

Foreign Aid and Dutch Disease:
A Case Study of Burkina Faso, Gambia, Malawi, and Mozambique

by

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I would like to thank my parents for their love and support.

Table of Contents

List of Tables	vii
List of Figures	viii
Abstract	ix
Acknowledgements	x
Chapter 1: Introduction	1
Chapter 2: Conceptual Background	4
<i>2.1 Conceptual Framework</i>	4
<i>2.1.1 A Two-Sector Framework with Aid Inflows</i>	4
<i>2.1.2 The Real Effective Exchange Rate</i>	7
<i>2.1.2.1 Conceptual Issues Relating to the REER</i>	8
<i>2.1.3 Volatility of the REER</i>	12
<i>2.2 Related Literature</i>	13
<i>2.2.1 Natural Resources and Dutch Disease</i>	13
<i>2.2.2 Foreign Aid and Dutch Disease</i>	14
<i>2.2.3 Aid and Volatility of the REER</i>	15
Chapter 3: Analysis	16
<i>3.1 Burkina Faso</i>	17
<i>3.2 The Gambia</i>	26
<i>3.3 Malawi</i>	36
<i>3.4 Mozambique</i>	47
<i>3.5 A Shared Economic History</i>	55
Chapter 4: Conclusion	59

References	61
Appendix	69

List of Tables

Table 1: Key indicators by period – Burkina Faso.....	24
Table 2: Correlations of the REER with aid, exports, services, and industry – Burkina Faso.....	26
Table 3: Key indicators by period – The Gambia.....	33
Table 4: Correlations of the REER with aid, exports, services, and industry – Gambia.....	36
Table 5: Key indicators by period – Malawi	46
Table 6: Correlations of the REER with aid, exports, services, and industry – Malawi	47
Table 7: Key indicators by period – Mozambique	54
Table 8 Correlations of the REER with aid, exports, services, and industry – Mozambique.....	55

List of Figures

Figure 1: Burkina Faso.....	19
Figure 2: The Gambia.....	28
Figure 3: Malawi.....	38
Figure 4: Mozambique.....	49

Abstract

Foreign aid has shaped the economies of Sub-Saharan Africa since independence. There has been passionate debate as to whether this has helped or hurt Africa's poor economies. One of the downsides to foreign aid is the effect it can have on appreciating the real exchange rate and on harming the competitiveness of export-oriented sectors in favour of producers of non-traded goods. I find that the influence of aid flows on the real exchange rate varies greatly across countries, and that movements in the real exchange rate driven by foreign aid have been overshadowed by policy changes and structural adjustment.

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Chapter 1: Introduction

There has been passionate debate as to whether foreign aid has helped or hurt Africa's poor economies.¹ Sub-Saharan Africa has received large amounts of foreign aid, yet the economies of the region have generally performed poorly over the last 40 years. The poor export performance of many Sub-Saharan African countries means that these countries lack the foreign exchange earnings required to import capital goods and grow productive capacity; foreign aid is given, in part, to ease this constraint on investment by enabling increased imports of capital goods. However, foreign aid can also be spent on domestically produced non-traded goods (i.e. services). If this happens, foreign aid will cause the prices of non-traded goods to increase relative to the prices of non-traded goods – in other words, foreign aid will cause an appreciation of the real exchange rate if the official exchange rate is not adjusted to take into account this change in relative prices.

Domestic price levels should be a reflection of the productivity of the country in general (Balassa, 1964) and foreign aid can impact both the productivity and domestic price levels of the recipient. If these foreign aid inflows do not generate productivity increases and create only price effects, and the official exchange rate is not adjusted to take into account this change in relative prices, the real exchange rate (the relative price of traded goods to non-traded goods) will appreciate.

In the 1970s and 1980s, many governments in Sub-Saharan Africa had expansionary fiscal and monetary policies which made domestic price levels rise faster than international price levels. Thus the prices of non-traded goods rose faster than those

¹ See Sachs (1996) and Easterly (2003).

of traded goods. In response, many governments implemented price and import controls to contain the contradiction between expansionary fiscal and monetary policies and a fixed nominal exchange rate (Edwards, 1989). There was a reluctance to nominally devalue currencies in order to correct for real overvaluations, as this causes a loss in buying power and limits the ability of a country to import. Therefore, many countries in Sub-Saharan Africa suffered from seriously overvalued real exchange rates in the 1970s and 80s.

An overvalued real exchange rate disadvantages producers of traded goods and export oriented sectors of the economy as they incur higher domestic costs. This has become known as Dutch disease if the real overvaluation is caused by an inflow of foreign exchange (in this context foreign aid). The critical importance of the export sector in generating productivity increases and creating long term economic growth has been identified by many economists (Chuang, 1998; Torvik, 2001), and Africa's poor export performance has been identified as one factor holding back economic growth on the continent (Adenauer and Vagassky, 1998; Rodrik, 1997). One of the main goals of the structural adjustment programmes of the 1980s and 1990s was to correct the highly overvalued real exchange rates found in many countries (World Bank, 1994).

If foreign aid inflows caused the real exchange rates of the recipient countries to appreciate, foreign aid may, paradoxically, be limiting growth by harming the export competitiveness of the recipient. Moreover, the potentially volatile nature of foreign aid flows could cause increased volatility in the real exchange rate. This could also hurt export-oriented firms if financial markets are underdeveloped, and firms are unable to borrow to weather temporary downturns.

In this thesis, I investigate the relationship between foreign aid inflows, the real exchange rate, and the presence of Dutch disease using a case study approach for four African countries: Burkina Faso, the Gambia, Malawi, and Mozambique. Chapter 2 outlines a conceptual framework and reviews the related literature. Chapter 3 provides an overview of each of the case study countries, looking at the policy changes that have happened in these countries since their independence, and what evidence there is of Dutch disease caused by foreign aid inflows. Chapter 4 concludes.

Chapter 2: Conceptual Background

2.1 Conceptual Framework

In this chapter to fix ideas, I first put forward a basic model through which the real exchange rate is affected by capital inflows in the form of foreign aid.² I then define the real effective exchange rate (REER) and discuss its measurement in practice. Next I discuss the implications of foreign aid on the volatility of the REER. Finally, I review the related literature on foreign aid and Dutch disease, and foreign aid and the volatility of the real exchange rate.

2.1.1 A Two-Sector Framework with Aid Inflows

The basic conceptual framework I use is a two-sector small open-economy model.³ There is one traded good, whose price is determined exogenously in world markets, as well as one non-traded good, whose price is determined endogenously in the domestic economy.⁴ Thus, there is one price for the traded good – the world price – and many different prices for non-traded goods, varying across countries.

When an economy receives foreign aid, this enables increased consumption and/or investment opportunities (the spending effect). The increased demand for traded

² I use the OECD's definition of foreign aid, that is Overseas Development Assistance (ODA), which is aid grants or concessional loans made by donor governments and multilateral agencies for the purpose of promoting economic development and welfare. I use ODA because it is the most common definition of foreign aid in the literature, and the data is the most reliable.

³ The small open economy assumption implies that world prices are not affected by changes in domestic supply or demand.

⁴ Operationalizing which goods are traded and which are non-traded is difficult. Knight and Johnson (1997) discuss two different methods. The first is binary, where goods are either traded or not, while the second is a continuum, with goods becoming more and less tradable as prices change. Classifying goods according to a continuum is not straightforward, and not pursued here. For this thesis, I will classify

goods doesn't lead to an increase in prices, as it can be satisfied by imports. Prices of non-traded goods, on the other hand, will change. This is because non-traded goods can't be imported from abroad, and increased demand will lead to higher prices. As a result the prices of domestic non-traded goods will rise, while the prices of traded goods remain the same.⁵ This change in relative prices between traded and non-traded goods amounts to a real appreciation of the domestic currency.

In general, the degree of REER appreciation resulting from an aid inflow is proportional to the amount of the aid inflow that is spent on non-traded goods. For instance, if the aid is spent entirely on imports there would be no impact on the relative prices of traded or non-traded goods, and thus no real exchange rate appreciation.⁶ As long as part of the aid inflow is spent on non-traded goods, an aid inflow will appreciate the real exchange rate (White 1992).

A real appreciation of the currency reflects a decline in the competitiveness of producers of traded goods, who must compete with producers in other countries. Thus, an expansion in domestic demand (the spending effect) negatively affects the domestic supply of traded goods. The domestic producers of traded goods now face higher costs, but receive the same price for their output, resulting in a squeeze on profits. By contrast, in the non-traded goods sector, higher domestic costs can be offset by higher domestic prices. The now relatively less competitive traded goods sector sheds resources (capital

manufacturing, agricultural, and natural resource output as traded, and services (public and private) as non-traded goods.

⁵ Of course, the ultimate increase in the demand for non-traded goods depends on the elasticity of substitution between traded and non-traded goods. Van Wijnbergen (1986) does not allow for substitution effects.

⁶ In countries where all manufactured goods and physical capital goods are imported, investment spending will fall on imported goods.

and labour), while the additional aggregate demand draws in resources to the non-traded goods sector. The real appreciation thus pulls resources into the non-traded goods sector, and away from the traded goods sector (resource movement effect).

This resource movement effect is the de-industrialization or Dutch disease aspect of the aid inflow.⁷ In sum, the macro-economic consequences of an aid inflow are an increase in imports (caused by the spending effect), a decrease in exports and a shrinking traded goods sector (caused by the real appreciation and resulting de-industrialization), and an expansion of the non-traded goods sector.

So what constitutes evidence for the presence of Dutch disease? Oomes and Kalcheva (2007) consider three indicators as evidence for or against the presence of Dutch disease in Russia following the increase in oil prices in the mid-2000s: (1) a slowdown in manufacturing growth (de-industrialization), and/or a decrease in exports; (2) an increase in the service sector; and (3) an increase in wage growth. Data for wages is sparse in my countries, so I exclude it from the analysis. The criteria from Oomes and Kalcheva (2007) is suitable for examining aid inflows because increased income from natural resources and aid inflows are functionally similar (Edwards and van Wijnbergen,

⁷ Here Dutch disease refers to a decrease in the size of the traded goods sector (manufacturing and agriculture) brought about by the REER appreciation. This framework also can be applied to other types of foreign capital inflows, including foreign direct investment (FDI) and resource booms. Real exchange rate appreciation and Dutch disease were originally addressed in the context of a foreign capital inflow stemming from a discovery of natural resources (Corden and Neary, 1982). Their model contains a traded goods sector, divided into a booming (natural resource) and a lagging (manufacturing) component, as well as a non-traded goods sector. De-industrialization is stronger in the case of a natural resource boom because the booming sector reinforces the resource movement effect by pulling in resources from the non-booming sector. In the natural resource scenario, there are two sectors – the booming traded goods subsector and the non-traded sector – pulling resources out of the lagging traded goods sector. This extra pull effect will be present in any situation where a foreign capital inflow creates a booming and lagging component. This is not the case with foreign aid inflows.

1989). In the subsequent analysis I therefore examine the impact of the real exchange rate on the size of the industrial, export, and service sectors.

2.1.2 *The Real Effective Exchange Rate*

According to the theory outlined above, the real effective exchange rate (REER) measures the relative price of traded goods, P_T , in relation to the price of non-traded goods, P_N (as opposed to a nominal exchange rate which measures the relative price of a currency in relation to another currency): $REER = P_T/P_N$. However, since this ratio is difficult to measure in practice, this thesis uses a real effective exchange rate index by adjusting the nominal exchange rate for differences in the inflation rates in the country of interest and its trading partners.

The total trade of one country consists of many bilateral trade relationships. The real *effective* exchange rate (REER) is a multilateral index computed as a weighted average of several bilateral real exchange rates. Bilateral real exchange rate indexes can be computed using either Consumer Price Indexes (CPIs) or the GDP deflators of the relevant countries.⁸ The World Bank's *World Development Indicators* provides real effective exchange rates calculated based on an exchange rate defined as foreign currency per unit of domestic currency, so that a rise in the REER corresponds to an appreciation of the domestic currency.

⁸ The heterogeneous nature of intermediate inputs means that final goods contain both domestic and foreign produced goods as inputs. This means that CPI indexes and GDP deflators of domestic and foreign countries do not capture the pure domestic or foreign price levels. GDP includes many goods that are produced in both countries, and consumer prices include goods that are a combination of domestic and foreign goods. The World Bank's *World Development Indicators* reports a real effective exchange rate index based on consumer prices.

2.1.2.1 Conceptual Issues Relating to the REER

Since several domestic and international factors affect the real exchange rate as well as aid inflows I control for them in the analysis. These factors include: a) trade and fiscal policy; b) public or private consumption; c) the terms of trade; d) private and public saving; e) supply response generated by foreign aid inflows; and f) other capital inflows.

a) Trade and Fiscal Policy

Trade policies (import tariffs and quotas for example) affect the domestic supply of traded goods – and thus their prices relative to non-traded goods. For example, an increase in tariffs would cause the domestic price of traded goods to rise.⁹ In general, the more open an economy is, the more likely it is that the real exchange rate will depreciate. With decreasing trade barriers, imports will become cheaper and consumers will substitute away from the relatively more expensive non-traded goods and consume more imports. In my framework, this amounts to a depreciation of the REER (Edwards, 1989).

Fiscal policy (taxes and subsidies) can also target specific sectors and affects the domestic prices of traded or non-traded goods, and hence the real effective exchange rate. For example, expansionary fiscal policy may target the non-traded sector which in turn would increase the spending effect and lead to a real appreciation of the currency. Since fiscal policy can increase or decrease the spending effect, it is a crucial variable to control for when examining the effect of aid inflows on the real effective exchange rate.

b) Public or Private Consumption

One of the most significant parts of the non-traded sector is government services. It is often assumed that consumption by the public sector is more likely to go towards (non-traded) government services and that consumption by the private sector has a larger traded component (Adam and Bevin, 2003). For example, in their analysis of Sub-Saharan Africa Adenauer and Vagassky (1998) use public sector wages as an indicator of the relative price of non-traded goods. Thus if foreign aid is captured by the government, this is more likely to lead to a larger real exchange rate appreciation than foreign aid captured by the private sector.

c) The Terms of Trade

The terms of trade is a ratio of the relative prices of a country's exports divided by its imports. If the price of a country's imports falls relative to that of its exports, the country experiences an improvement in the terms of trade. The terms of trade affects the real exchange rate in a similar fashion to a capital inflow stemming from a natural resource discovery. An improvement in the terms of trade means higher earnings. The increased earnings allows for increased consumption which is split between traded and non-traded goods, the latter of which produces the spending effect, resulting in a real exchange rate appreciation.

d) Private and Public Saving

Saving and consumption decisions by the private and public sectors will affect the impact of an aid inflow on the real exchange rate. If an aid inflow is saved, there will be

⁹ Tariffs and quotas are sometimes implemented to address persistent trade deficits and balance of payments problems because they serve to limit the amount of foreign exchange leaving the country. Exchange and capital controls are often instituted for similar purposes (Edwards, 1989).

no change in the spending effect and the real exchange rate will not be affected.

Consequently there will be no resource movement between the traded and non-traded sectors. We would like to know exactly when consumers or governments will spend the aid inflow; is it spent right away, spent gradually over time, or saved?

e) Supply Response Generated by Foreign Aid Inflows

Of course, foreign aid can also stimulate the production of non-traded goods. If foreign aid increases the production of non-traded goods, the impact of the spending effect on the real exchange rate will be muted. The additional demand for non-traded goods could induce an increase in employment and production, resulting in little or no real appreciation. This is more likely if there are idle inputs that could easily be brought into the production process. However, if the required inputs are scarce – skilled labour for example – then the impact of the spending effect on the real exchange rate will be more pronounced. Therefore, it may be possible that foreign aid inflows could affect the real exchange rate even in a country with a high unemployment rate.

f) Other Capital Inflows

In the context of Dutch disease in developing countries, other relevant capital inflows to consider would be a) private capital inflows, including bank loans and foreign direct investment, and b) remittances sent back from workers abroad.

Private capital inflows increased considerably in the 1970s due to loans from private banks (foreign direct investment was virtually absent during this time), as Western financial institutions, flush with ‘petrodollars’ lent large sums at low interest

rates to Third World borrowers. However, in the early 1980s, African countries (and many developing countries for that matter) were practically shut out of global capital markets following the spike in global interest rates and the default of several prominent sovereign borrowers. While private capital flows have increased in the 1990s and 2000s (led by increases in FDI, World Bank, 2005),¹⁰ private flows are still dwarfed by official aid inflows, with FDI – the largest component of contemporary private capital flows – amounting to 3.2 percent of GDP in the late 1990s. By contrast, aid flows averaged around 20 percent of GDP in the late 1990s for the four countries I study in Chapter 3.

Also, FDI tends to be spent primarily on physical capital goods, which are almost exclusively imported in the countries considered. As such, private capital inflows will only have a minor impact on the real effective exchange rate and therefore are not included in this analysis. In fact, Lartey (2006) finds that FDI has a smaller impact on the real effective exchange rate compared with foreign aid inflows.

Remittances primarily go towards supplementing rural incomes, where the supply of non-traded government services is scarce (Fleur and Edward, 2006). Therefore, it is likely that remittances would be spent on items that rural households consume, which would be traded (imported) goods like food and fuel, and not government services. Remittances feature prominently only in Burkina Faso, where large numbers of Burkinabé have left to find work in neighbouring countries, most notably as rural labourers in Ivory Coast's lucrative cocoa sector. Even still, remittances only account for 3.2 percent of Burkina's GDP in 1990, compared with official aid flows, which

¹⁰ The long-term impact of foreign direct investment could also affect the REER (through increased productivity and output), although this issue is beyond the scope of this thesis.

accounted for over 25 percent of GDP in 1990 (Buch, 2002). I exclude remittances from the analysis.

2.1.3 Volatility of the REER

A one-time permanent (long term) real appreciation of the domestic currency can lead to Dutch disease, but so too can a transitory (short term) increase in the REER. Most economists think of volatility as a ‘second-order’ effect, but short-run volatility of the REER can have long term consequences on the structure of production in developing countries.¹¹ Even when the real exchange rate appreciation is temporary and the long-run prospects of the traded goods sector are favorable, export oriented firms may need to downsize production or even exit the sector altogether if they are unable to borrow during the sectoral downturn.¹² Countries with under-developed financial markets are thus more susceptible to the negative consequences of volatility in the real effective exchange rate. Therefore, even short-run volatility in the REER can cause long-term Dutch disease and leave the domestic economy more dependent on foreign aid.

Moreover, Backus and Smith (1993) argue that REER ‘misalignments’ could account for poor correlations of consumption growth across countries, large deviations from purchasing power parity, and large real interest rate differentials across countries. In addition, governments may try to mitigate the relative price effects of aid inflows by implementing price and exchange controls, creating a parallel exchange rate market. Edwards (1989) notes that real exchange rate overvaluations are usually met by an

¹¹ van der Ploeg and Poelhekke (2009) find that volatility of the real exchange rate is a fundamental cause of poor manufacturing performance and other aspects of the so called ‘resource curse’.

¹² Recovery of lost industrial capacity may be difficult and may entail high adjustment costs (White, 1992).

increase in exchange controls and tariffs. Lastly, Caballero and Corbo (1989) suggest that excessive fluctuations in the REER can create an uncertain investment climate, and could hamper long-term growth by reducing investment. The question then is: does foreign aid contribute to greater volatility of the real exchange rate?

2.2 Related Literature

2.2.1 Natural Resources and Dutch Disease

The Dutch disease literature typically deals with the effects of a surge in income from natural resources on the real exchange rate and de-industrialization. Over the years, the empirical Dutch disease literature has concluded that a booming natural resources sector does not automatically lead to declining competitiveness in its non-booming traded goods sector.¹³ Van der Ploeg (2011) reviews the experiences of various resource rich countries and finds that most displayed some aspects of Dutch disease (decrease in manufactures, and/or an increase in non-traded goods) when undergoing a natural resource boom.

There is also evidence that inappropriate policies can lead to de-industrialization and dependence on natural resources. Usui (1997), for instance, compares the policy responses of Indonesia and Mexico following the oil price shocks of the 1970s with regard to mitigating the effects of Dutch disease, and finds that Indonesia's non-oil export sector didn't contract during the oil boom, whereas Mexico's did. Usui (1997) points to

¹³ For instance, Benjamin and Devarajan (1989) find that manufacturing was not adversely affected in Cameroon following an increase in oil prices. Davis (1995) finds little evidence of Dutch disease in developing countries with significant mineral resources. Conversely, Ogun (1998) finds that REER volatility and misalignment adversely affected Nigeria's non-oil exports over the period 1960-1990.

Indonesia's fiscal policy and foreign borrowing policies for mitigating the spending effect, as well as its exchange rate policy for counteracting the effects of a real appreciation of the currency. Mexico, in contrast, borrowed heavily and increased spending while the economy was receiving windfall gains from its oil output, amplifying the spending effect. As a result, Mexico had a large real currency appreciation during the boom years and suffered declining non-oil exports and de-industrialization in traditional manufacturing. The contrasting cases of Indonesia and Mexico illustrate the need to consider domestic macro-economic policy variables such as fiscal policy when evaluating the impact of a foreign aid inflow on the real exchange rate.

2.2.2 Foreign Aid and Dutch Disease

The Dutch disease concept has been applied to other types of foreign capital inflows, including foreign aid. There are many studies on foreign aid inflows, real exchange rate appreciation, and de-industrialization. However, there is no consensus within the literature regarding the effect of foreign aid on the REER. As in the case of capital inflows arising from natural resource discoveries, aid inflows do not necessarily cause an appreciation of the exchange rate. Other factors such as those outlined in section 2.1.2.1 will affect the REER and may be more powerful.

Nyoni (1998) studies Tanzania over the period 1967-1993 and finds that aid inflows did not appreciate the real exchange rate or cause deindustrialization.¹⁴ Sackey (2001) examines Ghana during the period 1970-1996 and finds that other factors such as

Likewise, Oomes and Kalcheva (2007) confirm the presence of Dutch disease in Russia following the run up in oil prices after 2002.

¹⁴ Nyoni argues that this period involved significant policy changes, which may have offset the tendency for foreign aid to generate real appreciation.

the terms of trade, government consumption, and commercial policy stance were economically more important than aid inflows in influencing the real exchange rate.

By contrast, Adenauer and Vagassky (1998) find that over the period 1980-1992 aid inflows appreciated the real exchange rate and caused deindustrialization in four West African CFA zone countries. Rajan and Subramanian (2005) find that aid inflows had an adverse effect on the competitiveness of export oriented sectors in a number of developing countries, and that it was caused by an appreciation of the real effective exchange rate. Lartey (2006) studies capital inflows (foreign direct investment as well as aid inflows) in Sub-Saharan Africa from 1980-2000 and finds that both cause REER appreciations, with aid causing a greater appreciation than FDI inflows.

2.2.3 Aid and Volatility of the REER

What matters for the volatility of the real effective exchange rate is not the volatility of aid per se, but whether aid flows cause the real exchange rate to increase or become volatile. If aid is counter-cyclical, it may serve to decrease volatility in the real exchange rate, but if aid is pro-cyclical it may contribute to the volatility of the REER (Adam, 2005).

Pallage and Robe (2001) find that for the vast majority of African recipients, aid flows are very volatile (2 to 3 times as volatile as the recipient's GDP) and highly procyclical. Bulir and Hamann (2002) find that aid flows are more volatile than fiscal revenues and mildly pro-cyclical. These findings suggest that aid may not only be destabilizing, but may also lead to slower economic growth by causing increased volatility of the real exchange rate, and reducing the size of the traded goods sector.

Chapter 3: Analysis

This chapter presents an economic and political background for the countries of interest, and investigates a) the link between foreign aid inflows and the real effective exchange rate; and b) whether the real effective exchange rate contributed to a resource movement within the economy; i.e. Dutch disease.

For this thesis I selected Burkina Faso, The Gambia, Malawi, and Mozambique¹⁵ as case study countries. They exhibit; a) high foreign aid to GDP (aid/GDP) ratios; b) volatile foreign aid inflows; and c) pro-cyclical foreign aid (see Appendix A – Country Selection). The average foreign aid/GDP ratios of the four countries is 27 percent for the period 1980-2010, while the average aid/GDP ratio for Sub-Saharan Africa over the period 1970-1993 was 11 percent (Sachs and Warner, 1995). All of the countries under investigation share a similar economic structure; a workforce that is primarily engaged in subsistence agriculture (75-90 percent), with services and industry concentrated in a few large urban centres. All have poor infrastructure and all have poor natural resource endowments with the exception of Mozambique. All export agricultural products and raw materials, while importing manufactured goods, fuel, and foodstuffs. Appendix B, Figures 5(a) and 5(b) break down output and employment by sector.

I have chosen a case study approach so that I may capture the diverse experiences of these countries. Although there is a high degree of homogeneity with regards to economic structure, there is still a high degree of heterogeneity with regards to policies, and the performance of key sectors. A cross country study would not allow for an in-

depth examination of the countries and would be more likely to have a low degree of internal validity. I now turn to a detailed analysis of the case study countries.

3.1 Burkina Faso

Burkina Faso is one of the poorer countries in the African continent, and has an average foreign aid to GDP ratio of 20 percent or more from 1980 to 2010. A landlocked country in the heart of French West Africa, the Republic of Upper Volta gained full independence from France in 1960. The Republic experienced coups in 1966, 1980, 1982, and 1983, with quasi-democratic elections in 1970 and 1978. In 1983, the National Council of the Revolution (CNR) led by Thomas Sankara, took the country radically to the left, and the following year, changed the name of the country to Burkina Faso (or simply Burkina), roughly translated as the “land of honest people” (U.S. Department of State, 2012a). The CNR’s policies alienated France and some of the country’s neighbours, leading to another coup d’état in 1987 led by Blaise Compaoré, the current president. Compaoré reversed the policies of the CNR, re-aligning the country with its former colonial power and the International Monetary Fund. However, entering his 23rd year in power, Compaoré has restricted political freedoms and has become personally wealthy (U.S. Department of State, 2012a).

As part of the West African Monetary and Economic Union (UMEOA), Burkina Faso uses the CFA West African franc, which is used by most of France’s former colonies in West Africa and is overseen by the French Central Bank.¹⁶ While this

¹⁵ I’ve included Mozambique despite the civil war (1977-1992). It has had exceptionally high and volatile aid flows, and is a large economy that has experienced growth and stability since 1992.

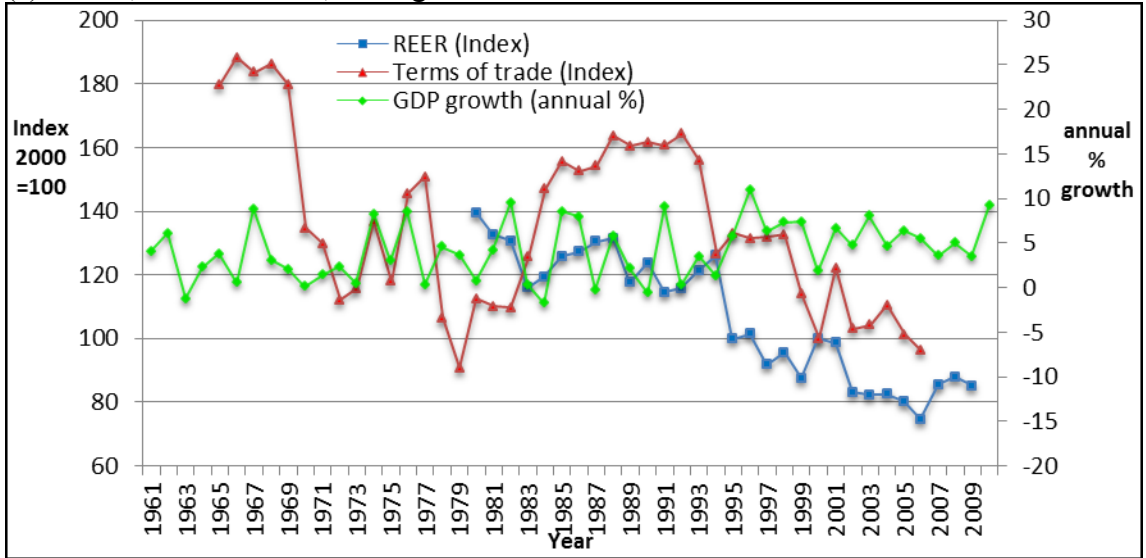
¹⁶ The features of the CFA franc zone are a fixed exchange rate pegged to the French franc /euro (at a value of 50 CFA francs for 1 French franc from 1948 until 1994, and 100 CFA francs for 1 French franc from

exchange rate arrangement eliminates volatility for bilateral trade among the CFA franc zone countries and France, there still is variability between CFA franc zone countries and other countries not pegged to the French franc (euro). Burkina is unique among the four case study countries in that it is the only one that has a fixed exchange rate, and thus doesn't have discretionary monetary policy.

The country relies on oil imports for electricity generation and has no oil or gas of its own. Exports have traditionally been mostly agricultural, with cotton being the most important followed by livestock. Burkina lies in the Sahel eco-region, which is suitable for the production of cotton – a very labour intensive crop – giving the country a comparative advantage in cotton production as the opportunity cost of family labor is very low (Goreaux, 2003 p.14). The cotton sector is dominated by smallholder peasant agriculture, and its critical importance to the economy, as the principal export, the largest employer, and the main source of foreign exchange earnings, means that I will focus on the evolution on this sector in the subsequent analysis. Remittances from Burkinabé working in neighbouring Ivory Coast were an important source of foreign exchange in the 1970s and 1980s, although this has declined since the deterioration of stability in Ivory Coast in the mid-1990s and 2000s.

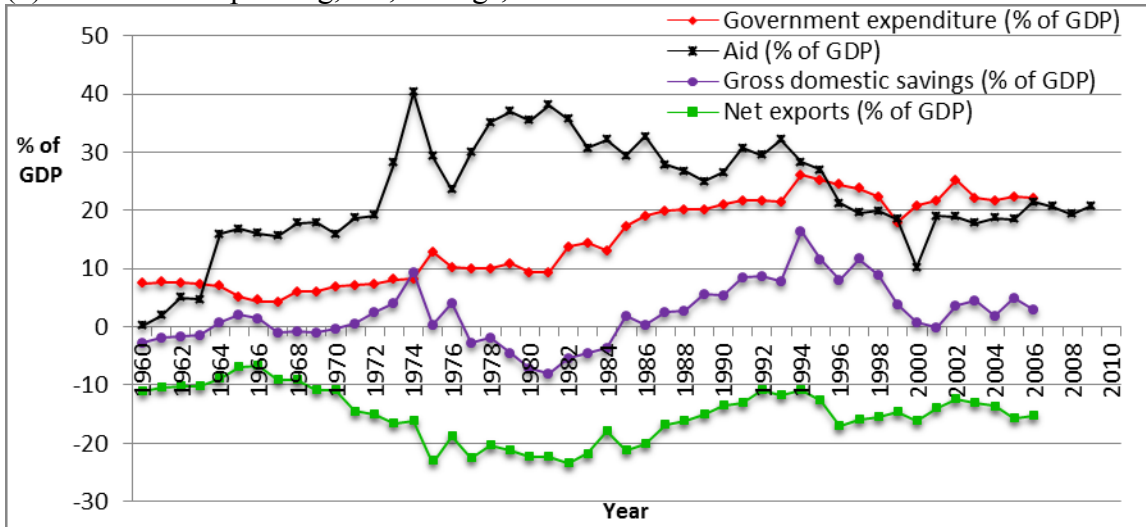
1994 to 1999 when the French franc was replaced by the euro, with the pegged maintained); a fully convertible currency; open trading arrangements; and a relatively disciplined monetary policy (World Bank, 1994).

Figure 1: Burkina Faso
 (a) REER, terms of trade, GDP growth



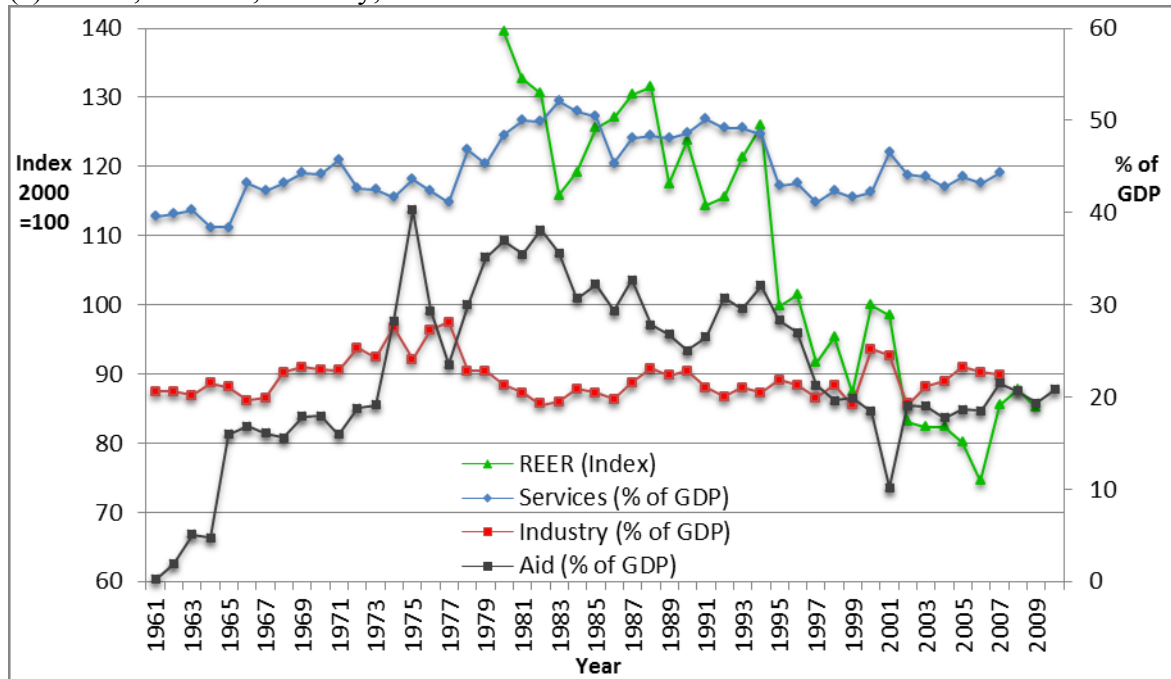
Source: World Bank (2012).

(b) Government spending, aid, savings, trade



Source: World Bank (2012).

(c) REER, services, industry, aid



Source: World Bank (2012).

Political instability and economic nationalism: 1960-1987

Burkina's cotton sector has traditionally been highly controlled, with the parastatal agency, SOFITEX given a monopsony over the cotton crop, as well as responsibilities for providing inputs and credit to farmers. The system had functioned reasonably well with production steadily increasing in the 1960s and 70s, but in the early 1980s high interest rates and a global slowdown in demand brought severe pressures on Burkina's cotton industry. Additionally the global oil price shocks of the 1970s hurt the terms of trade of this oil importing country (see Figure 1 (a)). Political instability increased with coups in 1980, 1982, and 1983 as successive governments failed to ameliorate the situation. In 1983, the radical CNR nationalized all industry in the country, undertook an ambitious agrarian land reform program, and increased price and exchange controls. SOFITEX began to draw more and more resources from the

government, and struggled to pay farmers for their crops and to provide crucial inputs. Inefficiencies and corruption in SOFITEX emerged, and high tax burdens for producers threatened to derail the most important sector in the economy.

Over this period there was an overall upward trend in foreign aid inflows from independence until the early 1980s (the spike in aid as a percentage of GDP in 1972-73 is due to a devastating drought, followed by an increase in aid in the late 70s) and an increasing trade deficit (see Figure 1 (b)). The volatility of foreign aid is highest during this period (1960-86) (see Table 1). The fixed exchange rate of the CFA franc saved the country from the inflation that plagued other countries, but by the late 1980s many argued that the franc was overvalued and hurting domestic exporters (the depreciation of the US dollar following the 1985 Plaza Accord added to this).¹⁷ The economic situation became grave, and relations with the former colonial power France, and Félix Houphouët-Boigny's Ivory Coast (a staunch anti-communist) deteriorated under Sankara, jeopardizing Burkina's main trade routes.

Political stabilization and consultation for reforms: 1987-1994

With the help of France and the United States, Blaise Compaoré overthrew Sankara and the CNR government, and reversed its economic policies. In 1991 the country signed a structural adjustment loan with the IMF, but Compaoré's government undertook reforms very gradually, and its economic programme was drawn up with consultation from trade unions, and other social and professional groups, including cotton growers (Goreaux, 2003). Also in 1991, FENOP – *Fédération Nationale des*

¹⁷ See Devarajan (1997); Kappel (1993).

Organisations Paysannes – the first cotton growers union was established, giving voice and political weight to the thousands of small shareholder cotton producers. The World Bank protested at the slow pace (viewing it as obstructionist), however Compaoré had seen hasty governments overthrown repeatedly in the early ‘80s, and the government took its time in laying the groundwork for the reform process, making sure to secure the approval of the major stakeholders. The government did not implement the sharp budget cuts typically seen in other African countries that signed on to IMF structural adjustment programmes. Indeed, government spending as a percentage of GDP actually grew after 1987 (Figure 1 (b)).

Gradual reforms and the growth of cotton output: 1994-present

In 1994 the CFA franc – which had had the same peg to the French franc since 1948 – was devalued 50 percent. At the same time, import trade barriers were relaxed. Exports experienced an increase (although imports increased even more, so that net exports actually decreased) and services value added decreased as a percentage of GDP, suggesting that the nominal devaluation caused a resource movement within the economy (Figure 1 (c)). The devaluation event marks an improvement in GDP growth, and serves to separate this period from the previous one. Another important development coinciding with this third period was the deterioration of conditions in neighbouring Ivory Coast following the death of the long serving Félix Houphouët-Boigny in 1993, leading many Burkinabé to return home.

Reforms to the cotton sector were undertaken gradually so as not to disrupt key elements of the supply chain. In 1996 the government created the UNPCB – *Union*

Nationale des Producteurs de Coton du Burkina Faso – as a more government friendly cotton growers union. In 1999, SOFITEX was partially privatized when the government sold half its shares to producers. From 2002-06 responsibility for input provision was gradually shifted from SOFITEX and the government to the UNPCB (Kaminski, Headey, and Bernard, 2010), and in 2004 private transport firms entered the supply chain.

In the late 2000s Burkina surpassed Mali to become Africa's largest producer of cotton. This increase in cotton output was achieved by an extensive increase in rural land use and population growth, with little increase in imported mechanical inputs (Kaminski and Thomas, 2008). The area under cotton cultivation grew rapidly for two reasons; an influx of farmers from neighboring Ivory Coast, and reforms to the cotton sector which gave farmers more control and a greater say in how the sector is run, increasing the attractiveness of cotton cultivation. Although cotton prices decreased during this time (reaching an all-time low in 2001-02), the percentage of the export price paid to farmers increased over the period, so that the earning to farmers did not decline (Kaminski and Thomas, 2008). Thus the deteriorating terms of trade facing cotton farmers was mostly offset. Critically, the rapid expansion of cotton cultivation did not come at the expense of food crops (Goreaux, 2003). Goreaux (2003), Kaminski and Thomas (2008), and Kaminski, Headey, and Bernard (2010) all credit the reform process as the most important cause of the increase in cotton production seen in Burkina since the mid-1990s.

Foreign aid as a percentage of GDP during this period has decreased due to strong GDP growth (see Table 1 below). Debt forgiveness (which is included in foreign aid) has increased, notably due to Burkina's participation and completion of the Heavily Indebted

Poor Country (HIPC) program.¹⁸ Debt service payments peaked in 1994, at 2.26 percent of GDP, but declined steadily thereafter, to around half a percent of GDP in 2009.

Table 1: Key indicators by period – Burkina Faso

	1960-1986	1987-1994	1995-2009	1960-2009
GDP growth rate, %	3.53	2.65	6.05	4.21
Terms of trade	139.61	155.90	115.16	135.72
Foreign aid/GDP, %	23.1	28.4	19.5	22.8
Stdev foreign aid/GDP	0.12	0.02	0.03	0.09
Stdev REER	7.45	6.09	8.05	19.42

Source: World Bank (2012).

Note: Terms of trade index, 2000=100, Stdev means standard deviation.

Foreign aid flows and the real effective exchange rate

Real effective exchange rate data for Burkina doesn't start until 1980, but other indicators pre-1980 (namely government spending and net exports, Figure 1(b)) suggest that increases in foreign aid were *not* associated with an appreciated real exchange rate. Government spending as a percent of GDP stayed relatively flat, and imports increased, suggesting that aid was primarily funding imports and not going towards non-traded public sector services. However, when REER data begins, aid and the real effective exchange rate are highly correlated with a coefficient of 0.84 (see Table 2 below). From 1980 onwards, there is a general downward trajectory of both the REER and aid inflows. Interestingly, this real depreciation happened despite the increase in government expenditure as a percentage of GDP. Also of note is the decrease in the trade deficit from the mid-1980s until the mid-1990s. The increase in government expenditure, and

¹⁸ Debt relief under the HIPC initiative requires that (a) the country establishes a track record of good performance under programs supported by loans from the IMF and the World Bank; (b) implement

decrease in the trade deficit, suggests that foreign aid inflows were going towards funding government expenditures and not as much was going toward purchasing imported goods. The fact then that the real exchange rate depreciates over this period is puzzling; even after accounting for the large depreciation in 1994 (following the nominal devaluation), the real value of the currency tends to decline over the period.

The real effective exchange rate and de-industrialization

Table 2 shows the correlation between the real exchange rate and the size of the industrial, export, and service sectors. The signs of the coefficients for industry and net exports indicate that an appreciation in the real exchange rate is associated with a decrease in share of output of these sectors (or conversely, that a depreciation of the REER is associated with the growth of these sectors). Similarly, the positive sign for the service sector indicates a positive relationship between the size of the service sector and the real value of the currency. Services are very closely correlated with the REER, suggesting that the real exchange rate is associated with a resource movement effect into the services sector, yet the correlation of the real exchange rate with industry's share of output is low, which suggests that a rising share of services is not occurring to the detriment of industrial or export oriented sectors. One possibility is that the service sector growth relies on employment creation. The extremely low correlation of net exports and the real effective exchange rate may be due to the importance of the structural and institutional reforms undertaken in the cotton sector, as well as to external

satisfactorily key reforms agreed to when the country was approved for eligibility; and (c) commit to reducing poverty through implementation of a domestically drawn up poverty reduction strategy.

factors (the growth of the rural population and influx of refugees from Ivory Coast) in affecting levels of imports and exports, and not the REER.

Table 2: Correlations of the REER with aid, exports, services, and industry

Burkina Faso	
n=28	
Aid (percent of GDP)	.84
Industry (share of output)	-.18
Services (share of output)	.78
Net exports (share of GDP)	-.05

Overall, it seems that foreign aid was being spent to a significant degree on non-traded services, notably through funding the expansion of government services, suggesting that this aspect of Dutch disease (the expansion of the service sector) was present. However, the real value of the currency depreciated despite the expansion in the size of government, suggesting that the policy and monetary changes outlined above caused a greater real depreciation. The effect of the REER on the performance of exports is not clear as the cotton sector was undergoing significant structural changes due to sectoral reforms and the population influx from Ivory Coast.

3.2 *The Gambia*

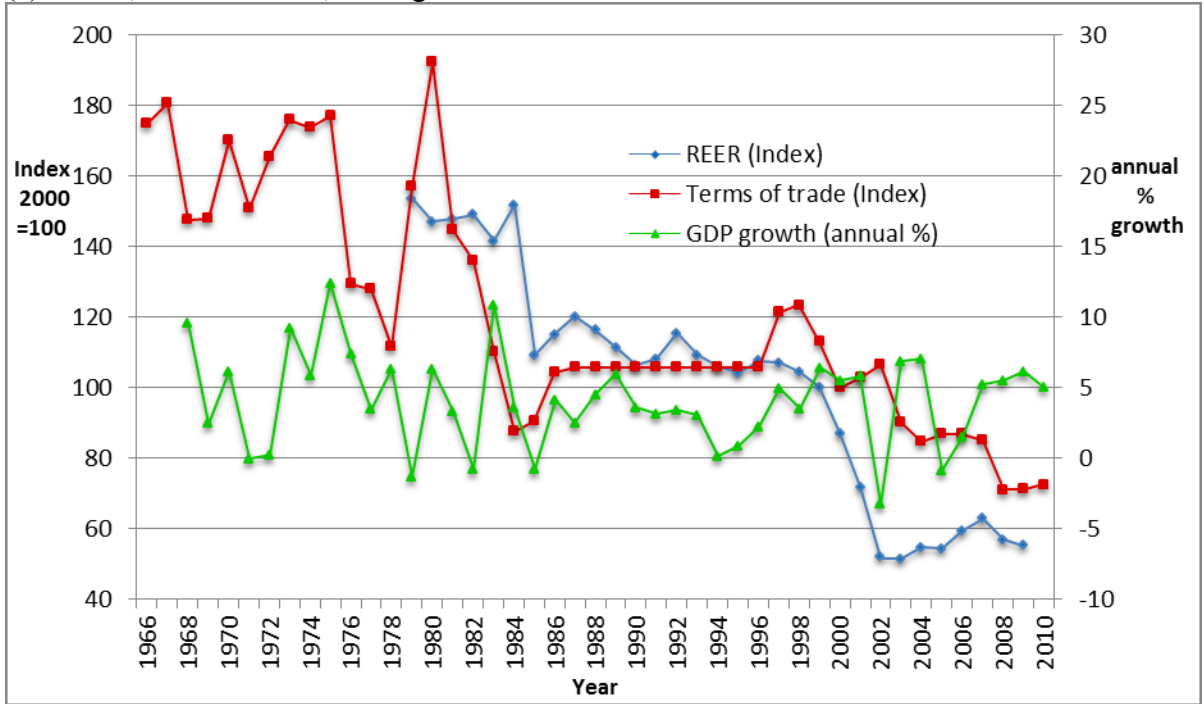
The Gambia (or simply Gambia) has the highest degree of pro-cyclicality in its foreign aid inflows out of the four countries examined. It is also by far the smallest country in terms of its geography, population, and economy. Situated around the Gambia river in West Africa and surrounded on three sides by Senegal with a small coastline on the Atlantic Ocean, the country gained independence from the UK in 1965 and was led

by Dawda Jawara, who dominated post-independence politics, staying in office until 1994. Jawara's rule was relatively stable, except for two events; a failed coup in 1981, resulting in Senegalese intervention, helping restore Jawara to power; and a second successful coup led by disgruntled military officers that deposed Jawara in 1994. Power passed to Yahya Jammeh, who has ruled since, winning elections in 1996, 2001, 2006, and 2011. International observers have deemed the latest elections to be generally free and fair (U.S. Department of State, 2012b). Overall, Gambia's independence has been relatively stable, and free from conflict.

Gambia has traditionally been dependent on agriculture, and the re-export of goods to neighboring countries. However, in the 1980s with the decline and stagnation of agriculture and the growth tourism, the service sector has become the major source of growth in the country. Therefore, I will focus on agriculture as the main traded goods producing sector, but will also discuss how the service sector has shaped Gambia's growth since the late 1980s.

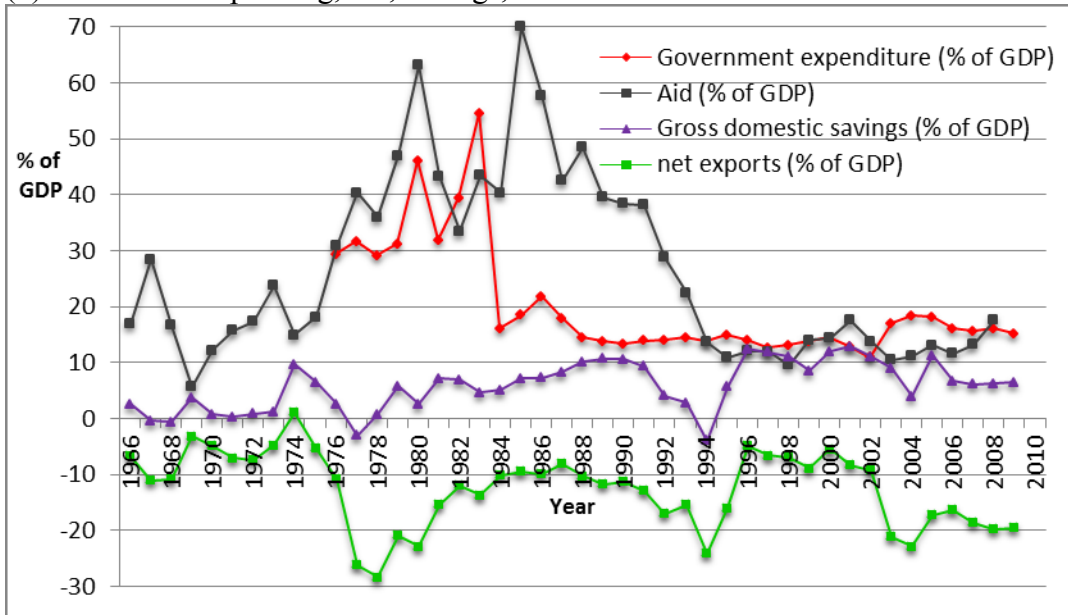
The country relies on imports of food and fuel, as there is no oil and the agriculture sector only produces about half of the country's food requirements. Capital goods and manufactures are also imported. Exports are almost entirely agricultural, the most important being groundnuts.

Figure 2: The Gambia
 (a) REER, terms of trade, GDP growth



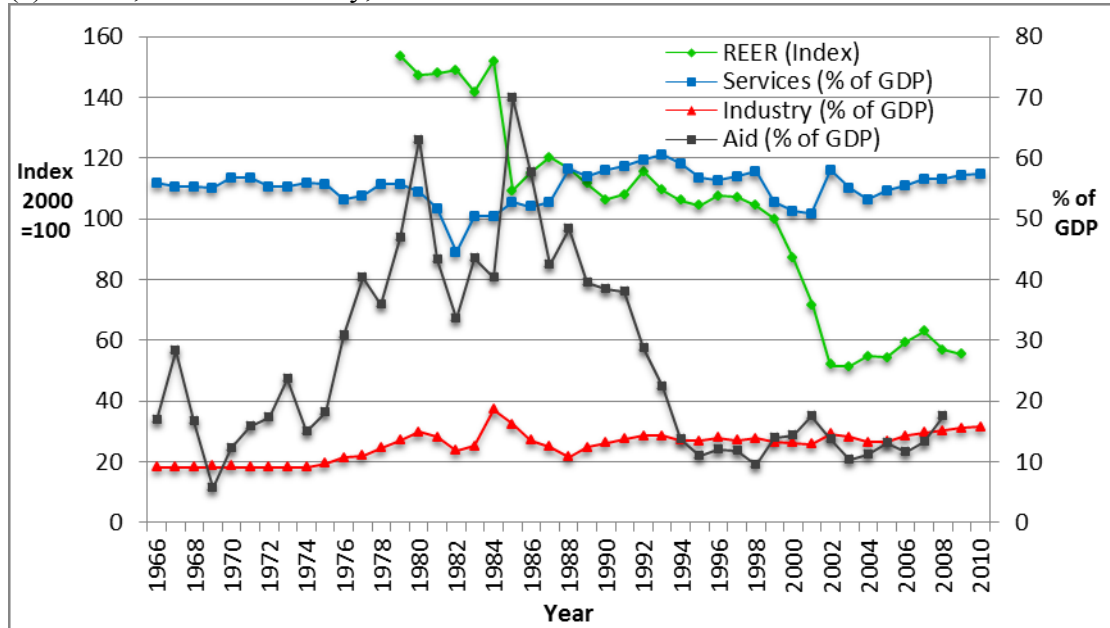
Source: World Bank (2012).

(b) Government spending, aid, savings, trade



Source: World Bank (2012).

(c) REER, services industry, aid



Source: World Bank (2012).

Growth, decline, and state control: 1965-1985

After independence, Gambia had fairly strong and consistent GDP growth (see Figure 2 (a)). International prices for groundnuts (the principle export) rose in the early 1970s, bolstering export earnings. The production and marketing of groundnuts is the backbone of the agricultural sector, and up until the late 1970s, accounted more than 20 percent of GDP (McPherson and Radelet, 1995). Two parastatal firms – the Gambia Produce Marketing Board (GPMB), and the Gambia Cooperatives Union (GCU) – held monopolies in the input markets and, output and export markets. The GPMB taxed agriculture exports (groundnuts) by paying farmers a fraction of the export price (Sallah, 1990). The success of groundnut production enabled the newly independent Government to continue with the colonial strategy of siphoning off the so-called ‘agricultural surplus’, which was then directed to other sectors of the economy.

This system functioned reasonably well when external factors were favorable for the agriculture sector (notably favorable weather conditions, and high prices for groundnuts). However, things began to worsen in the late 1970s. The terms of trade deteriorated due to the oil price shock in 1979 and the collapse of groundnut prices in the early 1980s (see Figure 2 (a)), hurting the balance of payments of this oil-importing country. Additionally, poor rains in the Sahel hurt groundnut production. The surplus from the agricultural sector disappeared, and the GPMB and GCU began to borrow heavily from the Central Bank and draw on government resources – worsening the Government’s fiscal position (see Figure 2 (b)), and draining foreign exchange from the Central Bank’s reserves. The GPMB maintained the high price it paid to farmers seen in the good years, and the GCU began to subsidize the cost of fertilizer causing financial ruin of these institutions. The delivery system of inputs began to break down as the two principal institutions responsible for their distribution were virtually insolvent (Hadjimichael, Rumbaugh, and Verreydt, 1992). Furthermore, bad weather in 1982 and ‘85 induced farmers to switch out of groundnut production and into food crops due to food security concerns (McPherson and Radelet, 1995). McPherson and Radelet (1995) report that farmers developed a deep mistrust and cynicism about government supported activities in agriculture because such interventions were often politicized and ineffective. Also in the late 1970s, the government drastically expanded the size of the civil service, adding over 4,500 new posts between 1975 and 1980 (see Figure 2 (b)) – a substantial increase for a small country (Sallah, 1990). This led the Gambian *dalasi* to be highly overvalued, adding an additional burden to domestic producers of exportable goods, including farmers.

Structural adjustment, stagnation of agriculture and growth of services: 1985-1994

By 1985 the country could no longer service its debts, and required assistance. An IMF and World Bank-financed economic programme instituted policies that caused a substantial drop in the real exchange rate in 1985-86. The program included: a) the removal of price controls; b) a devaluation of the nominal exchange rate of The Gambian *dalasi* by 120% – a move which eliminated the secondary exchange market; and c) drastic cuts in government expenditures which brought government spending as a percentage of GDP down to under 20 percent in 1985 from around 50 percent the year before (Sallah, 1990). These three factors helped lead to a real depreciation compared to the levels seen in the early 1980s (see Figure 2 (c)).

A notable exception to the removal of price controls was a large (but short-lived) subsidy to groundnut production introduced in 1986 in an effort to encourage farmers out of producing food crops and into exportable crops. The IMF and World Bank were concerned with improving Gambia's export earnings (as these would be used to repay the loans made by the IMF and World Bank). This subsidy was very costly and eliminated by 1989, but it was successful in rehabilitating groundnut production somewhat while not hurting food production (McPherson and Radelet, 1995).

The monopolies held by the parastatals in the input and export markets were eliminated in 1986 and 1990 respectively (Hadjimichael, Rumbaugh and Verreydt, 1992). However, the response by private entrepreneurs to the opening up of the fertilizer

subsector was limited. Nagarajan and Meyer (1995) attribute this to the uncertainties of fertilizer demand, and the limited access private entrepreneurs had to capital. As a result, the GCU has stepped back into the fertilizer market. Similarly, the export market for agricultural products remained under-serviced by the private sector. The GPMB was privatized in 1993, but this move did not result in increased competition in the export of agricultural products – the public monopoly was more or less replaced by a private monopoly (McKay, 2004). The costs of collection, storage, and transport and the limited amount of capital available to finance activities in this sector proved to be significant barriers (McPherson and Radelet, 1995).

In contrast to the woes of the agriculture sector, the tourism and re-export sectors of the economy performed well. Gambia's access to maritime trade routes and the deep water port in Banjul combined with a newly liberalized import regime allowed the country emerge as a major entry point of imported goods which are then re-exported to the whole region. In 1990/91 re-exports alone account for 31 percent of GDP (McKay, 2005). The devaluation of the CFA franc in 1994 has hurt this somewhat, but the re-exporting of goods remains significant. The service sector grew significantly during this time, in part due to the growth of tourism (see Figure 2 (c)). According to Hadjimichael, Rumbaugh and Verreydt (1992), the number of tourists doubled between 1985 and 1992. As such, the tourism sector has replaced groundnut exports as the largest earner of foreign exchange. Foreign direct investment related to the tourist and hospitality sectors has grown alongside the increase in visitors. The tourist and re-export sectors attracted the bulk of private credit in the country following the implementation of the economic recovery programme of 1985-86 (Hadjimichael, Rumbaugh, and Verreydt, 1992).

Political change, stalled reforms, and a return to growth: 1994-present

This period is distinct from the previous one mostly due to the passing of power from the 30 year rule (1965-1994) of Dawda Jawara to Yayha Jammeh, and the slowing of the reform agenda. The basic trajectory of growth of the main sectors remains largely unchanged from the previous period. Agriculture remains largely stagnant, while the growth of tourism has continued until recently, helped by foreign direct investment. Gambia's advantage in the re-export trade has gradually been eroded because of the devaluation of the CFA franc, and because its neighbours have gradually improved their infrastructure and liberalized their own trade policies (African Development Bank, 2012). Between 1998 and 2000 Gambia significantly lowered its tariffs, in an attempt to maintain its preferred position as entry point of imported goods to the region, although tariffs on agricultural imports remain high reflecting the government's desire to stimulate domestic production (McKay, 2004). Privatization of public enterprises has generally stalled and the GPMB was re-nationalized in 1999. Despite having completed the Heavily Indebted Poor Countries (HIPC) initiative in 2007, the country remains highly indebted and is still vulnerable to changes in prices due to a poorly diversified export base. The African Development Bank (2012) reports that 22.5 percent of public revenues went towards debt service payments in 2011.

Table 3: Key indicators by period – The Gambia

	1967-1984	1985-1994	1995-2010	1967-2010
GDP growth rate, %	4.99	2.93	3.89	4.10
Terms of trade	149.34	104.27	95.58	119.55
Foreign aid/GDP, %	29.5	40.1	12.9	26.5
Stdev foreign aid/GDP	0.14	0.16	0.02	0.16
Stdev REER	3.82	4.53	22.54	32.41

Source: World Bank (2012).

Note: Terms of trade index, 2000=100, Stdev means standard deviation.

Aid flows and the real effective exchange rate

The large increase in aid flows beginning in the late 1970s coincides with a substantial increase in government spending, putting upward pressure on domestic wages and prices, leading to a real appreciation. At the same time, the country experienced a widening of the trade deficit, due to increased imports. While it is difficult to say whether the foreign aid inflow was responsible for the rise in government spending, it certainly facilitated it. Increases in government borrowing from private banks also enabled the fiscal expansion and the widening of the trade deficit.

Real exchange rate data becomes available from 1979 onwards. The Gambia's real effective exchange rate is associated with changes in foreign aid inflows (the correlation between foreign aid and the REER is 0.67; Table 4 below). This high correlation suggests that the spending effects created by the foreign aid inflow put upward pressure on the prices of non-traded goods and services. However, aid flows were often tied to a reform program (especially during the second period). The large spike in aid as a percentage of GDP that occurred in 1985 is the same year that the country signed onto the IMF's Economic Recovery Programme, and received concessionary loans from the Fund (which are included as foreign aid), and is thus also accompanied by a drastic cut in government spending and the other elements of the ERP. The cuts tend to cause the real effective exchange rate to depreciate. Foreign aid flows dropped off significantly in the early 1990s, putting downward pressure on the real effective exchange rate, although a real depreciation didn't occur until the later part of the

decade, suggesting that the changes to trade policy made between 1998 and 2000 were the main cause in depreciating the REER. Of course it is possible that the drop in aid contributed to the real depreciation in the late 1990s, but that the downward adjustment of prices takes a longer period of time than an increase in prices.

These two movements in the real exchange rate (1985 and 1999-2002) coincide with major changes in policy, and not changes in aid flows. In fact the 1985 depreciation comes during a massive *increase* in aid inflows. This suggests that aid flows have not, in and of themselves alone, been responsible for the two large depreciations in the REER.

REER appreciation and de-industrialization

Table 4 shows the correlation results for the real effective exchange rate with aid, the industry, export, and service sectors. The coefficients for services and industry are negative and the coefficient for net exports is positive. These imply that in the case of Gambia a relatively undervalued real effective exchange rate is associated with a larger services sector and a larger trade deficit. The link between the real exchange rate and net exports in The Gambia is not clear. A persistent trade deficit developed in 1977, suggesting that the currency was overvalued during this period and holding back the performance of the export sector (as it certainly was a hindrance on the groundnut subsector). The real devaluation that accompanied the IMF/World Bank Economic Recovery Programme in 1985 resulted in a gradual decrease in net exports (a larger trade deficit). This is unexpected, as an improvement in the macroeconomic environment (including more trade openness and a real depreciation) should benefit export oriented industries. Likewise, the real depreciation from 1999-2002 coincided with higher trade

deficits. One explanation could be that regaining lost competitiveness is very difficult; as the economy emerged from the period of structural adjustment, export oriented industries were unable to grow at the same rate – which is certainly true of the lacklustre performance of the agriculture sector.

Table 4: Correlations of the REER with aid, exports, services, and industry

The Gambia	
n=31	
Aid (percent of GDP)	.67
Industry (share of output)	-.06
Services (share of output)	-.29
Net exports (share of GDP)	.17

Before the implementation of the economic recovery programme, aid appears to have caused a real appreciation mainly by enabling the expansion of government services. However, after 1985, the link between aid and the real effective exchange rate seems to have been cut by the structural adjustment reforms. Changes in the REER appear to be driven by the fiscal retrenchment in 1983/84(see Figure 2 (b)) and the trade liberalization in the late 1990s. The REER’s influence on the performance of the industrial and export sectors appears to be overshadowed by the importance of the structural adjustment programme, as evidenced by the low correlations between the REER and net exports and the industrial sector’s share of output.

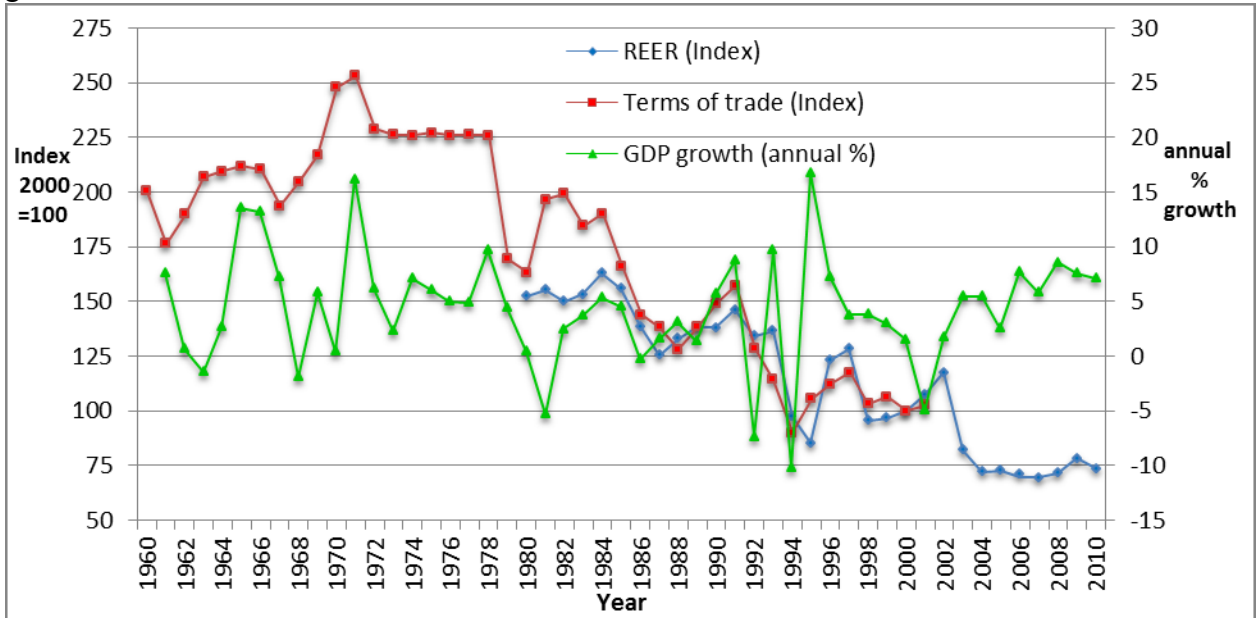
3.3 Malawi

Malawi’s relative stability has made it a favorite among international aid donors. Since 1974, foreign aid as a percentage of GDP has never dropped below 20 percent. A

small, densely populated, landlocked country in southern Africa, Malawi gained independence from Britain in 1964. Malawi's first president, Hastings Banda dominated post-independence politics. He stayed in office until 1994 when the first multi-party elections were held following intense pressure from within Malawi and the international community. Two different political parties have held power since, with peaceful and orderly transitions. Like Gambia, Malawi has enjoyed peace and stability since its independence. According to Chilowa (1999), a rapidly growing population and a narrow resource base are the most serious challenges facing Malawi's economy.

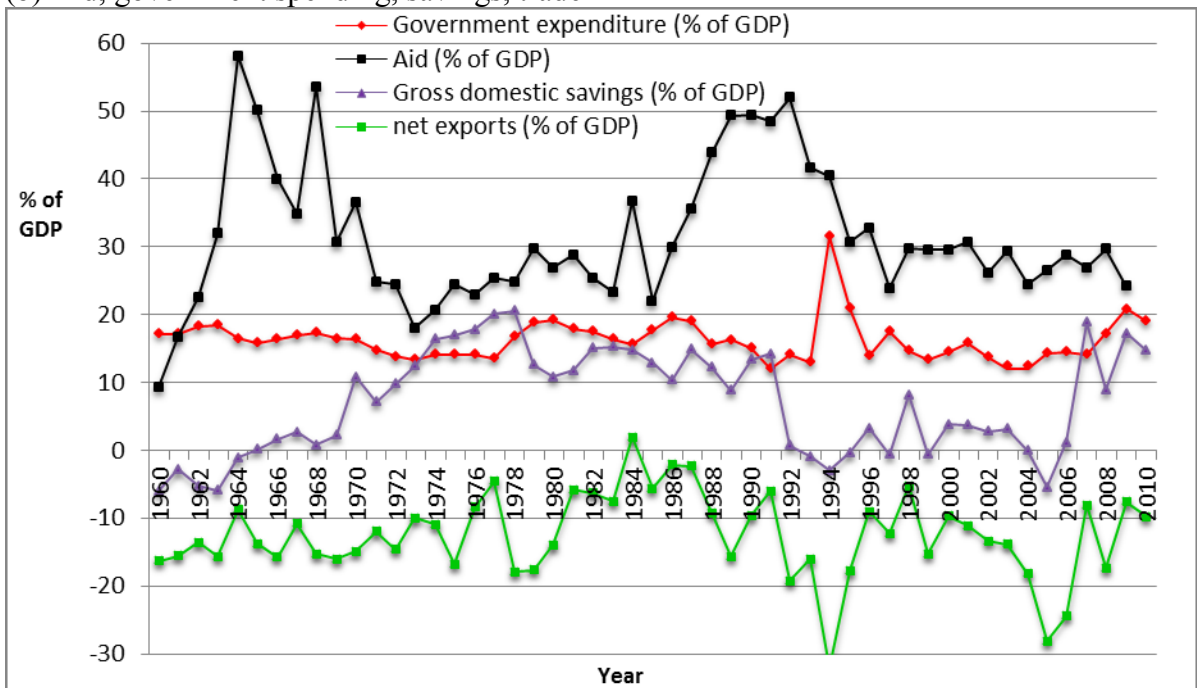
The economy is heavily dependent on agriculture. It is the source of 90 percent of export revenues, with tobacco being the dominant cash crop, accounting for half of agriculture exports (CIA World Factbook, 2012d). The country imports food, petroleum, manufactures and capital goods. 85 percent of the population is rural, with 80 percent of the total workforce employed in agriculture, which accounts for about one third of GDP. 80 percent of farms are smallholder family farms, with the remaining 20 percent being large commercial estates (Harrigan and Mosley, 1991). The estates produce cash crops for export, while the smallholders mostly produce food crops for subsistence (maize being the staple food crop). The smallholder sector's share of exports has shrunk from 60 percent of agricultural exports in the 1960s to 5 percent in the late 1990s due to the rapid growth of the estate sector (Kherallah and Govindan, 1999). Because the agricultural sector is so important in the Malawian economy, I will focus on this sector in the subsequent analysis.

Figure 3: Malawi
 (a) REER, terms of trade, growth



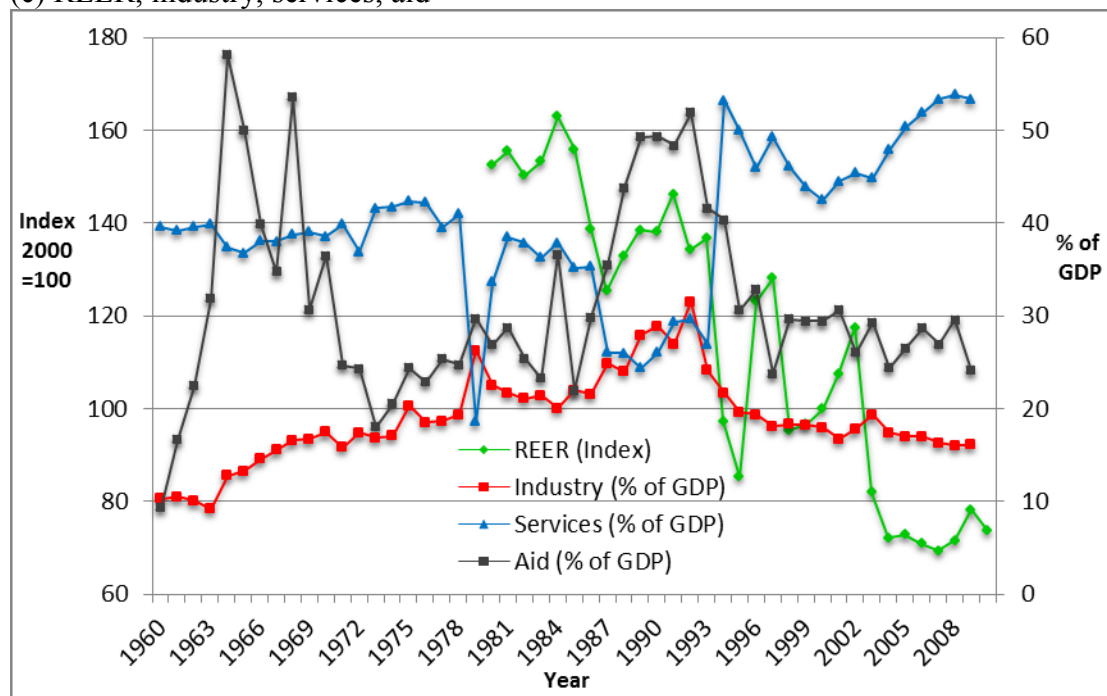
Source: World Bank (2012).

(b) Aid, government spending, savings, trade



Source: World Bank (2012).

(c) REER, industry, services, aid



Source: World Bank (2012).

Agriculture sector duality and state control: 1964-1981

From the country's independence in 1964 until the late 1970s, the Malawian economy performed well with strong growth rates in key areas such as exports and productivity, and a favorable balance of payments (Chilowa, 1999). The government had two principle objectives with regards to agriculture: to develop a strong export-oriented estate sector, and to achieve self-sufficiency in domestic food production. Food self-sufficiency fulfilled populist pledges of economic independence and helped economically, because imported maize was expensive due to significant transport costs in the landlocked and infrastructure-poor country.

To achieve these objectives, the smallholder sub-sector was highly controlled, with the parastatal Agriculture Development and Marketing Corporation (ADMARC)

being the sole distributor of key inputs such as fertilizer, as well as the only buyer of output from smallholder farmers (Kherallah and Govindan, 1999). ADMARC provided inputs at subsidized rates to smallholders, and announced guaranteed fixed prices for key crops before the planting season (Smith, 1995). The prices offered to smallholder farmers by ADMARC were below the market rate, enabling the parastatal to extract a surplus from the exports of smallholders. This surplus was put to three main uses: to subsidize the inputs provided to smallholders; to subsidize the consumer price of maize; and to develop the export-oriented estate sector. In this way, ADMARC fulfilled the government's twin goals of food self-sufficiency, and increased agricultural exports.

The dual nature of the agriculture sector was reinforced by allowing the estate sector to freely produce and market its products, while the smallholder sector was restricted with respect to choices of crops, access to inputs and marketing opportunities (Smith, 1995). As a result of these advantages, the estate sector grew at a remarkable annual average rate of 17%, while the smallholder sector plodded along at 3 percent (Harrigan 2003). The smallholder sector received little attention from the state, so long as it was able to produce enough food to satisfy the nation's needs, which it was able to do from independence until the early 1980s.

A series of exogenous shocks disrupted economic growth in the late 1970s and early 80s. As an oil importing country, Malawi faced a worsening terms of trade with the oil price shock of 1979 (see Figure 3 (a)). Declining tobacco prices and a severe recession in the developed countries also hurt Malawi's export earnings. The worsening civil war in neighbouring Mozambique (which has the key transportation routes to international markets for Malawi) further added to the country's economic problems.

ADMARC's earnings fell, and the costs of transportation and fertilizer rose, leading the parastatal to draw heavily on government resources. The Malawian government turned for assistance to the World Bank, which provided a series of Structural Adjustment Loans beginning in 1981.

Liberalization and market failures: 1981-1994

This was a period of relative hardship, as not only had the country's economic growth stalled (see Table 5 below), but Malawi's long vaunted food security began to unravel, and the country faced famine conditions in 1987 and experienced severe food shortages in 1991 and '93. The opinion of the World Bank was that Malawi's growth potential was being held back by the tight control the state exerted over the smallholder peasant sector (World Bank, 1981). It argued that the smallholder sector should be allowed and encouraged to produce cash crops, and that the input and output markets for smallholders be turned over to the private sector. The Bank believed that this would provide the impetus for faster productivity growth of smallholder farms, and restore economic growth.

The first structural adjustment loan from the World Bank came in 1981, and in return Malawi agreed to liberalize agriculture prices, reduce ADMARC's activities and permit private actors into the smallholder input and output markets, and to pursue a more flexible exchange rate policy (allow the nominal depreciation of the Malawian *kwacha*).

"Getting prices right" was viewed as critical by the Bank, and in 1983 ADMARC raised the price paid to smallholder producers by 53 percent, but maintained the lower domestic consumer price of maize (raising consumer prices would have been politically

very difficult). By 1985/86 prices paid to smallholders for export crops had risen to parity levels (Chilowa, 1999). This led to a loss of income for ADMARC, and had a deleterious effect on the parastatal's ability to maintain its supply chain for smallholder output and inputs (Chilowa, 1999). Fertilizer subsidies were also scaled back, falling from 30.5% in 1983/84 to 19.8% in 1987/88 (World Bank, 1995). This helped ADMARC's finances, and also brought the price paid by smallholders for fertilizer closer to the market price.

The next step in restructuring Malawi's agriculture sector involved rolling back the activities of ADMARC and allowing private actors to enter into markets previously monopolized by the parastatal. In 1987 smallholders were permitted to sell their output to private traders, and in 1990 private traders were allowed to enter the input markets for smallholders (Chilowa, 1999). After 1987, ADMARC began to close its smaller crop collection depots (those that handled under 60 tonnes annually), with the goal that the parastatal would become "a buyer and seller of last resort and a commercial, self-sufficient organization" (Smith 1995, p. 5). However, as Chilowa (1999) points out, this rationalization closed markets in remote areas inaccessible to private traders, leaving mostly smallholders in these areas with no access to markets.

Several policy changes implemented in the early 1980s caused domestic food supplies to decline, bottoming out in 1987 when bad weather pushed the country into famine conditions. Firstly, the cost of imported inputs (including fertilizer) rose due to the devaluation of the *kwacha* and the worsening war in neighbouring Mozambique, (which cut off key transportation routes) and by the reduction in subsidies. Secondly, the price paid to smallholders for cash crops increased more than the price of food crops, and

smallholders began switching away from producing food crops towards the more lucrative cash crops. Thirdly, as mentioned, the loss of market access by remote smallholders brought about by ADMARC's closure of its small collection depots reduced the supply available to the parastatal and exacerbated regional disparities in food supply (Chilowa, 1999). Foreign aid inflows as a percent of GDP increased substantially (see Figure 3 (b)).

Following the decline in food production and the famine in 1987, there was a reversal of some policies. The World Bank acknowledged the failures of the first round of liberalizations, and provided a second structural adjustment loan in 1987. The government increased fertilizer subsidies for smallholders back to their pre-reform level, and ADMARC re-entered some remote markets where private traders had failed to materialize. It had become apparent that the private sector was unable to take over all the services that ADMARC had offered as private traders faced several impediments: the inability to access capital; inadequate infrastructure (storage facilities and other fixed capital); high transportation costs; and export restrictions (Harrigan and Mosley, 1991). The liberalizing agenda continued in the areas of interest rates, and in output marketing (Kherallah and Govindan, 1999).

The performance of Malawi's economy during this period was hurt by several external factors (high world interest rates, the slowdown in global demand, and the civil war in Mozambique), but the poor performance of the agriculture sector can be more directly tied to policy decisions. Harrigan (1991), (2003), Smith (1995), and Kherallah and Govindan (1999) find fault with the liberalizing initiatives of the early 80s in this regard. Kherallah and Govindan (1999) report that the growth of the agriculture sector in

Malawi was very sluggish from 1980-1994, growing at an average rate of 1.6 percent per year, compared with a population growth rate of 3.1 percent annually.

Divergent policy positions and return to growth: 1994-present

This period coincides with Malawi's transition to democracy following the long rule (1964-1994) of Hastings Banda and the Malawi Congress Party. The reform process continued, but took on a political tone, and a schism developed between the subsequent Malawi governments and the World Bank. This period can also be differentiated from the previous by the improvement in external factors and a turnaround in economic growth.

Harrigan (2003) reports that the Government and the Bank had been diverging in their stances on appropriate agriculture policy; the government's position was that the state should intervene in agricultural markets in order to achieve domestic food security (i.e. food self-sufficiency), while the Bank's position was that prices should be determined freely by the market, and the state withdraw from input and output markets leaving them to the private sector. In this way the two sides retreated back to their initial positions; the Government moving towards the interventionism and state control of the 1970s, and the Bank reverting back to its "state minimalism of the early 1980s" (Harrigan 2003, p. 2). Since the transition towards multi-party democracy, political parties in Malawi have campaigned on promises to ensure the nation's food security, and the policies enacted to achieve this goal have run counter to those prescribed by the Bank.

The emphasis on food security is reflected in policy. By 1996 all smallholder input and output markets were fully liberalized – except for maize, the staple food crop

(Chilowa, 1999). External trade was curtailed by the government, with exports only permitted if domestic food supplies were adequate (Ellis and Manda, 2012). Likewise, prices for maize are controlled in the form of a floor price for producers and a ceiling price for consumers, while all other smallholder crop prices are free to fluctuate based on market conditions (Kheralla and Govindan, 1999). ADMARC still acts as a buyer of last resort for maize, as well as manager of strategic reserves, and although private traders can operate in other crop markets, ADMARC remains the dominant player (Kherallah and Govindan, 1999). According to Ellis and Manda (2012), the parastatal has “undergone a renaissance” in the 2000s both as a buyer of smallholder output and as a supplier of fertilizer to farmers.

Subsidies for maize fertilizer were phased out between 1993 and 1996, but brought back in 2005. Before 2005, Malawi was not producing enough maize to satisfy domestic consumption, but after 2005 has produced consistent surpluses. Ellis and Manda (2012), and Dorward, et al (2008) attribute this to the return of the subsidy.

The improvement of external conditions during this period also serves to separate it from the somewhat dismal state of affairs that had prevailed previously. The civil war in neighbouring Mozambique ended in 1992, opening up trade routes, markets, and ending a significant source of instability and conflict. The refugees that had come to Malawi could return to their country, decreasing the domestic food production requirements (Ellis and Manda, 2012). Foreign aid dropped off from the peaks seen during the food crisis in the late 1980s, but remains significant at around 25-30 percent of GDP. The real exchange rate continued to depreciate in the 1990s, but has levelled off since 2003 (Figure 3 (c)).

Table 5: Key indicators by period - Malawi

	1964-1980	1981-1994	1995-2010	1964-2010
GDP growth rate, %	6.10	1.67	5.22	4.48
Terms of trade	215.68	151.76	106.76	172.07
Foreign aid/GDP, %	32.1	37.6	28.1	32.5
Stdev foreign aid/GDP	0.12	0.09	0.02	0.09
Stdev REER	n/a	15.76	19.41	30.70

Source: World Bank (2012).

Note: Terms of trade index, 2000=100, Stdev means standard deviation.

Foreign aid flows and the real exchange rate

Changes in Malawi's real exchange rate do not follow changes in foreign aid flows – the correlation between the two variables is 0.30, the lowest value of the four countries (see Table 6 below). Foreign aid inflows were significantly higher in the 1960s and in the late 1980s early 1990s; the second surge is most likely due to the famine conditions and food insecurity that faced the country during that time and was likely spent on imported emergency food and would not affect the REER. The real effective exchange rate depreciates generally from its high starting point in 1980, experiencing large depreciations in 1985, 1992, and 2002. The 1992 depreciation is the only one that coincides with a decrease in foreign aid inflows (Figure 3 (c)).

The REER and de-industrialization

Table 6 shows the correlation between the real effective exchange rate and foreign aid flows, the share of GDP by industry and services, and net exports. Higher net exports, a larger industrial sector, and a smaller service sector are associated with a stronger real currency. Net exports are actually positive briefly in the mid-1980s when the real value of the *kwacha* is at its highest (Figure 3 (b)); industry as a percent of GDP

declines from 1992 onward and the services sector grows, when the real effective exchange rate is depreciating (Figure 3 (c)). These two facts suggest that the REER is having little impact on industry and service sector's share of GDP or net exports. Harrigan (2003) singles out factors such as access to fertilizer and credit, and the pricing policies of the main state marketing agency, ADMARC, as being critical to the success of the tobacco producers, and thus to overall exports. The effect of the real exchange rate on exports therefore appears to be minimal in the Malawian case.

Table 6: Correlations of the REER with aid, exports, services, and industry

	Malawi n=30
Aid (percent of GDP)	.30
Industry (share of output)	.63
Services (share of output)	-.76
Net exports (share of GDP)	.50

Overall, foreign aid does not appear to be causing the REER to appreciate in Malawi, and the correlations of the real value of the kwacha and net exports and the industrial and services sectors do not suggest that an overvalued currency was causing Dutch disease.

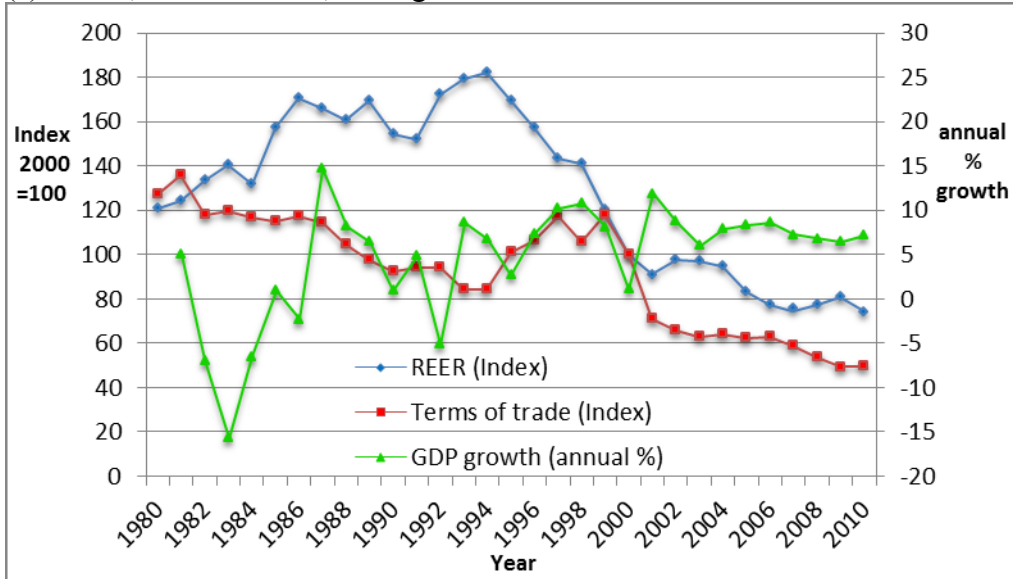
3.4 Mozambique

Mozambique is a country in South-West Africa with a population of around 22 million. As a Portuguese colony, Mozambique had developed with alongside the neighbouring British colonies, and focused on the export of primary products. Changes

under the Novo Estado regime in Portugal saw Mozambique become an “overseas province” of Portugal, and emigration of Portuguese increased in the 1950s and 60s. After a ten year armed struggle from 1964 to 1974, Mozambique gained its independence in 1975. However, in 1977 the country fell into a protracted civil conflict between the Marxist-Leninist *Frente de Libertação de Moçambique* (FRELIMO) – which had become the government following the withdrawal of the Portuguese – and the anti-communist rebels *Resistência Nacional Moçambicana* (RENAMO). The civil war ended in 1992, after the support provided to RENAMO by Apartheid South Africa (and before that Rhodesia) ended. The civil war period was marked by severe economic disruption and hardship, and saw a mass exodus into neighboring countries. After the war, Mozambique successfully transitioned to a multiparty democracy.

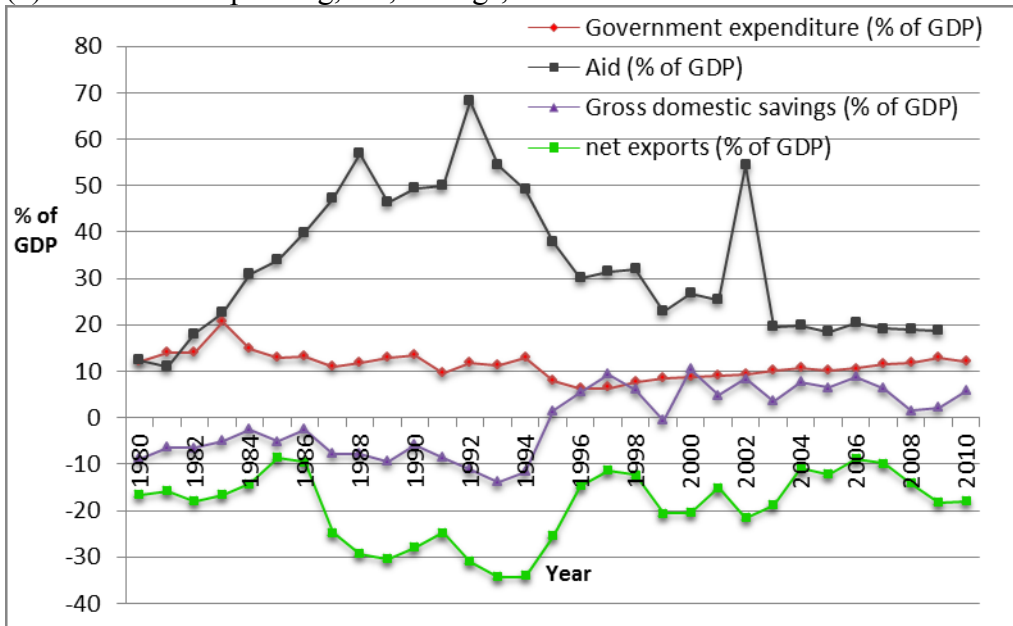
The smallholder family farm is the backbone of the agriculture sector, and has traditionally been the principle source of exports for the country. In the last ten years the country’s foreign exchange earnings have benefitted from foreign direct investment in aluminum production – notably in the construction of the Mozal aluminum smelter in 2000. Aluminum now accounts for two-thirds of export earnings. Imports are fuel, food, manufactures, and capital goods. Throughout the civil war, foreign aid provided almost all of the country’s foreign exchange and foreign aid continues to fund half of the government’s budget (CIA World Factbook, 2012e).

Figure 4: Mozambique
 (a) REER, terms of trade, GDP growth



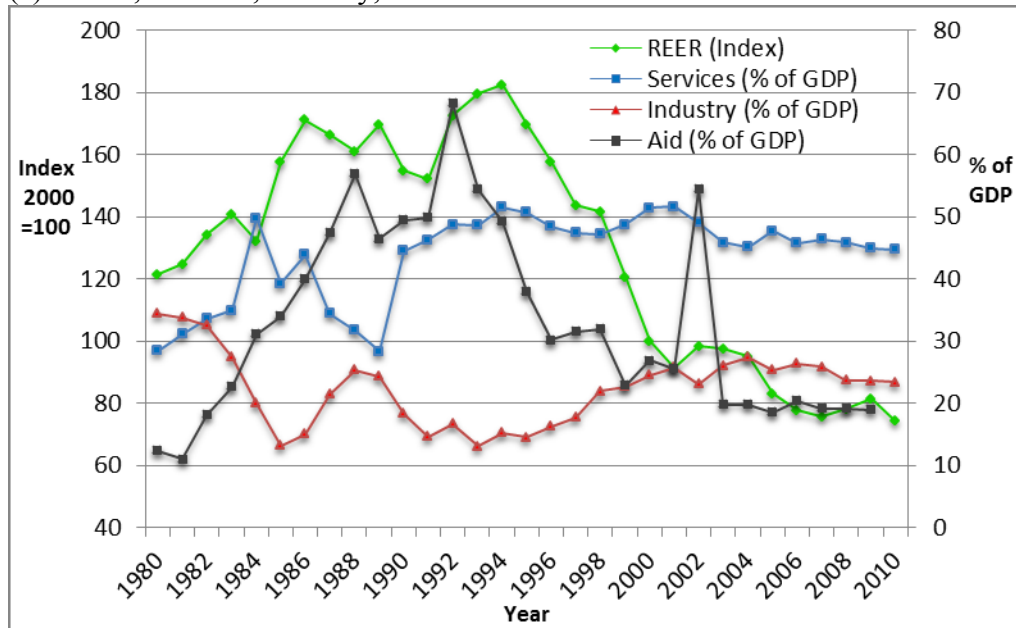
Source: World Bank (2012).

(b) Government spending, aid, savings, trade



Source: World Bank (2012).

(c) REER, services, industry, aid



Source: World Bank (2012).

Independence, state control, and civil war: 1975-1986

At the time of independence in 1975 some 200,000 Portuguese living in Mozambique were forced to leave, taking badly needed human and physical capital out of the country. The newly independent FRELIMO government pursued a command style of economic development, with the state setting prices, and controlling key sectors through the creation of parastatal firms. Conflict broke out when Mozambican rebels backed by the white minority government in neighbouring Rhodesia began a guerilla campaign to overthrow the government. The economy, already weakened by the departure of Portuguese settlers was ravaged by the war (see Figure 4 (a)). Agricultural production and the marketing chains collapsed and the country suffered drought from 1982-84. In 1983 at the fourth FRELIMO Party congress, the party began to move away from its

central planning (Marshall, 1990); however the war worsened and the economic situation continued to deteriorate. Marketed agricultural produce reached its nadir in 1986.

A change in leadership and structural adjustment: 1986-1992

In addition to the dire economic situation, the death of President Samora Machel in 1986 helped set the stage for reforms, with Joaquim Chissano assuming the leadership of FRELIMO and de-emphasizing the party's Marxist-Leninist ideology. In 1987 the government turned to the IMF and World Bank, which provided it with structural adjustment loans. This entailed fiscal and monetary retrenchment, a nominal devaluation of the *metical*, and some price liberalization. The exchange rate between the *metical* and the US dollar went from 42:1 to 756:1 by August 1989. The currency was pegged to the US dollar in January 1990, at 840:1 (Tickner, 1992). Price controls were scaled back with the number of commodity groups subject to official price controls reduced from 46 to 28 in 1987/88, and the government increased producer prices for key crops that year (Tickner, 1992). The goal was to bring producer prices closer in line to international prices; the familiar adage of 'getting prices right'. Despite these changes, Tickner (1992) writes that "agri-ecological factors, consumer good availability, and disruption by the war still appear to be more major influences than prices" for agricultural production.

As the economy was struggling through these reforms, foreign aid inflows grew to over 50 percent of GDP (the jump in foreign aid in 1992 was due to drought). The collapse in domestic crop production was made up for by imported food aid, as indicated by the increase in the trade deficit (see Figure 4 (b)). It is interesting that despite the

large nominal devaluation of the *metical* in the late 1980s, the REER did not depreciate significantly.

Peace, continued liberalization and growth: 1992-present

This period saw the civil war finally end with the signing of the Rome Peace Accord in 1992. External conditions also improved considerably over those prevailing in the 1980s. These two factors helped bring about a dramatic improvement in GDP growth compared with the previous periods (see Table 7) (Cramer, 2001).

Economic liberalization has continued at an accelerated pace. The privatization program in Mozambique has been the largest in Africa based on the number of firms transferred to the private sector, the majority taking place after 1994 (Cramer, 2001). The agriculture parastatal Agricom has been privatized, but remains the principle buyer of the agricultural surplus, as other private operators lack the storage and transport facilities and access to capital (Cramer, 2001). Price controls have also been scaled back considerably; by 1996 administered consumer prices were limited to wheat flour, rents, and fuel, while agriculture producer prices are now very close to international prices (minimum producer prices are still maintained for many key crops) (Arndt, Jensen, and Tarp, 2000).

The decrease in the trade deficit in the 1990s can be attributed to the recovery of domestic food production, the decrease in imported food aid, and increased exports from peasant smallholders (see Figure 4 (b)). In 1997 Mozambique achieved self-sufficiency in maize, and has been able to export surplus production (Arndt, Jensen, and Tarp, 2000). These developments appear to be caused primarily by the end of the war and the return of

more normal economic conditions. As smallholder farm production recovered, the country was able to substitute away from imported food aid, towards consuming domestically produced food, greatly reducing the trade deficit.

Foreign direct investment has increased during this period, especially in the minerals sector, greatly boosting foreign exchange earnings. This has allowed the country to increase its rate of investment to 25 percent of GDP, as the country continues to rely imported capital goods for investment (Arndt, Jensen, and Tarp, 2000).

The real effective exchange rate has declined throughout this period from its highpoint in 1994 (see Figure 4 (c)) and the parallel exchange rate market was eliminated in 1996, suggesting that the *metical* was no longer overvalued. Despite the large nominal devaluation in the late 1980s, a real depreciation was not forthcoming at the time. This suggests that subsequent rigorous structural reforms and the reduction in the size of the state in the '90s have been more important in bringing about a real devaluation of the currency. While aid flows have decreased markedly (they still remain the dominant source of foreign exchange at around twenty percent of GDP, see Figure 4 (c)) these were mostly directed at imported food aid, and thus had little impact on the REER. As the war ended and economic conditions normalized, the need for such emergency food aid ceased. Thus, while foreign aid and the size of government have decreased side by side over this period, they do not seem to be related to each other; the decrease in the former related to the ending of the war, and the latter related to the economic reform agenda.

Table 7: Key indicators by period - Mozambique

	1980-1986	1987-1992	1993-2010	1980-2010
GDP growth rate, %	-1.53	5.03	7.51	4.67
Terms of trade	129.58	99.76	78.96	92.61
Foreign aid/GDP, %	24.2	53.1	29.5	32.9
Stdev. Foreign aid/GDP	0.11	0.07	0.12	0.15
Std. Dev. REER	16.74	7.40	37.24	35.55

Source: World Bank (2012).

Note: Terms of trade index, 2000=100, Stdev. Means standard deviation.

Aid flows and the real effective exchange rate

Changes in Mozambique's real exchange rate are highly correlated to changes in aid flows with a coefficient of 0.69. However, the relationship between aid and the real exchange rate should not be viewed as a causal relationship. During the civil war years, foreign aid was mostly spent on imported goods (food and weapons), with little going towards the provision of non-traded services. Also during this time, the government's economic policies caused the currency to be overvalued. In the 1990s it was the change in economic policies that caused the real depreciation, not the decline in aid flows. However that is not to say that a reduction in aid inflows in the present would not result in a real depreciation. The share of the remaining aid inflows that goes towards imported goods is likely much lower now that the country doesn't rely on imported food aid and military aid. The remaining aid inflows could very well be causing the price of non-traded goods to rise and causing a real appreciation of the *metical*.

The real effective exchange rate and Dutch disease

The correlations in Table 8 paint a mixed picture about whether or not the real effective exchange rate is causing Dutch disease. The signs for the relationship between

the REER and the industrial sector and net exports are negative, as expected, but so too is the relationship for the REER and the size of the service sector. The decline in the real value of the currency has helped exporters with relatively lower domestic costs, although the economic benefits of peace and stability probably far outweigh this factor (Tickner, 1992). Likewise, the shrinking industrial sector was probably caused more by the war and not an overvalued currency. The arrival of peace and more favorable economic policies in the 1990s has helped the economy attract increasing foreign direct investment. Foster and Kallick (2006) credit Mozambique's turnaround after the war with increasing foreign direct investment, arguing that the impact of the real exchange rate was not an important factor in developing the country's export oriented aluminum sector.

Table 8: Correlations of the REER with aid, exports, services, and industry

Mozambique	
n=31	
Aid (percent of GDP)	.69
Industry (share of output)	-.57
Services (share of output)	-.19
Net exports (share of GDP)	-.56

3.5 A shared economic history

Since independence, the case study countries have together, shared fundamental changes in policy which are remarkably parallel. Three general periods can be identified with regards to economic policies and outcomes. The first lasts from independence until the early to mid-1980s and can be characterized as having a high degree of state involvement in the economy. The second begins when the countries turned to the Bretton

Woods Institutions (IMF and World Bank) for emergency loans. This period is characterized by poor growth, policy changes and economic reforms. The third begins in the mid-1990s and sees a return to growth with less government involvement in the economy.

Economic nationalism with state planning (~ Independence-1980)

After achieving political independence, the governments of Burkina Faso, Gambia, Malawi, and Mozambique sought to drive economic growth by having the state take control of many areas of the economy. The period is typified by high tariffs, public monopolies in key sectors, and extensive price and foreign exchange controls. The new governments drew their economic strategies (in varying degrees) from the post-war Keynesian Consensus in the First World, and the Soviet Model in the Second World. Planning and state intervention was prevalent in both systems, and examples of successful planning could be seen in the reconstruction of Europe and the Marshall Plan, and Soviet success. Likewise, faith in free market oriented growth was badly damaged from the interwar years and the Great Depression. And so these governments involved themselves in key sectors – establishing state owned enterprises and parastatals to provide services, control production and set prices. This period saw moderate GDP growth (but often with high population growth leading to stagnant per capita GDP growth), and generally favorable external conditions. However, in the late 1970s, economic growth stalled and external conditions worsened from declining world commodity prices, the oil price shocks, and later, from a spike in world interest rates. These countries responded by increasing their control over the economy, and borrowing

heavily. By 1980, the situation had deteriorated significantly, and many faced a macroeconomic crisis.

Structural Adjustment (~ 1980-1995)

This is a period of economic reform and structural adjustment under the supervision of the International Monetary Fund and World Bank. All four case study countries entered this phase with highly overvalued real effective exchange rates and high parallel market premiums (World Bank, 1994). Growth had stalled and indebtedness was high. All four countries were shut out of world financial markets and had to seek emergency financing from the BWIs. In order to address the problems of the region, all countries undertook, to some degree, economic reform and adjustment programs which entailed the privatization of state-owned assets, the liberalization of trade, reduction of price and exchange controls, and fiscal retrenchment – especially civil service reforms and reductions in public sector employment. Accompanying these reforms were debt relief programs and increases in foreign aid, as the countries struggled to implement these fundamental changes while under severe economic stress. The structural adjustment and reforms undertaken in the 1980s have changed these economies in fundamental ways. Production in key sectors was transformed from the control of parastatals to private actors, price controls were eliminated or reduced and trade was liberalized. The old paradigms of state intervention were uprooted and replaced by new economic ideas based on free markets, and minimal government intervention.

Partially liberalized growth (~1995-present)

The third phase begins in the early-mid-1990s and lasts up to the present. This period saw the continued implementation of reforms from the previous phase, (although in some cases there were reversals), and improved GDP and per capita GDP growth. An improvement in external conditions such as higher world prices for raw commodities and stronger economic growth globally, have also improved the economic prospects of the countries during this period.

Chapter 4: Conclusion

This thesis has yielded two findings. Firstly, each case study country shares similar policy and growth trajectories over the three periods, highlighting the importance of external factors in shaping the economies of the countries studied. Secondly, the fundamental changes in economic policies and external conditions that have taken place over the three periods have simultaneously affected the real effective exchange rate and the domestic environment in which producers of traded goods operate. It is therefore difficult to parse out the impact of the real effective exchange rate on the performance of the export sector and disentangle it from the significant policy changes that have taken place. This thesis has found that a third exogenous variable, “policy”, has fundamentally affected both the real effective exchange rate and export performance in the four countries examined.

The changes in economic policies identified in the above analysis have simultaneously affected the real effective exchange rate and the domestic and international environments in which producers of traded goods operate. Likewise, external conditions have varied significantly over the three periods, affecting the success of export oriented sectors.

Having an overvalued exchange rate puts producers of traded goods at a disadvantage when competing with foreign producers because of the higher real costs. Also, the real overvaluations seen in all four countries were accompanied by a whole host of controls and restrictions on trade and the availability of foreign exchange, as policy makers attempted to reconcile incompatible macroeconomic policies in the case study

countries (Edwards, 1989). All four countries increased their control of prices and input and output marketing chains in response to declining export earnings and deteriorating growth. These controls severely limited the growth and success of export oriented sectors, and their removal and reform has significantly helped the recovery and growth of these economies (World Bank, 1994). While these reforms were being undertaken, each country experienced significant real depreciations since the early 1980s. This has also helped the exporters of these countries compete in international markets and grow.

In sum, these results require a rethinking of the connection between overvalued real exchange rates and poor export performance. In the cases of Burkina Faso, Gambia, Malawi, and Mozambique these two variables have been influenced by a third variable, policy. For example, price controls tended to appreciate the REER and simultaneously harmed exporters. This thesis highlighted this by focusing on the changes that took place within the agricultural sectors of the case study countries. These sectors were transformed by changes in policy and state involvement, and these same policy changes have helped to depreciate the REER (Edwards, 1989). Therefore, the effect of the REER on the successes of exporters or in causing Dutch disease may not necessarily be the most relevant question when examining the histories of Burkina Faso, Gambia, Malawi, and Mozambique.

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Appendix

Table 1 categorizes countries according to; type of economy (natural resource based economy is denoted with an X); the degree of conflict/instability¹⁹ (significant conflict/instability is denoted with an X); and data availability (limited data is denoted with an X).

Table 6 – Preliminary Selection

	Angola	Benin	Botswana	Burkina Faso	Burundi	Cameroon	Cape Verde	Cent. African Rep.	Chad	Comoros	Congo Dem. Rep.	Congo Rep.	Cote d'Ivoire	Djibouti	Equatorial Guinea	Ethiopia	Eritrea	Gabon	The Gambia	Ghana	Guinea	Guinea-Bissau	
Natural resource based economy	X		X			X						X			X			X				X	
Significant conflict	X				X			X	X		X						X						X
Data availability								X									X					X	X

	Kenya	Lesotho	Liberia	Madagascar	Malawi	Mali	Mozambique	Namibia	Niger	Nigeria	Rwanda	Senegal	Seychelles	Sierra Leone	Somalia	South Africa	Swaziland	Tanzania	Togo	Uganda	Zambia	Zimbabwe	
Natural resource based economy										X													
Significant conflict			X				X				X			X	X								X
Data availability														X	X								X

There were 25 countries without a natural resource based economy and conflict, and with data. For these countries, Table 7 shows the average aid/GDP ratios, standard deviations of aid/GDP, and correlations of aid to GDP, detrended using the Hodrick-Prescott filter.

Table 7 – Exposure, Volatility, and Cyclicity of Foreign Aid Flows (1980-2010)

	Benin	Burkina Faso	Cape Verde	Comoros	Cote d'Ivoire	Djibouti	Ethiopia	The Gambia	Ghana	Kenya	Lesotho	Madagascar
average	0.143	0.228	0.365	0.306	0.061	0.178	0.164	0.263	0.138	0.091	0.279	0.123
std. dev.	0.050	0.091	0.149	0.182	0.042	0.060	0.052	0.160	0.064	0.042	0.140	0.056
correlation	-0.193	0.022	0.111	-0.103	-0.022	0.439	-0.112	0.237	-0.020	0.011	0.177	-0.012

¹⁹ Significant conflict defined as having more than 3 coups and/or 10 or more years of civil war since 1980.

	Malawi	Mali	Mozambique	Namibia	Niger	Senegal	Seychelles	South Africa	Swaziland	Tanzania	Togo	Uganda	Zambia
average	0.315	0.262	0.330	0.041	0.211	0.161	0.090	0.003	0.078	0.138	0.162	0.157	0.179
std. dev.	0.103	0.105	0.150	0.019	0.103	0.071	0.063	0.026	0.063	0.031	0.080	0.039	0.123
correlation	0.122	-0.230	0.130	-0.040	-0.155	0.177	-0.141	0.103	-0.072	0.148	0.286	0.003	-0.210

From this, I selected countries which have experienced; (a) large aid inflows relative to the size of the economy (countries with average aid inflows of 12 per cent of GDP and higher); (b) a high degree of variability in aid flows (aid/GDP standard deviation of 0.08 and greater); and (c) pro-cyclical aid inflows (a positive correlation of aid to GDP, calculated using a Hodrick-Prescott filter). The thresholds have been chosen considering the range of values returned in the eligible countries, with only the higher values considered.

Table 8 – Secondary Selection

	Benin	Burkina Faso	Cape Verde	Comoros	Cote d'Ivoire	Djibouti	Ethiopia	The Gambia	Ghana	Kenya	Lesotho	Madagascar	Malawi	Mali	Mozambique	Namibia	Niger	Senegal	Seychelles	South Africa	Swaziland	Tanzania	Togo	Uganda	Zambia
High aid exposure	X	X*	X*	X*		X	X	X*	X		X*	X	X*	X*	X*	X*	X					X	X	X	X
High aid volatility		X	X*	X*				X*			X*		X	X	X*	X									X*
Pro-Cyclicality		X	X			X*		X*			X*		X		X			X*				X	X*		

X = aid/GDP (aid exposure) > 0.12, standard deviation of aid/GDP (aid volatility) > 0.08, correlation of aid and GDP (pro-cyclicality) > 0.

X* = aid/GDP (aid exposure) > 0.20, standard deviation of aid/GDP (aid volatility) > 0.12, correlation of aid and GDP (pro-cyclicality) > 0.15