04	5.12	5.15	5.13
Niger	0.99	-2.58	8.04	5.34	7.06	-0.83	8.42	5.81	3.17	9.65	-0.71	8.36	2.21	11.85	4.58
Nigeria	2.80	7.70	7.04	6.90	11.89	8.79	8.68	8.33	9.06	8.01	8.97	9.97	4.89	4.28	5.39
Rwanda	5.13	6.50	8.49	13.19	2.20	7.45	9.38	9.23	7.63	11.19	6.25	6.27	7.46	8.79	4.71
São Tomé and Príncipe	2.50	0.45	3.06	2.32	6.60	3.82	7.10	9.11	0.58	8.06	4.01	4.47	4.76	4.50	4.00
Senegal	6.35	3.20	4.58	0.66	6.68	5.87	5.61	2.47	4.94	3.68	2.42	4.18	1.66	3.36	3.49
Seychelles	1.87	4.25	-2.27	1.21	-5.89	-2.85	9.01	9.41	10.42	-2.14	-1.11	5.95	7.90	6.04	6.62
Sierra Leone	-8.12	3.81	18.17	26.43	9.33	6.62	4.53	4.24	8.04	5.28	3.20	5.35	5.96	15.21	20.12
South Africa	2.36	4.16	2.74	3.67	2.95	4.56	5.28	5.60	5.36	3.19	-1.54	3.04	3.21	2.22	2.21
Swaziland	2.73	2.04	1.16	1.78	2.24	2.91	2.46	3.30	3.50	2.37	1.25	1.87	-0.61	1.86	2.80
Tanzania	3.53	4.93	6.00	6.90	6.36	7.21	5.75	5.06	8.77	5.59	5.40	6.35	7.92	5.15	7.28
Togo	2.61	-0.97	-1.63	-0.92	4.95	2.12	1.18	4.05	2.29	2.38	3.50	4.07	4.79	5.91	5.40
Uganda	8.16	5.44	8.77	7.06	6.16	5.80	10.01	7.05	8.06	10.43	8.07	7.67	6.82	2.63	3.89
Zambia	2.22	3.58	5.32	4.51	6.95	7.03	7.24	7.90	8.35	7.77	9.22	10.30	6.37	6.76	6.69
Zimbabwe	0.00	0.00	-0.52	-7.86	-16.50	-6.47	-7.66	-3.58	-3.37	-16.58	7.54	11.38	11.91	10.57	4.48

Table 46 - Net disbursed ODA from the EU as a percentage of the recipient countries GNI - EU ODA/GDP - current prices

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	3.23	1.42	1.37	1.13	1.20	4.85	0.51	-0.10	-0.01	0.16	0.07	0.04	0.01	0.02	0.04
Benin	3.06	6.19	4.07	3.75	4.11	3.86	3.36	3.89	3.43	3.37	3.36	2.93	2.59	2.29	2.10
Botswana	0.38	0.24	0.25	0.23	0.15	0.11	0.09	0.08	0.16	4.35	0.08	0.13	0.05	0.06	0.06
Burkina Faso	5.65	6.79	6.04	5.61	5.00	5.59	4.82	5.26	4.83	4.60	3.65	3.20	2.90	2.60	2.50
Burundi	3.04	3.36	4.37	6.03	6.72	13.56	9.44	10.88	9.93	10.32	9.01	8.11	7.00	4.98	5.59
Cabo Verde	12.55	10.07	7.31	5.07	8.74	8.27	9.35	8.34	7.01	7.60	6.37	12.09	10.22	11.98	10.96
Cameroon	2.06	2.14	3.32	3.20	5.34	3.19	1.61	7.14	8.04	1.10	0.93	0.83	1.00	0.72	0.94
Central African Republic	4.02	3.18	3.23	2.62	2.58	3.32	2.99	2.62	5.21	3.34	2.87	3.09	2.21	1.72	3.69
Chad	3.51	3.12	3.60	2.68	3.37	2.66	1.32	1.46	1.70	1.83	1.59	1.05	0.74	0.60	0.56
Comoros	5.17	5.31	4.33	4.46	3.48	3.74	3.77	4.86	4.02	3.75	4.23	3.97	3.99	4.24	6.31
Democratic Republic of the Congo	1.56	0.40	1.53	2.89	39.80	8.85	3.65	4.20	3.60	3.73	4.02	9.97	11.84	4.34	2.51
Republic of Congo	7.03	0.71	0.92	1.57	1.09	1.42	32.04	3.04	0.51	4.22	2.92	12.79	1.53	0.28	0.53
Côte d'Ivoire	2.35	2.19	1.52	6.39	1.53	1.04	0.55	0.85	0.30	0.35	6.13	1.12	2.51	6.74	1.43
Eritrea	8.40	8.70	14.78	7.49	6.18	5.04	4.78	2.32	1.88	1.58	1.07	0.71	0.56	0.24	0.45
Ethiopia	2.16	2.14	2.29	3.11	3.79	4.96	3.51	3.56	3.58	2.88	2.64	2.58	3.01	1.80	1.77
Gabon	0.76	-0.30	-0.29	0.88	-0.82	0.25	0.22	0.34	0.28	0.25	0.45	0.45	0.31	0.36	0.43
The Gambia	1.00	1.02	1.24	0.97	1.31	0.81	0.92	1.28	3.03	1.48	0.48	0.97	2.00	2.13	2.44
Ghana	2.63	3.92	5.50	4.84	4.40	7.59	4.01	2.04	2.02	1.78	1.89	1.53	1.16	0.91	0.85
Guinea	1.97	1.39	2.12	1.83	1.77	3.06	2.10	1.63	2.05	3.53	2.68	1.28	1.25	1.90	2.90
Guinea-Bissau	11.94	10.73	7.77	5.11	20.14	5.21	3.99	5.50	4.95	5.27	4.72	3.53	3.50	1.82	2.79
Kenya	1.14	1.35	1.32	1.19	1.33	1.45	1.41	1.29	1.26	1.25	1.44	1.26	1.60	1.22	1.34
Lesotho	1.82	1.77	2.01	1.84	1.62	1.52	1.35	1.47	1.72	1.80	1.93	0.97	0.67	0.76	0.35
Liberia	0.94	1.38	0.36	2.08	10.02	14.47	11.25	14.47	12.38	72.67	20.42	36.67	18.82	5.46	5.38
Madagascar	2.83	1.88	1.68	1.47	2.95	13.43	7.19	2.49	2.44	1.46	1.52	1.21	1.24	1.01	0.95
Malawi	8.49	9.20	7.30	4.54	7.21	7.30	6.72	7.95	5.73	5.42	4.03	4.46	3.21	7.12	6.71
Mali	5.72	7.69	5.68	5.22	3.82	4.43	4.47	4.31	6.00	3.80	3.74	3.53	2.98	2.45	3.70

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	0.05	0.21	0.14	0.04	-0.38	0.20	0.04	0.05	0.50	0.18	0.74	0.61	1.01	0.73	0.53
Mozambique	8.87	9.98	13.76	33.64	9.39	8.96	8.21	9.04	8.66	8.56	7.52	8.23	7.70	4.64	4.72
Namibia	2.44	1.87	1.58	1.77	1.47	1.27	0.77	0.64	0.88	0.70	1.40	0.51	0.74	0.44	0.30
Niger	4.29	4.19	4.16	3.18	7.34	8.39	4.90	4.71	3.19	3.31	3.00	3.10	2.48	3.17	2.19
Nigeria	0.12	0.12	0.17	0.19	0.13	0.21	5.76	5.92	0.71	0.11	0.18	0.10	0.09	0.08	0.10
Rwanda	6.35	7.74	6.33	8.24	7.40	7.15	7.87	7.00	6.41	6.14	6.21	5.46	5.68	2.79	4.48
São Tomé and Príncipe	25.78	22.30	28.20	21.91	24.33	17.73	12.80	12.61	17.58	10.16	9.45	14.66	13.37	9.13	6.28
Senegal	6.17	4.39	3.32	2.92	3.19	7.90	4.02	4.48	2.94	2.79	2.66	2.37	2.23	3.01	2.09
Seychelles	0.40	0.40	0.50	0.48	0.62	0.61	0.61	0.47	0.00	0.36	0.31	2.14	0.45	0.34	0.35
Sierra Leone	4.63	14.89	11.86	11.42	9.53	8.63	5.78	5.75	13.13	5.06	4.84	4.65	3.76	4.00	3.06
South Africa	0.18	0.14	0.15	0.21	0.18	0.13	0.11	0.14	0.11	0.16	0.10	0.06	0.10	0.04	0.13
Swaziland	0.54	-0.25	-0.18	0.13	0.32	0.00	-0.39	-0.10	-0.05	0.08	-0.10	0.00	0.07	0.23	0.10
Tanzania	4.44	4.70	5.74	6.45	5.96	6.03	4.48	3.71	3.58	3.22	2.77	2.71	2.28	2.02	1.53
Togo	2.14	3.21	1.73	2.09	2.28	2.15	2.41	2.27	2.14	6.06	5.79	7.83	7.38	2.60	1.32
Uganda	4.19	7.76	4.98	5.10	5.74	5.29	4.40	6.18	4.76	3.53	3.01	2.71	2.37	1.68	1.42
Zambia	6.67	10.84	4.24	4.94	9.35	10.06	6.22	6.01	2.82	2.12	2.37	1.35	1.27	0.96	1.11
Zimbabwe	1.55	1.49	1.35	1.46	1.89	1.99	2.02	2.59	3.82	5.70	3.05	2.59	2.41	3.10	2.05

Table 47 - Macroeconomic stability index

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	0.48	0.96	0.55	0.48	0.09	0.07	0.15	0.15	0.18	0.07	0.00	0.21	0.01	0.10	0.03
Benin	0.34	0.35	0.42	0.40	0.39	0.39	0.27	0.37	0.38	0.58	0.45	0.54	0.47	0.58	0.38
Botswana	0.71	0.73	0.69	0.56	0.80	0.68	0.65	0.71	0.71	0.63	0.41	0.52	0.46	0.57	0.64
Burkina Faso	0.25	0.18	0.32	0.39	0.39	0.32	0.19	0.33	0.42	0.54	0.51	0.67	0.51	0.62	0.50
Burundi	0.69	0.58	0.64	0.67	0.77	0.63	0.43	0.34	0.61	0.83	0.53	0.48	0.39	0.43	0.26
Cabo Verde	0.28	0.30	0.42	0.46	0.48	0.37	0.41	0.50	0.44	0.63	0.57	0.77	0.69	1.00	1.00
Cameroon	0.43	0.39	0.42	0.43	0.53	0.49	0.33	0.46	0.52	0.63	0.47	0.55	0.42	0.56	0.48
Central African Republic	0.53	0.52	0.55	0.53	0.61	0.61	0.37	0.53	0.54	0.72	0.51	0.55	0.50	0.66	0.69
Chad	0.46	0.30	0.21	0.00	0.02	0.31	0.40	0.52	0.63	0.70	0.50	0.50	0.44	0.52	0.43
Comoros	0.41	0.49	0.52	0.46	0.44	0.35	0.18	0.34	0.41	0.51	0.45	0.49	0.40	0.57	0.30
Democratic Republic of the Congo	1.00	0.83	0.88	0.71	0.81	0.72	0.40	0.56	0.61	0.75	0.58	0.28	0.29	0.36	0.19
Republic of Congo	0.15	0.19	0.11	0.18	0.21	0.00	0.00	0.00	0.09	0.18	0.16	0.31	0.20	0.30	0.26
Côte d'Ivoire	0.62	0.57	0.61	0.60	0.69	0.69	0.48	0.63	0.63	0.86	0.81	1.00	1.00	0.81	0.62
Eritrea	0.32	0.59	0.51	0.53	0.57	0.29	0.25	0.26	0.36	0.66	0.48	0.77	0.69	0.87	0.68
Ethiopia	0.70	0.74	0.73	0.74	0.92	0.72	0.37	0.48	0.60	0.70	0.54	0.74	0.52	0.54	0.45
Gabon	0.66	0.85	0.62	0.52	0.73	0.76	0.67	0.61	0.66	0.78	0.59	0.70	0.48	0.85	0.74
The Gambia	0.72	0.59	0.65	0.63	0.62	0.58	0.33	0.54	0.48	0.65	0.56	0.65	0.69	0.92	0.78
Ghana	0.69	0.65	0.72	0.66	0.79	0.56	0.32	0.38	0.41	0.53	0.48	0.55	0.43	0.55	0.43
Guinea	0.51	0.45	0.55	0.53	0.64	0.55	0.40	0.33	0.26	0.47	0.45	0.59	0.32	0.00	0.00
Guinea-Bissau	0.78	0.92	0.65	0.64	0.77	0.83	0.57	0.64	0.70	1.00	1.00	0.72	0.63	0.77	0.60
Kenya	0.64	0.59	0.63	0.62	0.80	0.70	0.48	0.56	0.57	0.71	0.60	0.74	0.55	0.68	0.57
Lesotho	0.16	0.52	0.71	0.59	0.66	0.84	0.61	0.88	0.84	0.95	0.62	0.57	0.47	0.70	0.57
Liberia	0.88	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.76	0.00	0.21	0.32	0.12
Madagascar	0.43	0.38	0.46	0.38	0.41	0.28	0.10	0.23	0.20	0.27	0.15	0.30	0.31	0.44	0.35
Malawi	0.79	0.73	0.78	0.67	0.73	0.58	0.39	0.38	0.58	0.64	0.58	0.74	0.55	0.79	0.77
Mali	0.00	0.00	0.00	0.14	0.00	0.02	0.01	0.13	0.20	0.30	0.26	0.21	0.30	0.47	0.36

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	0.53	0.53	0.64	0.57	0.68	0.57	0.35	0.40	0.50	0.62	0.59	0.67	0.55	0.77	0.63
Mozambique	0.56	0.36	0.53	0.48	0.52	0.48	0.24	0.45	0.46	0.62	0.53	0.61	0.40	0.28	0.20
Namibia	0.48	0.52	0.39	0.38	0.51	0.59	0.38	0.55	0.55	0.60	0.40	0.45	0.39	0.48	0.38
Niger	0.40	0.40	0.47	0.46	0.46	0.42	0.25	0.34	0.41	0.51	0.27	0.27	0.31	0.48	0.36
Nigeria	0.84	1.00	0.83	0.69	0.91	1.00	0.84	0.75	0.71	0.80	0.63	0.72	0.48	0.64	0.54
Rwanda	0.63	0.61	0.68	0.67	0.79	0.74	0.49	0.52	0.58	0.68	0.52	0.59	0.47	0.55	0.53
São Tomé and Príncipe	0.84	0.61	0.71	0.69	0.42	0.24	0.12	0.09	0.00	0.00	0.07	0.07	0.17	0.34	0.21
Senegal	0.39	0.33	0.42	0.43	0.45	0.41	0.24	0.33	0.36	0.50	0.51	0.67	0.52	0.66	0.57
Seychelles	0.40	0.58	0.46	0.61	0.79	0.56	0.21	0.46	0.43	0.58	0.56	0.50	0.46	0.61	0.52
Sierra Leone	0.60	0.49	0.67	0.67	0.76	0.63	0.42	0.53	0.47	0.63	0.49	0.34	0.00	0.41	0.41
South Africa	0.67	0.62	0.65	0.60	0.73	0.62	0.42	0.50	0.52	0.68	0.59	0.77	0.59	0.74	0.63
Swaziland	0.40	0.35	0.41	0.40	0.49	0.46	0.21	0.23	0.38	0.43	0.23	0.29	0.28	0.53	0.47
Tanzania	0.52	0.51	0.58	0.57	0.69	0.59	0.36	0.41	0.44	0.59	0.47	0.55	0.41	0.51	0.43
Togo	0.36	0.29	0.36	0.42	0.47	0.39	0.25	0.44	0.52	0.73	0.65	0.69	0.53	0.69	0.60
Uganda	0.52	0.50	0.54	0.58	0.71	0.64	0.45	0.52	0.53	0.64	0.51	0.54	0.42	0.57	0.50
Zambia	0.56	0.32	0.49	0.57	0.63	0.54	0.36	0.56	0.52	0.67	0.64	0.82	0.53	0.73	0.61
Zimbabwe	0.58	0.56	0.60	0.56	0.63	0.53	0.32	0.49	0.56	0.68	0.22	0.65	0.41	0.61	0.44

Table 48 - Total Damage as a percentage of GDP - current prices

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	0.01	0.79	0.41	0.00	0.01	1.82	0.04	0.14	0.11	0.12	0.33	0.23	0.09	1.59	0.00
Benin	2.32	0.33	0.39	0.02	0.01	0.00	0.00	0.00	0.20	2.40	1.82	12.66	0.08	0.73	0.47
Botswana	0.00	2.39	0.00	0.00	0.00	0.06	0.00	0.22	0.00	0.00	0.05	0.00	0.00	0.00	0.03
Burkina Faso	0.05	0.00	0.73	0.00	0.46	0.06	0.01	0.57	2.09	0.69	1.84	1.53	26.55	0.19	0.09
Burundi	130.77	84.04	0.00	1.24	0.04	2.80	192.93	1.28	149.39	5.32	10.59	0.17	0.06	0.00	0.00
Cabo Verde	0.00	0.00	0.00	4.42	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00
Cameroon	0.04	0.01	0.02	0.00	0.00	0.02	0.01	0.00	0.05	0.11	0.01	0.05	0.06	0.20	0.00
Central African Republic	4.59	0.29	0.50	0.00	0.06	1.01	1.78	0.00	0.46	0.04	1.21	0.08	0.23	2.25	2.71
Chad	9.98	0.62	50.58	0.00	0.00	0.07	0.09	0.00	2.00	0.16	26.02	1.40	0.15	17.90	0.00
Comoros	0.06	0.00	0.00	0.00	0.09	0.00	73.55	0.24	0.32	0.00	0.47	0.00	0.01	10.93	0.00
Democratic Republic of the Congo	0.22	0.00	0.00	0.61		0.00	0.03	0.06	0.15	0.00	0.00	0.00	0.05	0.08	0.00
Republic of Congo	3.32	0.01	0.87	21.60	1.28	1.00	0.17	1.18	0.03	0.15	0.22	0.66	0.26	0.21	0.00
Côte d'Ivoire	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.54	0.01	0.00	0.04	0.03	0.00	0.00	0.00
Eritrea	289.67	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.00	123.19	0.00	0.00	0.00	0.00	0.00
Ethiopia	63.68	0.46	0.58	0.05	147.40	0.00	22.99	3.06	1.26	24.29	19.14	0.27	15.16	2.32	0.11
Gabon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.01	0.03	0.00	0.48	0.00
The Gambia	5.14	0.02	0.04	0.00	1.58	1.06	0.00	0.00	0.04	0.07	1.84	4.09	0.00	47.03	0.37
Ghana	2.57	0.00	1.95	0.02	0.00	0.00	0.01	0.00	1.34	0.20	0.61	0.05	0.26	0.01	0.05
Guinea	0.00	0.01	7.25	0.00	0.00	0.05	0.06	0.05	0.56	0.09	0.86	0.97	0.39	0.10	0.18
Guinea-Bissau	0.53	0.00	0.00	23.98	0.00	0.23	4.27	5.47	0.00	1.70	0.00	6.69	0.00	0.00	0.00
Kenya	162.77	0.01	0.01	1.19	0.36	12.97	16.85	3.04	0.13	10.76	0.40	0.54	19.47	0.56	0.21
Lesotho	0.22	0.23	0.27	75.08	0.00	0.00	0.00	0.00	28.34	0.27	0.00	0.00	29.88	0.00	0.00
Liberia	0.00	0.02	0.00	0.10	3.80	0.00	0.10	0.00	2.18	0.03	43.83	1.20	0.00	0.00	0.00
Madagascar	0.49	34.49	0.00	26.16	3.40	23.66	1.62	0.12	3.48	13.32	1.54	28.55	1.16	3.38	0.43
Malawi	0.11	1.35	31.98	121.94	0.81	0.00	186.73	0.54	19.80	0.51	0.64	0.39	1.49	47.44	0.86
Mali	0.07	0.00	0.12	0.71	0.27	0.00	18.23	0.51	1.24	0.03	0.23	6.70	32.91	0.00	0.42

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mozambique	1.37	96.85	18.61	12.19	12.28	0.00	19.06	0.09	11.76	6.73	0.31	4.59	0.49	0.74	2.02
Namibia	0.00	0.13	0.34	10.24	0.24	0.38	0.00	0.03	0.17	0.77	3.94	0.98	4.02	0.00	2.64
Niger	1.31	0.32	201.25	0.22	1.20	0.69	88.90	1.30	1.34	0.64	147.54	4.09	47.42	8.01	2.41
Nigeria	0.26	0.01	0.16	0.03	0.22	0.03	0.02	0.01	0.02	0.00	0.07	0.42	0.01	1.50	0.02
Rwanda	49.81	0.01	0.18	1.33	54.55	0.03	0.00	0.07	0.12	0.25	0.00	0.10	0.06	0.15	0.00
São Tomé and Príncipe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Senegal	1.86	0.00	0.01	8.66	0.12	0.03	0.84	0.00	0.07	0.18	2.06	0.79	5.95	0.41	1.10
Seychelles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sierra Leone	0.33	0.00	0.00	0.00	0.01	0.04	0.91	0.00	0.21	0.07	0.06	0.01	0.00	0.61	0.05
South Africa	0.02	0.07	0.04	0.10	0.00	6.56	0.00	0.00	0.01	0.01	0.01	0.00	0.05	0.03	0.00
Swaziland	0.00	17.92	71.54	0.00	0.00	0.00	0.04	0.22	13.49	0.08	0.00	0.00	0.00	0.00	0.00
Tanzania	0.01	0.03	0.01	0.03	13.42	1.63	0.10	19.99	0.00	0.04	0.25	0.36	3.20	0.00	0.00
Togo	4.26	0.00	0.12	0.03	0.05	0.00	30.77	0.09	5.60	1.43	0.00	0.41	0.00	0.00	0.00
Uganda	9.85	0.22	0.06	8.79	0.16	0.60	0.00	0.09	4.89	6.31	0.00	0.00	3.38	0.10	0.95
Zambia	0.38	0.37	15.10	0.00	0.30	3.16	14.54	0.00	11.05	0.13	4.05	0.01	0.01	0.00	0.01
Zimbabwe	0.01	2.72	61.88	0.01	0.23	0.00	0.02	0.00	30.65	1.65	0.02	17.67	0.01	0.00	16.38

Table 49 - Kaufmann Index

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	-1.72	-1.83	-1.77	-1.49	-1.23	-1.25	-1.29	-1.14	-1.04	-1.06	-1.02	-1.02	-1.08	-0.98	-1.05
Benin	-0.17	-0.21	-0.19	-0.44	-0.50	-0.48	-0.57	-0.40	-0.42	-0.49	-0.33	-0.32	-0.33	-0.39	-0.42
Botswana	0.70	0.64	0.67	0.77	0.79	0.66	0.67	0.50	0.44	0.48	0.48	0.46	0.50	0.69	0.66
Burkina Faso	-0.39	-0.12	-0.26	-0.14	-0.35	-0.34	-0.42	-0.31	-0.25	-0.17	-0.09	-0.14	-0.16	-0.12	-0.17
Burundi	-1.59	-1.22	-1.41	-1.32	-1.22	-1.20	-1.36	-1.21	-1.24	-1.23	-1.15	-1.10	-1.00	-0.96	-0.87
Cabo Verde	-0.21	0.00	-0.10	-0.29	-0.23	-0.34	-0.31	-0.22	-0.20	-0.06	0.02	-0.04	0.07	0.04	-0.12
Cameroon	-0.64	-0.59	-0.62	-0.89	-0.83	-0.68	-0.86	-0.83	-0.83	-0.81	-0.74	-0.73	-0.79	-0.93	-0.93
Central African Republic	-0.88	-0.91	-0.89	-1.13	-1.14	-1.19	-1.33	-1.19	-1.22	-1.22	-1.25	-1.15	-1.18	-1.09	-1.13
Chad	-0.93	-0.78	-0.86	-0.92	-0.91	-0.83	-1.17	-1.08	-1.12	-1.16	-1.04	-1.06	-1.01	-1.08	-1.02
Comoros	-1.26	-1.29	-1.28	-1.16	-1.44	-1.49	-1.56	-1.48	-1.44	-1.50	-1.55	-1.42	-1.36	-1.42	-1.26
Democratic Republic of the Congo	-2.41	-2.11	-2.26	-1.51	-1.50	-1.59	-1.62	-1.32	-1.26	-1.30	-1.53	-1.58	-1.52	-1.51	-1.28
Republic of Congo	-1.22	-1.25	-1.23	-1.06	-1.10	-0.97	-1.30	-1.20	-1.19	-1.26	-1.28	-1.27	-1.26	-1.38	-1.36
Côte d'Ivoire	-0.26	-0.54	-0.40	-0.45	-0.82	-0.96	-0.91	-0.85	-0.84	-0.89	-0.95	-0.91	-0.86	-0.77	-0.73
Eritrea	-0.57	-0.94	-0.76	-1.11	-1.62	-1.67	-1.80	-2.08	-2.12	-2.17	-2.26	-2.25	-2.22	-2.24	-2.23
Ethiopia	-1.18	-1.16	-1.17	-1.24	-1.18	-0.96	-1.11	-0.97	-0.91	-0.84	-0.92	-0.85	-0.99	-1.07	-1.13
Gabon	0.14	-0.14	0.00	-0.19	-0.16	-0.46	-0.23	-0.48	-0.56	-0.65	-0.59	-0.57	-0.56	-0.51	-0.56
The Gambia	-0.40	-0.28	-0.34	-0.55	-0.46	-0.42	-0.52	-0.38	-0.36	-0.38	-0.32	-0.38	-0.27	-0.23	-0.37
Ghana	-0.25	-0.10	-0.17	-0.47	-0.28	-0.35	-0.11	-0.08	-0.06	-0.04	0.09	0.12	0.13	0.12	0.08
Guinea	-0.51	-0.60	-0.56	-1.01	-0.98	-0.94	-1.06	-1.20	-1.22	-1.20	-1.13	-1.08	-1.00	-1.02	-1.01
Guinea-Bissau	-1.33	-1.24	-1.29	-1.02	-0.86	-1.08	-1.12	-0.97	-1.12	-1.20	-1.18	-1.14	-1.12	-1.24	-1.30
Kenya	-0.35	-0.30	-0.32	-0.17	-0.26	-0.26	-0.23	-0.17	-0.23	-0.20	-0.13	-0.07	-0.21	-0.31	-0.35
Lesotho	-0.44	-0.39	-0.41	-0.43	-0.55	-0.59	-0.65	-0.67	-0.71	-0.64	-0.62	-0.60	-0.61	-0.54	-0.35
Liberia	-2.11	-1.78	-1.95	-1.74	-1.69	-1.88	-1.55	-1.37	-1.20	-1.34	-1.19	-1.05	-1.09	-1.05	-0.92
Madagascar	-0.82	-0.45	-0.64	-0.28	-0.29	-0.32	-0.24	-0.17	-0.20	-0.32	-0.50	-0.56	-0.52	-0.58	-0.67
Malawi	-0.23	-0.22	-0.22	-0.51	-0.46	-0.52	-0.48	-0.52	-0.48	-0.48	-0.44	-0.58	-0.70	-0.71	-0.68
Mali	-0.23	-0.10	-0.17	-0.46	-0.51	-0.46	-0.51	-0.44	-0.34	-0.40	-0.39	-0.48	-0.38	-0.42	-0.50

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	0.40	0.58	0.49	0.55	0.58	0.42	0.44	0.54	0.51	0.79	0.87	0.90	0.85	0.98	0.94
Mozambique	-0.29	-0.16	-0.23	-0.31	-0.52	-0.47	-0.65	-0.55	-0.54	-0.45	-0.39	-0.39	-0.42	-0.46	-0.41
Namibia	0.16	0.27	0.21	0.50	0.22	0.17	0.12	0.15	0.00	0.17	0.10	0.14	0.08	0.06	0.05
Niger	-0.69	-0.61	-0.65	-0.71	-0.64	-0.58	-0.42	-0.50	-0.50	-0.42	-0.48	-0.51	-0.53	-0.61	-0.61
Nigeria	-0.93	-0.74	-0.83	-1.23	-1.24	-1.32	-0.77	-0.89	-0.86	-0.78	-0.73	-0.71	-0.67	-0.72	-0.71
Rwanda	-1.12	-1.05	-1.08	-0.75	-0.74	-0.66	-0.94	-0.62	-0.64	-0.50	-0.31	-0.18	-0.13	-0.10	0.03
São Tomé and Príncipe	-1.16	-0.80	-0.98	-0.52	-0.64	-0.84	-0.87	-0.66	-0.75	-0.71	-0.76	-0.86	-0.74	-0.80	-0.81
Senegal	-0.19	-0.13	-0.16	-0.19	-0.23	-0.26	-0.26	-0.31	-0.35	-0.31	-0.29	-0.27	-0.21	-0.10	-0.05
Seychelles	-0.57	-0.91	-0.74	-0.75	-0.28	-0.93	-0.36	-0.68	-0.86	-0.71	-0.62	-0.57	-0.44	-0.31	-0.29
Sierra Leone	-1.29	-1.38	-1.33	-1.26	-1.14	-1.02	-1.08	-1.16	-1.07	-0.97	-0.78	-0.72	-0.70	-0.71	-0.69
South Africa	0.27	0.40	0.33	0.63	0.78	0.67	0.67	0.71	0.53	0.50	0.40	0.36	0.41	0.38	0.41
Swaziland	-0.44	-0.44	-0.44	-0.21	-0.44	-0.66	-0.57	-0.57	-0.71	-0.58	-0.55	-0.60	-0.63	-0.56	-0.36
Tanzania	-0.41	-0.25	-0.33	-0.56	-0.50	-0.44	-0.45	-0.37	-0.40	-0.50	-0.42	-0.41	-0.40	-0.40	-0.34
Togo	-0.49	-0.66	-0.58	-0.73	-0.70	-0.78	-0.84	-0.91	-0.89	-0.87	-0.86	-0.87	-1.00	-0.86	-0.95
Uganda	0.25	0.08	0.16	-0.03	0.00	0.00	-0.18	-0.20	-0.20	-0.22	-0.15	-0.15	-0.14	-0.24	-0.24
Zambia	-0.12	-0.26	-0.19	-0.61	-0.54	-0.51	-0.70	-0.62	-0.49	-0.45	-0.50	-0.48	-0.42	-0.43	-0.47
Zimbabwe	-0.79	-1.46	-1.12	-1.97	-2.00	-2.03	-2.21	-1.96	-2.16	-2.11	-2.10	-2.05	-1.92	-1.83	-1.80

Table 50 - Population levels in recipient countries - in million

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	15.71	16.18	16.65	17.14	17.64	18.16	18.69	19.25	19.83	20.42	21.03	21.66	22.31	22.98	23.67
Benin	6.71	6.95	7.18	7.42	7.67	7.92	8.18	8.44	8.71	8.97	9.24	9.51	9.78	10.05	10.32
Botswana	1.74	1.76	1.78	1.81	1.83	1.85	1.88	1.90	1.93	1.96	1.98	2.01	2.03	2.06	2.08
Burkina Faso	11.27	11.61	11.95	12.30	12.66	13.03	13.42	13.82	14.24	14.66	15.10	15.54	16.00	16.46	16.94
Burundi	6.30	6.43	6.75	7.00	7.20	7.34	7.49	7.64	7.79	7.98	8.17	8.37	8.57	8.78	8.99
Cabo Verde	0.43	0.44	0.45	0.46	0.47	0.47	0.48	0.48	0.48	0.49	0.49	0.49	0.49	0.51	0.51
Cameroon	15.12	15.54	15.98	16.42	16.88	17.36	17.84	18.34	18.86	19.38	19.93	20.42	20.93	21.46	21.99
Central African Republic	3.59	3.64	3.70	3.77	3.83	3.89	3.96	4.03	4.11	4.19	4.27	4.35	4.44	4.52	4.61
Chad	7.29	7.48	7.67	7.86	8.60	8.82	9.04	9.26	9.49	9.73	9.97	10.22	10.48	10.74	11.01
Comoros	0.52	0.54	0.55	0.56	0.58	0.59	0.60	0.61	0.63	0.65	0.67	0.69	0.71	0.73	0.75
Democratic Republic of the Congo	51.28	52.43	54.00	55.62	57.29	59.01	60.78	62.60	64.48	66.41	68.41	70.46	72.57	74.75	76.99
Republic of Congo	2.82	2.90	2.99	3.08	3.16	3.26	3.35	3.45	3.55	3.65	3.76	3.87	3.98	4.09	4.18
Côte d'Ivoire	15.23	15.55	16.02	16.50	17.00	17.51	18.03	18.50	18.98	19.48	19.98	20.50	21.03	21.58	22.14
Eritrea	3.79	3.94	4.10	4.28	4.47	4.67	4.85	5.04	5.21	5.38	5.56	5.74	5.93	6.13	6.33
Ethiopia	63.85	65.58	67.30	69.04	70.78	72.53	74.26	75.99	77.72	79.45	81.19	82.95	84.73	86.77	88.85
Gabon	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.40	1.43	1.45	1.48	1.50	1.52	1.54	1.56
The Gambia	1.26	1.30	1.34	1.38	1.42	1.46	1.50	1.55	1.59	1.64	1.68	1.73	1.78	1.83	1.88
Ghana	17.95	18.41	18.88	19.37	19.86	20.37	20.89	21.42	21.97	22.53	23.11	23.70	24.30	24.93	25.56
Guinea	8.22	8.38	8.55	8.71	8.87	9.04	9.22	9.41	9.62	9.83	10.08	10.33	10.59	10.85	11.13
Guinea-Bissau	1.15	1.27	1.30	1.33	1.36	1.39	1.42	1.45	1.48	1.52	1.55	1.59	1.62	1.66	1.70
Kenya	28.82	29.49	30.31	31.15	32.01	32.89	33.80	34.74	35.70	36.69	37.70	38.50	39.50	40.70	41.80
Lesotho	1.82	1.86	1.87	1.87	1.88	1.88	1.88	1.87	1.88	1.88	1.89	1.89	1.90	1.90	1.91
Liberia	3.16	3.07	3.16	3.21	3.22	3.24	3.28	3.39	3.43	3.48	3.62	3.78	3.88	3.98	4.08
Madagascar	15.29	15.75	16.24	16.74	17.25	17.76	18.29	18.83	19.37	19.93	20.50	21.08	21.68	22.29	22.93
Malawi	11.77	12.07	12.34	12.81	13.10	13.39	13.65	14.04	14.44	14.85	15.27	15.71	16.17	16.63	17.11
Mali	10.03	10.26	10.56	10.88	11.22	11.57	11.94	12.33	12.73	13.14	13.56	13.99	14.42	14.85	15.30

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	1.17	1.19	1.20	1.21	1.21	1.22	1.23	1.23	1.24	1.24	1.25	1.25	1.25	1.26	1.26
Mozambique	17.87	18.28	18.79	19.32	19.87	20.44	21.01	21.59	22.17	22.76	23.36	23.97	24.58	25.20	25.83
Namibia	1.81	1.83	1.83	1.86	1.89	1.92	1.96	1.99	1.99	2.02	2.05	2.08	2.11	2.14	2.17
Niger	10.65	10.98	11.32	11.67	12.03	12.41	12.79	13.25	13.72	14.20	14.69	15.15	15.62	16.10	16.60
Nigeria	115.77	118.95	122.23	125.59	129.05	132.60	136.25	140.00	143.85	147.81	151.87	156.05	160.34	164.75	169.28
Rwanda	6.61	7.50	8.01	8.36	8.58	8.71	8.83	9.00	9.20	9.50	9.70	10.00	10.20	10.50	10.80
São Tomé and Príncipe	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19
Senegal	9.62	9.86	10.12	10.39	10.67	10.97	11.27	11.58	11.91	12.24	12.59	12.95	13.33	13.72	14.13
Seychelles	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Sierra Leone	4.04	4.14	4.30	4.49	4.71	4.93	5.12	5.28	5.42	5.53	5.64	5.75	5.87	5.98	6.10
South Africa	43.12	43.69	44.95	45.55	46.13	46.73	47.35	47.99	48.66	49.34	50.06	50.79	51.55	52.34	53.16
Swaziland	1.06	1.06	1.08	1.08	1.09	1.10	1.11	1.12	1.02	1.03	1.04	1.05	1.07	1.08	1.09
Tanzania	31.75	32.82	33.63	34.44	35.49	36.54	37.59	38.64	39.69	40.74	41.78	42.83	43.88	44.93	46.28
Togo	4.69	4.85	5.00	5.14	5.28	5.41	5.56	5.70	5.84	5.99	6.14	6.31	6.47	6.64	6.82
Uganda	23.47	24.21	24.98	25.79	26.64	27.52	28.43	29.37	30.34	31.34	32.37	33.43	34.51	35.65	36.82
Zambia	10.00	10.10	10.36	10.63	10.90	11.18	11.47	11.78	12.11	12.46	12.83	13.22	13.63	14.08	14.54
Zimbabwe	11.72	11.69	11.66	11.63	11.64	11.73	11.83	12.01	12.04	12.12	12.23	12.34	12.65	12.97	13.12

Appendix B: Indicators used for the working of the macroeconomic instability index

Table 51 - Inflation, average consumer prices - percentage change

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	248.25	325.03	152.59	108.89	98.34	43.56	22.96	13.31	12.25	12.47	13.72	14.48	13.48	10.29	8.78
Benin	0.35	4.20	3.98	2.42	1.51	0.88	5.36	3.79	1.29	7.40	0.90	2.18	2.74	6.74	0.97
Botswana	7.82	8.53	6.57	8.03	9.19	6.99	8.61	11.55	7.08	12.62	8.11	6.95	8.46	7.53	5.78
Burkina Faso	-1.14	-0.14	4.73	2.30	2.04	-0.40	6.41	2.34	-0.23	10.67	0.86	-0.61	2.77	3.82	0.53
Burundi	3.38	24.31	7.87	-1.26	10.57	8.18	13.25	2.74	8.41	24.41	10.56	6.50	9.58	18.18	7.94
Cabo Verde	4.35	-2.43	3.67	1.92	1.19	-1.89	0.43	4.84	4.39	6.79	0.99	2.08	4.47	2.54	1.51
Cameroon	2.90	0.80	4.45	2.82	0.63	0.25	1.99	4.91	1.13	5.34	3.04	1.28	2.94	2.38	2.05
Central African Republic	-1.42	3.20	3.84	2.30	4.35	-2.24	2.89	6.69	0.94	9.26	3.52	1.49	1.20	5.48	6.99
Chad	-8.45	3.82	12.43	5.19	-1.75	-4.80	3.68	7.71	-7.44	8.34	10.10	-2.12	1.89	7.68	0.22
Comoros	1.10	5.90	5.57	3.58	3.71	4.50	3.01	3.39	4.49	4.82	4.79	3.90	2.23	5.91	1.57
Democratic Republic of the Congo	284.90	550.00	357.28	25.32	12.82	4.00	21.39	13.21	16.71	17.97	46.22	23.46	15.54	2.13	0.81
Republic of Congo	3.01	0.51	0.84	2.99	1.69	3.67	2.47	4.66	2.60	6.02	4.34	5.00	1.76	5.01	4.63
Côte d'Ivoire	0.92	-0.38	4.36	3.08	3.30	1.46	3.88	2.47	1.90	6.32	1.01	1.37	4.90	1.30	2.58
Eritrea	8.40	19.95	14.63	16.88	22.67	25.11	12.51	15.06	9.30	19.94	33.00	12.71	13.34	12.26	12.26
Ethiopia	4.77	6.16	-8.24	1.65	17.76	3.22	11.66	13.56	17.25	44.37	8.48	8.13	33.23	24.13	8.07
Gabon	-1.94	0.50	2.14	0.16	2.11	0.41	1.17	-1.41	-1.02	5.26	1.89	1.45	1.26	2.68	0.48
The Gambia	3.81	0.85	4.49	8.61	17.03	14.29	4.96	2.06	5.37	4.45	4.55	5.05	4.80	4.65	5.22
Ghana	12.47	25.11	32.93	14.85	26.63	12.67	15.10	11.68	10.73	16.51	13.14	6.70	7.68	7.07	11.67

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Guinea	4.55	6.77	5.38	2.96	11.04	17.46	31.36	34.70	22.86	18.37	4.68	15.47	21.35	15.23	11.89
Guinea-Bissau	-2.10	8.61	3.25	3.30	-3.47	0.82	3.25	0.71	4.63	10.45	-1.64	1.07	5.06	2.06	0.78
Kenya	5.75	9.96	5.82	2.16	5.98	8.38	7.82	6.04	4.27	15.10	10.55	4.31	14.02	9.38	5.72
Lesotho	8.65	6.13	7.97	12.17	6.40	4.65	3.65	6.34	9.18	10.69	5.85	3.38	5.99	5.62	4.95
Liberia	8.71	5.26	12.15	14.16	10.33	3.56	6.95	9.51	11.39	17.49	7.43	7.29	8.49	6.83	7.58
Madagascar	8.07	10.66	7.92	16.50	-1.70	13.96	18.36	10.77	10.29	9.30	8.95	9.25	9.48	5.71	5.83
Malawi	44.76	29.60	22.70	14.75	9.59	11.47	15.41	13.90	7.96	8.71	8.43	7.41	7.62	21.27	28.32
Mali	-1.15	-0.74	5.17	4.87	-1.16	-3.11	6.41	1.52	1.46	9.12	2.22	1.29	3.05	5.32	-0.60
Mauritius	6.87	4.23	5.39	6.41	3.93	4.70	4.92	8.93	8.83	9.73	2.52	2.93	6.53	3.85	3.48
Mozambique	2.87	12.71	9.06	16.77	13.46	12.63	6.43	13.25	8.16	10.33	3.26	12.70	10.35	2.09	4.21
Namibia	8.58	9.27	10.21	12.72	7.22	4.14	2.28	4.96	6.55	9.10	9.45	4.88	5.01	6.72	5.60
Niger	-2.31	2.92	3.96	2.67	-1.79	0.41	7.82	0.05	0.06	11.29	4.30	-2.79	2.94	0.47	2.29
Nigeria	6.62	6.94	18.87	12.88	14.03	15.00	17.86	8.22	5.41	11.58	12.54	13.72	10.84	12.22	8.48
Rwanda	-2.42	3.90	3.36	1.98	7.45	11.98	9.12	8.83	9.08	15.44	10.35	2.04	5.67	6.29	4.22
São Tomé and Príncipe	11.01	11.01	9.22	10.13	9.79	13.29	17.15	23.08	18.55	31.99	16.96	13.34	14.32	10.64	8.11
Senegal	0.81	0.75	3.05	2.40	-0.05	0.52	1.71	2.11	5.86	6.34	-2.25	1.23	3.40	1.42	0.71
Seychelles	6.30	6.30	6.00	0.20	3.30	3.90	0.65	-1.87	-8.57	36.97	31.75	-2.40	2.56	7.11	4.34
Sierra Leone	34.09	-0.92	2.57	-3.66	7.55	14.25	12.05	9.55	11.65	14.83	9.25	17.78	18.46	13.81	9.80
South Africa	5.21	5.37	5.63	9.17	5.87	1.42	3.34	4.66	7.12	11.54	7.13	4.26	5.00	5.65	5.75
Swaziland	5.86	7.20	5.94	12.02	7.29	3.45	1.75	5.20	8.08	12.66	7.45	4.51	6.11	8.94	5.62
Tanzania	9.00	4.59	5.15	4.56	4.43	4.14	4.36	7.25	7.03	10.28	12.14	7.19	12.69	16.00	7.87
Togo	-0.06	1.87	3.92	3.06	-0.93	0.39	6.78	2.23	0.94	8.71	3.73	1.44	3.56	2.64	1.76
Uganda	5.76	3.38	1.92	-0.30	8.71	3.67	8.60	7.21	6.07	12.04	13.07	3.97	18.68	14.02	4.78
Zambia	26.79	26.10	21.36	22.24	21.40	17.97	18.33	9.02	10.66	12.45	13.39	8.50	8.66	6.58	6.98
Zimbabwe	-35.82	-26.74	-37.20	-34.45	-8.57	113.57	-31.52	32.97	-72.73	156.96	6.22	3.05	3.47	3.72	1.63

Table 52 - Current account balance as a percentage of - current prices

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	-25.43	7.97	-14.65	-1.21	-5.07	3.46	18.20	25.58	17.50	8.55	-10.03	9.10	12.57	12.01	6.72
Benin	-7.25	-5.25	-4.00	-7.30	-8.44	-6.70	-6.50	-4.94	-10.17	-8.08	-8.93	-8.74	-7.80	-8.37	-15.89
Botswana	9.68	9.39	12.29	5.25	9.07	3.91	16.29	19.25	15.10	-1.08	-11.22	-6.00	-0.58	-3.50	10.38
Burkina Faso	-10.59	-12.11	-10.26	-9.28	-8.72	-10.96	-11.59	-9.34	-8.26	-11.45	-4.53	-1.99	-1.49	-4.49	-6.61
Burundi	-4.07	-5.76	-4.19	-0.40	-3.05	-6.32	-4.91	-21.46	-5.36	-0.98	1.72	-12.20	-13.62	-17.26	-18.43
Cabo Verde	-12.56	-9.94	-9.71	-10.18	-10.18	-12.95	-3.12	-4.84	-12.94	-13.71	-14.63	-12.43	-16.29	-11.42	-3.96
Cameroon	-3.51	-4.85	-5.82	-5.12	-1.78	-3.38	-3.40	1.56	1.38	-1.19	-3.05	-2.76	-2.72	-3.61	-3.78
Central African Republic	-1.53	-1.43	-1.86	-1.69	-2.28	-1.78	-6.59	-3.02	-6.23	-9.94	-9.06	-10.15	-7.56	-4.60	-2.98
Chad	-9.74	-13.59	-29.76	-84.11	-43.80	-15.15	1.05	4.59	8.18	3.72	-9.17	-8.96	-5.64	-8.69	-9.03
Comoros	-5.84	-1.62	2.33	-0.44	-4.45	-8.71	-11.76	-10.81	-10.11	-18.72	-15.38	-15.90	-22.07	-14.65	-14.62
Democratic Republic of the Congo	-0.59	0.45	2.95	4.79	2.02	-0.54	-3.25	0.33	3.22	-0.79	-6.13	-10.59	-5.37	-6.18	-11.11
Republic of Congo	-10.10	5.95	-4.78	-4.76	0.94	-10.58	0.44	2.83	-6.51	-0.55	-14.11	7.46	4.68	-2.38	-4.84
Côte d'Ivoire	-0.92	-2.25	-0.55	6.20	1.92	1.45	0.23	2.69	-0.68	1.86	6.65	1.86	10.49	-1.18	-4.92
Eritrea	-19.41	-0.62	-4.57	6.80	9.67	-0.67	0.33	-3.58	-6.11	-5.47	-7.62	-5.62	0.55	2.32	0.35
Ethiopia	-5.87	0.16	-4.54	-1.74	-1.58	-6.59	-12.64	-11.69	-4.20	-6.73	-6.75	-1.42	-2.45	-6.92	-6.05
Gabon	7.59	17.90	9.95	6.09	11.24	11.55	20.87	17.28	14.80	21.89	6.53	7.81	13.07	21.33	14.97
The Gambia	-1.96	-5.71	-5.48	-6.12	-7.69	-4.52	-10.35	-6.91	-8.30	-12.23	-12.53	-16.29	-12.28	-7.92	-10.69
Ghana	-7.48	-6.56	-5.03	-0.80	0.13	-4.70	-7.00	-8.22	-8.72	-11.92	-5.38	-8.61	-8.96	-11.72	-11.74
Guinea	-6.90	-6.43	-2.68	-2.46	0.39	-2.01	-0.37	-3.91	-10.80	-9.74	-7.88	-9.67	-18.78	-28.70	-21.44
Guinea-Bissau	4.01	8.63	-2.84	-0.30	-0.06	2.61	-1.78	-6.77	-4.40	-3.32	-5.75	-8.34	-1.27	-8.68	-14.09
Kenya	-1.64	-1.41	-2.20	-0.80	0.79	-0.73	-1.20	-1.98	-3.23	-5.52	-4.56	-5.92	-9.13	-8.45	-8.67
Lesotho	-25.74	-3.69	6.18	8.38	3.78	13.53	12.71	29.16	22.66	21.80	4.83	-7.86	-9.04	-2.72	-4.22
Liberia	-16.09	-17.96	-14.23	-4.06	-19.58	-10.63	2.47	-10.78	-6.19	-46.67	-23.24	-32.00	-27.45	-21.42	-28.24
Madagascar	-6.03	-6.72	-3.09	-10.85	-5.99	-9.14	-10.99	-3.77	-12.67	-20.60	-21.15	-9.69	-6.88	-6.73	-5.59
Malawi	-8.31	-5.25	-6.79	-8.59	-11.73	-11.17	-11.95	-11.18	0.98	-9.70	-4.80	-1.27	-5.87	-3.48	-1.78

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mali	-8.61	-9.56	-10.27	-4.65	-6.41	-8.20	-7.96	-3.57	-8.12	-12.11	-7.29	-12.61	-6.14	-2.62	-5.19
Mauritius	-2.79	-0.73	5.98	5.15	1.64	-1.76	-5.00	-9.09	-5.43	-10.07	-7.41	-10.32	-13.82	-7.29	-9.89
Mozambique	-12.08	-16.02	-16.06	-19.54	-14.66	-9.81	-14.91	-7.50	-9.55	-11.59	-11.04	-10.64	-23.10	-42.27	-40.03
Namibia	-0.82	4.90	0.30	2.55	5.39	6.75	4.59	13.57	8.57	3.03	-1.48	-3.47	-3.04	-5.76	-4.10
Niger	-7.16	-6.23	-5.08	-7.95	-8.27	-7.96	-9.23	-8.60	-8.19	-12.00	-24.40	-19.83	-22.33	-15.27	-15.34
Nigeria	1.09	12.11	4.16	1.33	3.56	13.33	22.17	16.77	10.74	8.96	5.13	3.87	3.00	4.36	3.86
Rwanda	-7.87	-5.49	-6.12	-8.14	-5.69	-2.10	-2.53	-4.47	-2.26	-5.05	-7.13	-7.26	-7.45	-11.36	-7.15
São Tomé and Príncipe	-16.59	-15.96	-32.11	-30.74	-15.67	-22.06	-20.25	-31.16	-28.97	-33.08	-23.20	-21.70	-25.48	-21.26	-16.85
Senegal	-4.80	-6.99	-5.04	-6.04	-6.37	-6.87	-8.85	-9.21	-11.61	-14.07	-6.67	-4.39	-7.93	-10.81	-10.92
Seychelles	-18.74	-6.98	-24.60	-14.52	-1.33	-7.19	-18.94	-13.16	-18.77	-27.19	-22.36	-22.10	-28.27	-25.85	-15.24
Sierra Leone	-10.17	-11.94	-9.03	-5.86	-6.00	-6.88	-6.36	-5.04	-7.42	-8.98	-13.33	-22.70	-65.26	-22.02	-10.45
South Africa	-0.50	-0.13	0.27	0.90	-0.83	-2.77	-3.13	-4.48	-5.38	-5.54	-2.73	-1.50	-2.16	-4.96	-5.77
Swaziland	-2.13	-3.01	0.66	2.71	4.82	2.94	-3.97	-6.67	-2.15	-7.65	-13.05	-9.98	-8.15	3.82	6.29
Tanzania	-7.19	-3.78	-3.26	-1.32	-1.13	-3.22	-5.54	-7.38	-8.57	-7.77	-7.29	-6.90	-10.42	-11.56	-10.33
Togo	-8.34	-10.80	-12.71	-9.48	-9.69	-10.69	-9.65	-8.01	-8.56	-7.03	-5.59	-6.29	-8.03	-8.14	-7.16
Uganda	-7.93	-5.31	-8.37	-5.80	-3.88	-3.20	-2.26	-3.56	-4.57	-7.78	-6.25	-9.38	-10.38	-8.10	-6.35
Zambia	-12.31	-16.58	-17.07	-12.01	-12.68	-9.08	-7.31	-0.36	-5.37	-5.80	3.80	5.95	2.97	3.20	-0.01
Zimbabwe	0.19	-0.20	0.57	-0.76	-4.58	-6.05	-8.08	-6.46	-5.39	-16.55	-47.06	-15.96	-30.88	-24.55	-25.44

Table 53 - General government net lending/borrowing as a percentage of GDP - current prices

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	0.00	2.80	3.89	-3.11	-5.88	1.42	9.39	11.81	4.66	-4.46	-7.36	3.45	8.68	4.59	-0.34
Benin	-0.58	-5.50	-4.79	-4.95	-1.61	-1.08	-2.30	-0.22	0.33	-0.06	-3.30	-0.40	-1.44	-0.32	-2.06
Botswana	0.00	8.56	-2.94	-3.96	-0.22	1.30	10.17	12.96	5.51	-7.46	-13.49	-7.49	-0.15	0.80	5.38
Burkina Faso	-3.73	-3.41	-4.00	-4.98	-2.01	-4.72	-5.50	16.14	-5.64	-4.08	-4.68	-3.04	-1.37	-3.11	-3.91
Burundi	-5.08	-1.48	-3.90	-1.04	-4.73	-3.56	-3.60	-1.01	-2.51	-2.70	-5.15	-3.64	-3.93	-3.67	-1.66
Cabo Verde	0.00	0.00	0.00	-7.84	-4.50	-3.68	-6.00	-5.07	-0.94	-0.59	-5.94	-10.75	-7.65	-10.27	-9.01
Cameroon	0.00	1.75	0.72	1.74	0.66	-0.54	3.56	32.83	4.67	2.23	-0.05	-1.09	-2.60	-1.59	-3.95
Central African Republic	0.11	-1.97	-0.88	-1.19	-3.26	-1.79	-4.59	9.04	1.08	-1.26	-0.59	-1.45	-2.37	0.01	-6.30
Chad	-5.28	-6.07	-4.59	-5.29	-5.60	-2.39	-0.07	2.23	2.54	3.63	-9.22	-4.16	2.39	0.48	-2.07
Comoros	-0.72	-1.91	-3.60	-3.63	-3.44	-1.68	0.06	-2.57	-2.02	-2.52	0.61	7.02	1.44	3.26	17.80
Democratic Republic of the Congo	-1.57	-1.85	-2.14	-0.14	-5.04	-1.72	-0.26	1.86	-0.20	-1.12	1.25	2.46	-0.48	1.82	3.12
Republic of Congo	-5.55	1.13	6.36	-0.34	0.40	3.64	14.64	16.65	9.39	23.38	4.80	16.08	16.45	6.45	8.53
Côte d'Ivoire	-2.69	-1.15	0.97	-0.88	-1.74	-1.44	-1.42	-1.51	-0.46	-0.40	-1.38	-1.85	-5.39	-3.11	-2.25
Eritrea	-46.24	-28.23	-30.42	-26.35	-17.19	-16.61	-22.20	-14.08	-15.66	-21.13	-14.73	-16.04	-16.18	-13.49	-12.50
Ethiopia	-8.47	-8.88	-3.76	-5.76	-5.59	-2.65	-4.12	-3.79	-3.57	-2.88	-0.93	-1.32	-1.60	-1.17	-1.94
Gabon	1.08	10.74	3.92	3.57	7.39	6.77	7.94	8.47	8.08	10.46	6.91	2.44	2.24	1.70	1.82
The Gambia	0.00	-0.15	-4.19	-3.37	-3.42	-4.05	-5.87	-5.14	0.44	-1.46	-2.65	-5.16	-4.73	-4.38	-8.54
Ghana	-8.54	-6.68	-5.18	-4.38	-3.35	-3.03	-2.84	-4.71	-5.39	-8.44	-7.01	-9.37	-7.33	-12.18	-10.88
Guinea	-3.03	-3.19	-4.15	-4.42	-6.47	-5.35	-1.65	-3.14	1.92	0.58	-7.13	-13.98	-1.25	-3.27	-5.21
Guinea-Bissau	0.00	-2.95	-2.43	-3.31	-6.01	-6.22	-4.94	-4.14	-7.17	0.50	4.13	1.59	-0.79	-1.81	-1.41
Kenya	1.35	-0.32	-1.52	-2.63	-1.64	-0.05	-1.53	-2.15	-2.42	-3.38	-4.34	-4.41	-4.12	-5.04	-5.68
Lesotho	-8.40	-1.11	-3.20	-2.83	1.11	7.47	4.36	13.93	10.73	8.61	-3.95	-5.17	-10.94	5.14	-2.50
Liberia	0.00	0.56	-0.42	-1.04	0.76	-0.03	0.00	4.79	3.04	-1.79	-0.37	2.30	-2.81	-1.56	-4.70
Madagascar	-2.78	-2.81	-4.34	-4.98	-3.87	-4.91	-2.88	-0.46	-2.68	-1.96	-2.55	-0.87	-2.39	-2.61	-3.98
Malawi	0.00	0.00	0.00	-9.58	-5.90	-6.12	-2.52	0.73	-3.54	-4.55	-4.41	2.60	-5.23	-2.64	-9.13
Mali	0.00	-2.94	-3.21	-3.77	-1.32	-2.58	-3.15	31.31	-3.17	-2.22	-4.23	-2.91	-4.14	-1.14	-2.86

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	0.00	-4.65	-5.85	-5.48	-5.10	-4.60	-4.70	-4.39	-3.27	-2.80	-3.57	-3.20	-3.20	-1.84	-3.51
Mozambique	-0.39	-1.55	-5.49	-4.03	-3.13	-3.73	-2.40	-3.53	-2.58	-2.22	-4.97	-3.93	-4.79	-3.85	-2.69
Namibia	-2.18	-0.96	-2.16	-1.58	-4.57	-2.85	-0.53	2.96	5.97	4.32	-0.13	-4.53	-6.67	-1.33	-4.39
Niger	-5.76	-4.04	-3.53	-2.96	-2.77	-3.50	-1.99	40.34	-1.00	1.49	-5.31	-2.41	-1.48	-1.16	-2.62
Nigeria	0.00	4.50	-3.95	1.55	-2.37	5.66	5.05	8.90	-1.10	5.85	-5.97	-4.23	0.40	0.26	-2.36
Rwanda	-4.31	0.83	-1.25	-0.36	-3.90	0.90	0.86	0.18	-1.73	0.93	0.27	0.44	-1.84	-1.63	-2.56
São Tomé and Príncipe	0.00	54.50	-13.70	-11.10	-15.51	-24.33	25.77	-12.23	122.19	13.25	-18.09	-11.08	-11.72	-10.91	1.90
Senegal	0.00	0.88	-2.36	-0.74	-1.76	-2.34	-2.79	-5.41	-3.84	-4.69	-4.93	-5.20	-6.29	-5.60	-5.54
Seychelles	-10.26	-14.74	-8.93	-16.26	3.40	0.44	0.42	-2.54	-9.93	7.88	4.84	0.52	3.28	2.70	0.35
Sierra Leone	0.00	-3.09	-5.13	-4.82	-4.47	-2.37	-1.94	-1.55	20.10	-3.47	-2.34	-5.00	-4.56	-5.18	-2.39
South Africa	0.00	-1.54	-1.13	-1.07	-1.79	-1.17	-0.33	0.70	1.24	-0.46	-4.73	-4.79	-3.87	-4.10	-4.07
Swaziland	-0.77	-1.32	-2.49	-4.21	-2.40	-4.50	-1.93	9.44	2.58	1.69	-3.31	-10.59	-4.26	5.29	0.72
Tanzania	-1.13	-0.72	-0.41	-0.72	-1.77	-2.44	-3.33	-3.43	-1.47	-1.96	-4.48	-4.80	-3.59	-4.13	-3.98
Togo	-2.73	-5.35	-1.07	-0.44	2.44	0.96	-2.43	-2.80	-1.89	-0.85	-3.90	-2.48	-4.01	-7.22	-4.64
Uganda	0.67	-0.72	-1.10	-2.34	-1.07	0.39	-0.19	-0.73	-0.96	-2.50	-2.05	-5.82	-2.59	-3.02	-4.06
Zambia	0.00	1.16	-5.89	-4.50	-5.31	-2.51	-2.37	16.91	-1.04	-0.67	-2.06	-2.43	-1.76	-3.23	-6.69
Zimbabwe	0.00	0.00	0.00	0.00	0.00	0.00	-6.40	-2.47	-2.96	-2.04	-2.07	0.71	-1.27	-0.57	-1.94

Appendix C: Indicators used for the derivation of the concentration curves and the Suits index

Table 54 - Net disbursements of official development assistance by the EU Member States to Sub-Saharan Africa countries - US$ (millions) in current prices

Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	459	492	440	633	520	505	678	1,573	1,498	1,808	1,714	1,142	1,208	1,111	1,106	1,171
Belgium	883	760	820	867	1,072	1,853	1,463	1,963	1,977	1,951	2,386	2,610	3,004	2,807	2,315	2,300
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	40	48	40	50
Cyprus	-	-	-	-	-	-	-	15	26	35	37	46	51	38	25	20
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	45
Czech Republic	16	15	16	26	45	91	108	135	161	179	249	215	228	250	220	211
Denmark	1,704	1,733	1,664	1,634	1,643	1,748	2,037	2,109	2,236	2,562	2,803	2,810	2,871	2,931	2,693	2,927
Estonia	0	0	1	0	1	1	5	10	14	16	22	18	19	24	23	31
Finland	396	416	371	389	462	558	680	902	834	981	1,166	1,290	1,333	1,406	1,320	1,435
France	5,742	5,639	4,105	4,198	5,486	7,253	8,473	10,026	10,601	9,884	10,908	12,602	12,915	12,997	12,028	11,339
Germany	5,581	5,515	5,030	4,990	5,324	6,784	7,534	10,082	10,435	12,291	13,981	12,079	12,985	14,093	12,939	14,228
Greece	179	194	226	202	276	362	321	384	424	501	703	607	508	425	327	239
Hungary	-	-	-	-	-	21	70	100	149	103	107	117	114	140	118	128
Ireland	199	245	234	287	398	504	607	719	1,022	1,192	1,328	1,006	895	914	808	846
Italy	2,278	1,806	1,376	1,627	2,332	2,433	2,462	5,091	3,641	3,971	4,861	3,297	2,996	4,326	2,737	3,430
Latvia	-	-	-	-	2	1	8	11	12	16	22	21	16	19	21	24
Lithuania	-	-	-	2	2	2	9	16	25	48	48	36	37	52	52	50
Luxembourg	112	119	123	139	147	194	236	256	291	376	415	415	403	409	399	429

Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Malta	-	-	-	-	-	-	-	-	-	-	-	14	14	20	19	18
Netherlands	3,042	3,134	3,135	3,172	3,338	3,972	4,204	5,115	5,452	6,224	6,993	6,426	6,357	6,344	5,523	5,435
Poland	19	20	29	36	14	27	118	205	300	363	373	375	378	417	421	472
Portugal	259	276	271	268	323	320	1,031	377	396	471	620	513	649	708	581	488
Romania	-	-	-	-	-	-	-	-	-	-	123	153	114	164	142	134
Slovak Republic	-	7	6	8	7	15	28	57	55	67	92	75	74	86	80	86
Slovenia	-	-	-	-	-	-	-	35	44	54	68	71	59	63	58	62
Spain	1,376	1,363	1,195	1,737	1,712	1,961	2,437	3,018	3,814	5,140	6,867	6,584	5,949	4,173	2,037	2,375
Sweden	1,573	1,630	1,799	1,666	2,012	2,400	2,722	3,362	3,955	4,339	4,732	4,548	4,533	5,603	5,240	5,827
UK	3,864	3,426	4,501	4,566	4,929	6,262	7,905	10,772	12,459	9,849	11,500	11,283	13,053	13,832	13,891	17,871
Total	**27,680**	**26,793**	**25,340**	**26,448**	**30,045**	**37,267**	**43,135**	**56,332**	**59,821**	**62,419**	**72,114**	**68,352**	**70,804**	**73,401**	**65,186**	**71,672**

Table 55 - Gross domestic product of recipient countries - US$ (billions) in current prices

Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Angola	6.51	6.15	9.13	8.94	12.50	14.19	19.64	28.23	41.79	60.45	84.18	75.49	82.47	104.12	115.34	124.17
Benin	2.46	2.49	2.37	2.50	2.82	3.57	4.06	4.37	4.71	5.51	6.67	6.60	6.57	7.30	7.55	8.31
Botswana	4.82	5.49	5.80	5.52	5.46	7.54	8.97	10.03	10.17	10.94	11.03	10.32	12.79	15.73	14.81	15.10
Burkina Faso	2.81	3.01	2.63	2.84	3.22	4.21	4.84	5.47	5.82	6.78	8.41	8.39	9.12	10.73	11.17	12.20
Burundi	0.89	0.87	0.87	0.88	0.83	0.79	0.92	1.12	1.27	1.36	1.61	1.78	2.03	2.37	2.51	2.72
Cabo Verde	0.58	0.65	0.59	0.62	0.68	0.89	1.02	1.09	1.24	1.51	1.79	1.71	1.66	1.87	1.75	1.84
Cameroon	9.88	10.42	9.27	9.64	10.89	13.63	15.78	16.62	17.97	20.46	23.43	23.44	23.67	26.61	26.49	29.58
Central African Republic	1.04	1.04	0.89	0.90	0.96	1.11	1.26	1.34	1.46	1.70	1.99	1.98	1.99	2.20	2.17	1.54
Chad	1.98	1.74	1.57	1.94	2.26	3.10	5.00	6.66	7.43	8.65	10.40	9.28	10.68	12.17	12.38	12.95
Comoros	0.22	0.22	0.20	0.22	0.25	0.33	0.36	0.39	0.40	0.47	0.53	0.54	0.54	0.61	0.60	0.66
Democratic Republic of the Congo	21.09	19.15	19.08	8.17	8.72	8.95	10.34	11.95	14.30	16.36	19.13	18.32	20.64	24.58	27.57	32.68
Republic of Congo	1.95	2.36	3.22	2.79	3.02	3.50	4.66	6.10	7.74	8.41	11.92	9.62	12.03	14.43	13.68	13.48
Côte d'Ivoire	12.68	12.39	10.75	11.20	12.39	15.34	16.58	17.12	17.82	20.37	24.34	24.34	24.93	25.41	27.11	31.07
Eritrea	0.81	0.79	0.71	0.75	0.73	0.87	1.11	1.10	1.21	1.32	1.38	1.86	2.12	2.61	3.09	3.44
Ethiopia	8.08	7.93	8.24	8.22	7.85	8.62	10.14	12.41	15.28	19.70	26.84	32.46	29.92	31.96	43.13	47.53
Gabon	4.77	4.97	5.40	5.02	5.31	6.50	7.76	9.46	10.15	12.44	15.51	12.15	14.36	18.20	17.18	17.60
The Gambia	0.61	0.62	0.61	0.60	0.53	0.51	0.58	0.62	0.66	0.80	0.97	0.90	0.95	0.90	0.91	0.90
Ghana	11.92	12.67	7.36	7.44	9.48	11.19	14.56	17.41	20.41	24.76	28.53	25.98	32.17	39.57	41.94	47.81
Guinea	3.59	3.46	3.00	2.83	2.95	3.45	3.67	2.94	2.90	4.16	4.52	4.64	4.93	5.12	5.63	6.16
Guinea-Bissau	0.38	0.42	0.37	0.39	0.42	0.48	0.53	0.59	0.59	0.70	0.87	0.83	0.85	1.11	1.00	1.03
Kenya	15.73	14.35	14.14	14.53	14.76	16.80	18.06	21.00	25.83	31.96	35.90	37.02	40.00	41.95	50.41	54.93
Lesotho	0.84	0.82	0.80	0.73	0.67	0.99	1.26	1.41	1.49	1.68	1.66	1.74	2.25	2.54	2.41	2.28
Liberia	0.61	0.60	0.59	0.61	0.64	0.51	0.59	0.68	0.76	0.94	1.08	1.14	1.29	1.54	1.75	1.96
Madagascar	3.74	3.72	3.88	4.53	4.40	5.47	4.36	5.04	5.52	7.34	9.41	8.55	8.73	9.89	9.92	10.60
Malawi	3.04	3.08	3.02	2.97	3.50	3.21	3.48	3.66	4.00	4.43	5.32	6.20	6.96	7.98	5.98	5.43
Mali	2.94	2.94	2.66	3.02	3.20	4.23	4.99	5.50	6.13	7.16	8.78	8.99	9.44	10.69	10.44	11.12

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Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mauritius	4.37	4.41	4.66	4.61	4.94	6.09	6.39	6.25	6.26	8.40	8.55	9.64	9.80	11.04	11.22	11.93
Mozambique	4.72	5.17	4.67	4.57	4.98	5.55	6.75	7.60	8.30	9.29	11.08	11.05	10.47	13.25	14.87	15.62
Namibia	3.22	3.38	3.91	3.55	3.37	4.93	6.62	7.26	7.98	8.74	8.49	8.88	11.28	12.43	13.00	12.94
Niger	1.98	1.92	1.67	1.82	2.07	2.65	2.90	3.38	3.65	4.29	5.43	5.41	5.73	6.42	7.01	7.50
Nigeria	162.56	46.36	61.31	59.63	81.59	95.36	126.38	164.77	217.74	257.47	325.44	270.47	373.84	418.83	467.12	521.81
Rwanda	1.93	1.80	1.72	1.68	1.67	1.84	2.09	2.58	3.11	3.78	4.80	5.31	5.70	6.41	7.22	7.52
São Tomé and Príncipe	0.05	0.06	0.06	0.05	0.06	0.10	0.11	0.13	0.14	0.15	0.19	0.20	0.21	0.25	0.26	0.30
Senegal	5.06	5.15	4.69	4.88	5.35	6.87	8.04	8.72	9.37	11.30	13.45	12.85	12.94	14.39	14.24	14.96
Seychelles	0.61	0.62	0.62	0.62	0.70	0.71	0.84	0.92	1.02	1.03	0.97	0.85	0.97	1.07	1.13	1.41
Sierra Leone	0.96	0.96	0.94	1.08	1.25	1.38	1.44	1.65	1.88	2.16	2.51	2.45	2.58	2.93	3.79	4.91
South Africa	137.69	136.55	136.45	121.60	115.75	175.25	228.93	257.67	271.81	299.03	287.10	297.22	375.30	417.06	397.39	366.24
Swaziland	1.79	1.75	1.73	1.54	1.42	2.19	2.84	3.18	3.23	3.39	3.27	3.59	4.54	4.97	4.91	4.57
Tanzania	9.45	11.62	12.42	12.74	13.22	14.18	15.55	16.93	18.61	21.50	27.37	28.57	31.09	33.58	39.09	44.41
Togo	1.52	1.53	1.30	1.33	1.48	1.68	1.94	2.12	2.22	2.53	3.17	3.17	3.18	3.76	3.92	4.35
Uganda	7.91	7.23	6.85	6.92	7.44	7.71	9.50	11.01	12.33	15.20	18.19	18.58	20.21	21.11	24.62	25.57
Zambia	3.54	3.41	3.60	4.09	4.19	4.90	6.22	8.33	12.76	14.06	17.91	15.33	20.27	23.73	24.94	26.83
Zimbabwe	10.56	10.27	9.89	9.75	9.29	8.19	8.14	7.75	7.18	6.94	5.94	8.16	9.45	10.96	12.47	13.49

Table 56 - Share of ODA to Sub-Saharan Africa countries by donor(%)

Recipient	2012 France	2012 Germany	2012 UK	2012 Japan	2012 US	2012 NL	2012 Total EU
Angola	0.21	0.28	0.03	1.13	1.31	-0.58	0.22
Benin	1.61	2.79	0.03	1.62	0.71	4.38	1.76
Botswana	0.02	0.02	0.04	0.09	0.84	0.00	0.09
Burkina Faso	2.54	3.01	0.08	4.60	2.03	8.74	2.86
Burundi	0.48	1.41	0.06	2.13	0.71	3.65	1.26
Cameroon	3.45	5.21	0.09	1.31	0.45	0.00	1.94
Central African Republic	0.72	0.17	0.00	1.11	0.26	0.00	0.39
Chad	1.42	0.87	0.00	1.65	1.91	0.55	0.75
Comoros	0.93	0.00	0.00	0.55	0.00	0.00	0.25
Democratic Republic of the Congo	1.10	34.83	10.46	7.67	4.75	4.70	18.13
Congo	0.64	0.55	0.00	0.41	0.22	0.00	11.53
Côte d'Ivoire	49.81	0.84	3.56	2.52	2.37	0.00	0.30
Ethiopia	0.81	6.85	19.99	8.88	11.79	16.83	7.97
Gabon	2.20	-0.08	0.00	0.26	0.04	0.00	0.57
Gambia	0.02	0.01	0.67	0.61	0.04	0.00	0.19
Ghana	1.85	4.61	3.96	9.43	3.59	8.64	3.71
Guinea	3.12	0.46	0.12	1.84	0.34	0.00	1.02
Lesotho	-0.05	0.38	0.24	0.26	2.10	0.00	0.22
Liberia	0.03	0.92	0.65	2.04	2.98	0.00	0.89
Madagascar	2.86	0.87	0.14	1.12	0.83	0.00	1.00
Malawi	0.00	2.74	9.35	4.49	3.06	0.01	3.00
Mali	1.60	3.07	0.03	0.37	5.82	9.77	2.46
Mauritius	3.26	-0.01	0.00	0.09	0.01	0.00	0.87
Mozambique	0.86	3.54	6.15	5.74	7.02	11.39	7.12
Namibia	-0.08	2.52	0.01	-0.54	2.36	0.14	0.56
Niger	3.97	2.31	0.00	1.46	1.71	1.91	2.22
Nigeria	0.28	2.25	14.85	3.93	7.06	0.59	3.82
Rwanda	0.24	1.88	2.13	2.68	2.71	7.85	2.04
Sao Tome and Principe	0.08	0.00	0.00	0.30	0.00	0.00	0.25
Senegal	11.85	1.99	0.24	6.58	2.09	3.19	4.29
Seychelles	0.06	0.00	0.09	0.14	0.00	0.00	0.04
Sierra Leone	0.00	0.82	4.73	1.68	0.34	0.03	1.41
South Africa	2.25	3.19	-1.03	1.09	8.57	4.65	1.73
Swaziland	0.00	-0.03	0.36	-0.12	0.74	0.00	0.08
Tanzania	0.95	6.43	11.87	12.08	9.55	6.31	7.75
Togo	0.88	0.49	0.00	1.28	0.06	0.00	0.89
Uganda	-0.01	2.78	7.09	5.63	6.48	5.48	4.01
Zambia	0.03	2.00	4.00	3.91	5.15	1.80	2.43
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 57 - Net disbursed ODA in current prices by donor - US$, millions

Recipient	2012 France	2012 Germany	2012 UK	2012 Japan	2012 US	2012 NL	2012 Total EU
Angola	5.31	4.83	0.56	13.79	77.29	-2.74	21.46
Benin	41.41	47.63	0.61	19.89	41.66	20.64	171.42
Botswana	0.53	0.33	0.90	1.05	49.19	-	9.23
Burkina Faso	65.34	51.40	1.71	56.36	119.45	41.23	278.57
Burundi	12.37	24.06	1.16	26.06	41.91	17.19	122.57
Cameroon	88.51	88.84	1.96	16.00	26.72	-	188.36
Central African Republic	18.54	2.88	0.09	13.57	15.40	-	37.55
Chad	36.37	14.78	0.09	20.18	112.47	2.57	72.91
Comoros	23.82	-	-	6.71	0.22	-	24.13
Democratic Republic of the Congo	28.31	594.12	220.20	93.86	279.46	22.16	1,764.41
Congo	16.41	9.45	0.08	5.07	12.73	-	1,121.76
Côte d'Ivoire	1,279.02	14.39	74.98	30.88	139.31	-	29.63
Ethiopia	20.68	116.84	421.05	108.67	693.40	79.34	775.93
Gabon	56.56	-1.28	-	3.16	2.12	-	55.02
Gambia	0.45	0.24	14.10	7.46	2.25	-	18.81
Ghana	47.48	78.63	83.50	115.39	211.25	40.72	361.09
Guinea	80.04	7.87	2.61	22.56	19.93	-	99.67
Lesotho	-1.40	6.47	4.96	3.23	123.55	-	21.89
Liberia	0.88	15.74	13.66	24.96	175.05	-	86.38
Madagascar	73.36	14.85	2.85	13.72	48.97	-	96.90
Malawi	0.03	46.66	196.91	54.94	179.83	0.03	292.23
Mali	41.16	52.28	0.65	4.52	342.27	46.07	239.86
Mauritius	83.72	-0.16	0.03	1.07	0.38	-	84.22
Mozambique	21.99	60.35	129.60	70.30	412.56	53.71	692.65
Namibia	-2.17	43.05	0.30	-6.66	138.84	0.65	54.47
Niger	101.97	39.39	0.06	17.86	100.33	9.00	215.61
Nigeria	7.15	38.32	312.70	48.12	414.95	2.78	371.31
Rwanda	6.23	32.07	44.76	32.79	159.41	37.03	198.59
Sao Tome and Principe	2.15	0.02	-	3.70	0.19	-	23.85
Senegal	304.33	33.99	5.08	80.50	123.04	15.05	417.21
Seychelles	1.56	0.02	1.81	1.75	0.03	-	3.61
Sierra Leone	0.06	14.06	99.54	20.60	19.72	0.13	137.62
South Africa	57.76	54.36	-21.73	13.30	504.06	21.91	168.73
Swaziland	0.12	-0.53	7.66	-1.53	43.61	-	7.83
Tanzania	24.52	109.73	250.02	147.91	561.78	29.75	753.88
Togo	22.55	8.33	0.05	15.63	3.38	-	86.51
Uganda	-0.14	47.47	149.22	68.87	380.82	25.82	390.27
Zambia	0.80	34.07	84.27	47.82	302.77	8.49	236.25
Total	**2,567.78**	**1,705.55**	**2,106.00**	**1,224.06**	**5,880.30**	**471.53**	**9,732.39**

Table 58 - Poverty indicators for the Sub-Saharan Africa countries using the updated poverty line

Country	Headcount (%)	Year	Pov.line (PPP$/day)	Mean ($/Day)	Pov. gap (%)	Squared pov. gap	Watts index	Population (mil.)
Angola	28.9	1999	1.9	136.77	14.64	8.86	24.95	6.48
Benin	51.68	1999	1.9	73.99	18.3	8.37	25.27	6.74
Botswana	13.45	1999	1.9	230.94	11.21	5.62	16.37	1.72
Burkina Faso	46.49	1999	1.9	56.59	36.53	21.22	57.85	11.28
Burundi	77.19	1999	1.9	40.03	43.86	27.66	75.94	6.55
Cameroon	27.04	1999	1.9	117.36	8.42	3.35	11.05	15.51
Central African Republic	60.15	1999	1.9	54.36	39.04	26.71	76.19	3.57
Chad	35.76	1999	1.9	51.53	33.06	18.79	51.52	8
Comoros	14.57	1999	1.9	232.29	4.28	1.74	5.74	0.52
Congo, Democratic Republic of	77.18	1999	1.9	28.45	57.71	40.96	108.19	45.89
Congo, Republic of	28.37	1999	1.9	79.85	23.72	12.73	35.57	3.04
Cote d'Ivoire	27.69	1999	1.9	121.61	7.16	2.96	9.57	15.8
Ethiopia	29.18	1999	1.9	65.16	16.03	6.4	20.96	64.16
Gabon	6.67	1999	1.9	226.62	1.42	0.52	1.83	1.2
Gambia, The	44.91	1999	1.9	79.69	23.89	12.97	36.48	1.19
Ghana	12.89	1999	1.9	107.18	10.94	5.13	15.38	18.38
Guinea	35.27	1999	1.9	75.9	23.73	12.58	35.4	8.6
Lesotho	57.26	1999	1.9	66.76	38.16	27.01	76.39	1.84
Liberia	44.83	1999	1.9	38.98	42.09	25.23	69.22	2.74
Madagascar	82.13	1999	1.9	58.19	27.71	15.08	42.07	15.26
Malawi	70.78	1999	1.9	102.88	25.74	12.87	37.13	11.01
Mali	51.34	1999	1.9	56.3	32.44	18.65	50.9	9.98
Mauritius	0.53	1999	1.9	135.62	5.45	2.21	7.21	2.63
Mozambique	62.02	1999	1.9	253.49	0.26	0.08	0.32	1.18
Namibia	19.68	1999	1.9	198.48	19.1	10.97	30.73	1.86
Niger	45.09	1999	1.9	47.21	39.15	23.45	63.24	10.6
Nigeria	51.74	1999	1.9	61.1	33.27	20.34	55.48	119.83
Rwanda	57.21	1999	1.9	52.85	37.72	22.15	60.25	7.85
Sao Tome and Principe	31.83	1999	1.9	93.7	7.99	2.98	10.18	0.14
Senegal	37.89	1999	1.9	81.46	17.07	7.72	23.42	9.62
Seychelles	0.21	1999	1.9	580.74	0.11	0.03	0.14	0.08
Sierra Leone	50.24	1999	1.9	55.05	35.71	23.81	n/a	4.03
South Africa	16.22	1999	1.9	190.09	13.77	6.77	19.81	42.92
Swaziland	43.06	1999	1.9	104.87	21.63	11.79	33.33	1.05
Tanzania	46.6	1999	1.9	39.33	42.67	25.95	69.5	33.18
Togo	52.47	1999	1.9	83.74	17.9	8.43	25.03	4.74
Uganda	33.15	1999	1.9	79.65	19.19	9.38	27.51	23.51
Zambia	61.9	1999	1.9	102.76	17.22	8.88	25.61	9.84

Appendix D: Results of diagnostic tests

Table 59 - Dickey-Fuller test for the Y variable

```
xtunitroot llc DRGDPpc

Levin-Lin-Chu unit-root test for DRGDPpc
------------------------------------
Ho: Panels contain unit roots            Number of panels  =    20
Ha: Panels are stationary                Number of periods =    15

AR parameter: Common                     Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:    Bartlett kernel, 7.00 lags average (chosen by LLC)
--------------------------------------------------------------------------------
                    Statistic      p-value
--------------------------------------------------------------------------------
 Unadjusted t         -12.8686
 Adjusted t*           -4.5308        0.0000
--------------------------------------------------------------------------------
```

Table 60 - Results of panel unit root tests

```
xtunitroot fisher NETODA, dfuller lags(0)

Fisher-type unit-root test for NETODA
Based on augmented Dickey-Fuller tests
------------------------------------
Ho: All panels contain unit roots        Number of panels  =    20
Ha: At least one panel is stationary      Number of periods =    15

AR parameter: Panel-specific             Asymptotics: T -> Infinity
Panel means:  Included
Time trend:   Not included
Drift term:   Not included               ADF regressions: 0 lags
--------------------------------------------------------------------------------
                              Statistic      p-value
--------------------------------------------------------------------------------
 Inverse chi-squared(40)   P     44.4062        0.2913
 Inverse normal            Z     -0.0673        0.4732
 Inverse logit t(104)      L*     0.1162        0.5461
 Modified inv. chi-squared Pm     0.4926        0.3111
--------------------------------------------------------------------------------
 P statistic requires number of panels to be finite.
 Other statistics are suitable for finite or infinite number of panels.
--------------------------------------------------------------------------------


--------------------------------------------------------------------------------
 Employment Growth  Statistic      p-value
--------------------------------------------------------------------------------
 Unadjusted t         -7.5979
 Adjusted t*          -3.0261        0.0012
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
 Primary Exports     Statistic      p-value
--------------------------------------------------------------------------------
 Unadjusted t         -11.2657
 Adjusted t*          -5.5219        0.0000
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
Net ODA              Statistic     p-value
--------------------------------------------------------------------------------
Unadjusted t        -3.4610
Adjusted t*          1.2149       0.8878
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
GFCF                 Statistic     p-value
--------------------------------------------------------------------------------
Unadjusted t        -4.5764
Adjusted t*         -2.7747       0.0028
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
Economic Stab        Statistic     p-value
--------------------------------------------------------------------------------
Unadjusted t        -9.7223
Adjusted t*         -3.9921       0.0000
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
Total Damage         Statistic     p-value
--------------------------------------------------------------------------------
Unadjusted t        -11.5499
Adjusted t*         -4.7130       0.0000
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
Political Stab       Statistic     p-value
--------------------------------------------------------------------------------
Unadjusted t        -13.5807
Adjusted t*         -5.5190       0.0000



xtunitroot fisher xNETODA, dfuller lags(0)
(1 missing value generated)

Fisher-type unit-root test for xNETODA
Based on augmented Dickey-Fuller tests
------------------------------------
Ho: All panels contain unit roots       Number of panels     =     20
Ha: At least one panel is stationary     Avg. number of periods =  14.95

AR parameter: Panel-specific             Asymptotics: T -> Infinity
Panel means:  Included
Time trend:   Not included
Drift term:   Not included               ADF regressions: 0 lags
--------------------------------------------------------------------------------
                                  Statistic      p-value
--------------------------------------------------------------------------------
 Inverse chi-squared(40)   P      169.9181       0.0000
 Inverse normal            Z       -4.7715       0.0000
 Inverse logit t(104)      L*      -8.7316       0.0000
 Modified inv. chi-squared Pm      14.5253       0.0000
--------------------------------------------------------------------------------
 P statistic requires number of panels to be finite.
 Other statistics are suitable for finite or infinite number of panels.
--------------------------------------------------------------------------------
```

Appendix E: Adopting a transformation method

This appendix shows the regression equation tested using the same explanatory variables but a different methodology for the Y variable. The real GDP per capita for the recipient countries led to an output whereby some of the growth observations were negative in value and as dictated one cannot transform negative values into logs. However, by using an approximation, the Yeo-Johnson Power Transformation method this shortcoming can be overcome. In fact, this transformation works out by using the formula that in the cases of data where Y is less than zero, one should take $(-\log(-y + 1))$ and where Y is greater than zero, then one should take $(\log(y + 1))$. As one can see in the below table the results are more or less similar to the regression equation used in the thesis. However, this is an approximation and the results therefore loose a degree of precision.

Table 61 - Regression equation using the Yeo-Johnson Power Transformation Method

```
xtreg DRGDPpc DEMP PRIEXP NETODA GFCF ECSTAB TOTDAM POLSTAB, fe

Fixed-effects (within) regression              Number of obs    =        300
Group variable: country_id                     Number of groups =         20

R-sq:                                          Obs per group:
    within  = 0.1336                                      min =         15
    between = 0.0555                                      avg =       15.0
    overall = 0.0815                                      max =         15

                                               F(7,273)         =       6.01
corr(u_i, Xb)  = -0.4782                        Prob > F         =     0.0000

------------------------------------------------------------------------------
    DRGDPpc |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
       DEMP |   .0031247   .0015737     1.99   0.048     .0000265    .0062229
     PRIEXP |   .0030235   .0011549     2.62   0.009     .0007499    .0052971
     NETODA |   .0028839   .0012702     2.27   0.024     .0003832    .0053845
       GFCF |   .0019957    .000929     2.15   0.033     .0001668    .0038247
     ECSTAB |   .0012826   .0003936     3.26   0.001     .0005077    .0020575
     TOTDAM |  -.0005501   .0002786    -1.97   0.049    -.0010986    -1.52e-
06
    POLSTAB |   .0008995    .000647     1.39   0.166    -.0003743    .0021732
      _cons |   .2491359    .019139    13.02   0.000     .2114571    .2868147
------------+-----------------------------------------------------------------
    sigma_u |  .00633385
    sigma_e |  .01086919
        rho |  .25349716   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(19, 273) = 1.98                    Prob > F = 0.0098
```

Appendix F: Two-stage least squares

A multi-equation growth model was adopted to allow for simultaneous effect, whereby the approach used was the two-stage least squares. As one can see in the table below there were no major differences in the coefficient of the natural logarithm of the real GDP growth per capita.

Table 62 - Two-stage least squares equation

```
------------------------------------------------------------------------------
    NETODA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      DEMP |    .036339   .0784483     0.46   0.644    -.1181042    .1907821
    PRIEXP |   .0007684   .0547424     0.01   0.989    -.1070043     .108541
   DRGDPpc |   1.272257   .5866893     2.17   0.031     .1172276    2.427286
      GFCF |  -.0005775   .0847562    -0.01   0.995     -.167439     .166284
     ECSTAB |   .0312593   .0188045     1.66   0.098    -.0057615    .0682801
    TOTDAM |   .0158547    .013113     1.21   0.228    -.0099612    .0416706
   POLSTAB |  -.0297036   .0303514    -0.98   0.329    -.0894572      .03005
    NONINC |  -1.110138   .4828767    -2.30   0.022    -2.060788   -.1594867
      _cons |   2.754285   1.226015     2.25   0.025     .3405995     5.16797
-------------+----------------------------------------------------------------
```

Appendix G: Testing for collinearity

Benin	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.11	1.00						
LN employment growth	-0.52	-0.45	1.00					
LN net ODA	-0.37	-0.48	0.43	1.00				
LN GFCF	0.23	0.63	-0.24	-0.75	1.00			
LN STAB	0.33	0.05	-0.15	-0.20	-0.02	1.00		
LN_TD	-0.25	0.40	-0.01	-0.19	0.31	-0.02	1.00	
LN POLSTAB	0.12	-0.32	0.02	0.22	0.10	-0.11	-0.44	1.00

Burkina Faso	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.18	1.00						
LN employment growth	0.43	0.06	1.00					
LN net ODA	0.12	-0.66	-0.16	1.00				
LN GFCF	-0.01	0.71	0.13	-0.93	1.00			
LN STAB	-0.09	-0.71	-0.07	0.68	-0.63	1.00		
LN_TD	0.03	0.20	0.00	-0.11	0.19	-0.31	1.00	
LN POLSTAB	-0.32	0.22	0.26	-0.37	0.21	-0.06	-0.17	1.00

Burundi	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.36	1.00						
LN employment growth	0.30	-0.49	1.00					
LN net ODA	0.18	-0.47	0.80	1.00				
LN GFCF	0.48	-0.59	0.37	0.61	1.00			
LN STAB	0.24	-0.18	0.07	-0.03	0.20	1.00		
LN_TD	-0.16	-0.07	0.18	0.40	-0.25	-0.12	1.00	
LN POLSTAB	0.06	0.06	-0.09	-0.12	0.05	0.55	-0.24	1.00

Central African Rep.	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.27	1.00						
LN employment growth	-0.29	-0.41	1.00					
LN net ODA	0.54	0.42	-0.10	1.00				
LN GFCF	0.10	-0.36	0.88	0.09	1.00			
LN STAB	0.02	0.33	0.25	0.08	0.13	1.00		
LN_TD	-0.28	-0.52	0.30	-0.39	0.19	-0.32	1.00	
LN POLSTAB	-0.04	-0.04	0.04	0.11	-0.09	0.03	0.21	1.00

Chad	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.04	1.00						
LN employment growth	0.42	0.53	1.00					
LN net ODA	0.35	0.27	0.87	1.00				
LN GFCF	-0.10	-0.59	-0.82	-0.83	1.00			
LN STAB	0.24	0.32	0.66	0.61	-0.56	1.00		
LN_TD	-0.10	-0.18	0.04	0.16	-0.16	-0.24	1.00	
LN POLSTAB	0.24	-0.53	-0.27	-0.03	0.35	-0.43	-0.14	1.00

Comoros	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.19	1.00						
LN employment growth	0.46	0.38	1.00					
LN net ODA	0.24	0.05	0.14	1.00				
LN GFCF	-0.38	-0.56	-0.89	-0.08	1.00			
LN STAB	0.01	-0.47	-0.36	-0.38	0.40	1.00		
LN_TD	-0.09	-0.07	-0.27	0.37	0.05	0.02	1.00	
LN POLSTAB	-0.02	0.49	0.28	0.17	-0.26	-0.50	-0.12	1.00

Guinea	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.42	1.00						
LN employment growth	-0.46	0.40	1.00					
LN net ODA	-0.52	0.27	0.09	1.00				
LN GFCF	-0.19	-0.09	0.65	-0.26	1.00			
LN STAB	-0.14	0.43	0.66	-0.33	0.53	1.00		
LN_TD	-0.04	-0.12	-0.05	0.09	-0.36	-0.08	1.00	
LN POLSTAB	-0.48	0.38	0.23	0.02	-0.18	0.38	0.17	1.00

Guinea Bissau	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.29	1.00						
LN employment growth	-0.42	-0.46	1.00					
LN net ODA	0.12	-0.32	-0.50	1.00				
LN GFCF	-0.01	0.42	0.42	-0.74	1.00			
LN STAB	-0.00	0.09	0.43	0.38	-0.42	1.00		
LN_TD	0.09	-0.34	0.02	0.30	-0.30	0.23	1.00	
LN POLSTAB	0.28	-0.31	-0.10	0.15	-0.28	0.22	0.22	1.00

Madagascar	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.02	1.00						
LN employment growth	0.03	0.01	1.00					
LN net ODA	0.24	0.40	0.48	1.00				
LN GFCF	0.17	-0.63	0.33	-0.19	1.00			
LN STAB	0.25	-0.41	-0.20	0.25	0.26	1.00		
LN_TD	-0.22	0.22	0.05	0.05	-0.23	-0.23	1.00	
LN POLSTAB	0.16	0.47	-0.48	-0.17	-0.58	-0.40	-0.13	1.00

Malawi	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.37	1.00						
LN employment growth	-0.14	0.03	1.00					
LN net ODA	-0.27	0.38	-0.01	1.00				
LN GFCF	0.71	-0.27	-0.15	0.51	1.00			
LN STAB	0.05	-0.06	0.22	0.40	-0.21	1.00		
LN_TD	-0.50	0.11	-0.22	0.21	-0.35	-0.21	1.00	
LN POLSTAB	-0.14	-0.29	-0.14	0.04	0.07	-0.05	0.17	1.00

Mali	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.34	1.00						
LN employment growth	0.37	0.45	1.00					
LN net ODA	0.15	-0.23	-0.24	1.00				
LN GFCF	0.17	0.52	0.57	0.70	1.00			
LN STAB	0.09	-0.13	-0.25	0.30	-0.31	1.00		
LN_TD	-0.21	0.01	0.20	0.13	0.05	-0.15	1.00	
LN POLSTAB	0.06	-0.11	-0.40	0.05	-0.36	0.33	-0.37	1.00

Guinea Bissau	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.29	1.00						
LN employment growth	-0.42	-0.46	1.00					
LN net ODA	0.12	-0.32	-0.50	1.00				
LN GFCF	-0.01	0.42	0.42	0.74	1.00			
LN STAB	-0.00	0.09	0.43	0.38	0.42	1.00		
LN_TD	0.09	-0.34	0.02	0.30	-0.30	0.23	1.00	
LN POLSTAB	0.28	-0.31	-0.10	0.15	-0.28	0.22	0.22	1.00

Mozambique	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.05	1.00						
LN employment growth	-0.22	-0.42	1.00					
LN net ODA	0.00	0.10	0.19	1.00				
LN GFCF	-0.20	-0.02	-0.16	-0.66	1.00			
LN STAB	0.15	-0.01	0.07	0.15	0.43	1.00		
LN_TD	-0.24	0.04	0.60	0.32	-0.36	-0.17	1.00	
LN POLSTAB	0.70	0.14	-0.18	0.52	-0.34	0.02	-0.15	1.00

Rwanda	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.02	1.00						
LN employment growth	-0.08	0.15	1.00					
LN net ODA	0.12	-0.58	0.14	1.00				
LN GFCF	-0.01	0.68	-0.50	-0.68	1.00			
LN STAB	0.10	-0.07	0.23	0.27	-0.38	1.00		
LN_TD	-0.01	-0.38	-0.05	0.45	-0.40	0.51	1.00	
LN POLSTAB	0.29	-0.38	-0.18	0.14	-0.22	-0.17	-0.28	1.00

Senegal	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.22	1.00						
LN employment growth	-0.10	-0.14	1.00					
LN net ODA	0.26	0.48	-0.52	1.00				
LN GFCF	-0.20	-0.85	0.20	-0.58	1.00			
LN STAB	-0.16	0.22	-0.03	-0.03	-0.08	1.00		
LN_TD	-0.81	-0.01	-0.07	0.07	0.00	0.03	1.00	
LN POLSTAB	-0.44	-0.24	0.08	-0.39	0.05	-0.28	0.43	1.00

Sierra Leone	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.31	1.00						
LN employment growth	-0.12	0.05	1.00					
LN net ODA	-0.29	-0.15	0.64	1.00				
LN GFCF	0.23	0.70	-0.31	-0.34	1.00			
LN STAB	0.34	-0.01	-0.37	-0.33	0.34	1.00		
LN_TD	-0.45	-0.37	0.01	0.07	-0.34	-0.06	1.00	
LN POLSTAB	0.15	0.41	0.10	0.19	0.42	0.29	-0.30	1.00

Tanzania	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.05	1.00						
LN employment growth	0.34	-0.02	1.00					
LN net ODA	0.24	0.14	0.44	1.00				
LN GFCF	-0.13	0.21	-0.32	-0.86	1.00			
LN STAB	-0.47	-0.14	-0.11	-0.57	0.40	1.00		
LN_TD	-0.03	0.41	0.30	0.30	-0.02	0.02	1.00	
LN POLSTAB	0.28	-0.25	0.25	0.02	-0.17	-0.08	-0.12	1.00

Togo	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	0.42	1.00						
LN employment growth	-0.73	-0.33	1.00					
LN net ODA	0.29	0.50	-0.37	1.00				
LN GFCF	0.80	0.13	-0.83	0.35	1.00			
LN STAB	-0.15	0.30	0.40	-0.22	-0.38	1.00		
LN_TD	-0.19	-0.15	-0.01	0.51	-0.03	-0.03	1.00	
LN POLSTAB	0.45	0.33	-0.28	0.14	0.44	0.15	-0.04	1.00

Uganda	growth in GDP per capita	LN exports	LN employment growth	LN net ODA	LN GFCF	LN STAB	LN_TD	LN POLSTAB
growth in GDP per capita	1.00							
LN exports	-0.16	1.00						
LN employment growth	-0.38	0.01	1.00					
LN net ODA	0.38	-0.23	-0.59	1.00				
LN GFCF	-0.15	0.20	0.43	-0.85	1.00			
LN STAB	0.03	0.23	0.51	-0.32	0.22	1.00		
LN_TD	0.40	0.27	0.20	-0.07	0.11	0.37	1.00	
LN POLSTAB	-0.04	-0.44	0.18	0.06	-0.08	0.04	-0.12	1.00