

**A Franc Appraisal:  
The Political Economy of Macroeconomic  
Policy in the CFA Zones**

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for the Degree of Doctor of Philosophy*

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## Abstract

This thesis analyses how economic policies and outcomes in 14 countries in Western and Central Africa are shaped by the CFA franc monetary arrangement with France. This is a complex institution that reflects tensions between macroeconomic policy considerations, ambitions on regional integration and the reality of post-colonial international relations. In light of increasing scrutiny, and reforms announced in 2019, the three main chapters examine leading contemporary issues and contribute to the current debate concerning the future of this Franco-African arrangement.

The first chapter analyses how a fixed exchange rate may restrict the ability of low-income, resource-rich economies to reap long-term benefits from natural resource endowments. Through the lens of the so-called resource curse, CFA members are shown to have a less favourable experience than neighbouring non-CFA countries.

The second chapter considers how the CFA arrangement may influence fiscal policy decisions in unintended and undesirable ways. The empirical findings show fiscal policy to be on an unsustainable path in the zones. They also show that countries' fiscal stances are affected by the policies of fellow member countries, and that this effect is much stronger than in non-CFA Sub-Saharan African countries. Lastly, it argues that conventional fiscal frameworks are inadequate to address such an unconventional arrangement.

Chapter Three argues that a number of the economic and political factors that have supported the continuation of the CFA arrangement have receded markedly over the six decades since its members gained independence. In addition, policy restrictions imposed by the arrangement remain as relevant as ever, as the prior two chapters highlight.

Brought together, these chapters paint the CFA arrangement as increasingly difficult to justify in its current form from an economic and political perspective. However, the thesis conclusion describes why a growing case against the CFA franc may not be enough to precipitate sweeping changes.



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## Introduction

Created in 1945 to serve France's African colonies, the CFA franc currency unions constitute a unique historical legacy of colonial rule, one that continues to shape economic policies and outcomes for the majority of countries in West and Central Africa. France guarantees unlimited convertibility of CFA francs into euros and supports the external position of the CFA economies through an unlimited overdraft facility at the French Treasury. This highly credible backstop has ensured that the CFA franc has traded at a fixed exchange rate to the French currency for over 70 years.

With France still playing a key part in its operation today, this arrangement is unlike any other monetary regime. Indeed, it is hard to think of any modern day institution so closely tied to the colonial era that has so successfully navigated the post-colonial period. In the decades since its members realised independence, certain reforms have transferred powers away from France, but the CFA franc arrangement's core characteristics have remained steadfastly in place, as has France's role as guarantor and *de facto* 'lender of last resort'.

From an economic perspective, the CFA zones provide a remarkable case study due to the consistently low inflation, low central bank interest rates and stable exchange rate that has endured in the CFA zones for over 50 years, in stark contrast to the experiences of non-CFA Sub-Saharan African countries. Chiefly responsible for such stability is the external guarantee, which effectively imports monetary credibility from France. This means that the currency's value has been trusted, even when there have been adverse economic and political developments in the region. Yet, despite this extreme monetary stability, economic progress – as measured by real GDP per capita growth or the Human Development Index – has not outperformed non-CFA peers. This motivates asking why this has not been the case, and how the arrangement could have stalled development despite its apparent economic virtues.

The economic considerations cannot be separated from the multi-faceted political dynamic that is associated with the arrangement. As in the eurozone, there are the politics between the member countries, but the CFA zones have the added dimension of a relationship with the former colonial power, on whom they still rely on as a sort of monetary guardian. Indeed, the endurance of this post-colonial institution is as much a function of political factors as it is economic considerations.

The analysis presented in this thesis is timely due to proposed reforms announced in December 2019, which have been presented as weakening the currency's link to France. These reforms consist of a name change of the West African CFA franc to the 'eco'; a removal of the requirement for the West African CFA countries to hold at least half of their foreign exchange reserves at the French Treasury; and the removal of a France representative at the regional central bank. No change has yet been announced for the Central African CFA franc zone.

The reforms reflect a growing opposition, in the region and beyond, to the nature of the arrangement in recent years, with accusations that it remains a colonial currency, and is increasingly outdated and anachronistic. The changes announced, however, are more concerned with wresting back some monetary identity, rather than a radical reform of the CFA arrangement that severs the formal link to France.

From an economic perspective, these changes are more superficial than transformational, as France is maintaining its role as guarantor and there have been no changes announced for the exchange rate regime. As such, there should not be significant changes in the way that the CFA arrangement influences and guides economic policies and outcomes. This means that the empirical analysis carried out in this thesis remains as relevant to the post-2019 reform world as it does to the preceding years.

Nevertheless, the 2019 reforms may come to mark a decisive juncture in the history of the CFA franc: they may be the first step to more radical reforms, eventually leading to a formal severing of the monetary link to France; or could be seen as a pragmatic concession by France in order to ensure the survival of the CFA arrangement and, by doing so, consolidate its influence in the region for the longer term.

This introductory chapter presents a short background to the CFA franc zones and outlines the motivations and aims for the three main chapters in this thesis.

## Background

The CFA franc – the general name<sup>1</sup> for two currencies circulating in Western and Central Africa – was created in 1945 in the former French colonies in Africa following the Bretton Woods Agreement, set at a fixed rate to the French franc. While a number of countries<sup>2</sup> abandoned the currency in the years following independence, the majority remain part of the zones. Since former Portuguese colony Guinea-Bissau joined in 1997, the West African CFA franc zone, UEMOA<sup>3</sup>, has consisted of: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.<sup>4</sup> These economies are typically oil importers, but are still somewhat reliant on exports of agricultural commodities such as cotton and cocoa beans, as well as gold. The Central African CFA franc zone, CEMAC<sup>5</sup>, consists of: Cameroon, Central African Republic, Chad, Republic of Congo, Gabon, and, since 1985, the former Spanish colony Equatorial Guinea. In contrast with UEMOA, these economies are heavily reliant on oil exports, with the exception of the smallest economy, Central African Republic.<sup>6</sup>

The level of economic development for the majority of these countries is among the lowest in the world. Using World Bank income classifications, eight of the countries are classed as low-income, four as lower-middle income, with two upper-middle-income economies.<sup>7</sup> Even this representation is slightly generous, as the 'richer' countries are exclusively oil-rich countries – such as Equatorial Guinea – where levels of poverty and income inequality tend to be disproportionately high relative to other countries in the same income bracket. Only two countries – Gabon and Republic of Congo – do not lie in the bottom quartile of the UNDP's Human Development Index, although the latter still had 61 percent of the population living on under \$3.20 a day in 2011.<sup>8</sup> Although there is considerable heterogeneity across the countries in the region, the economies are generally highly vulnerable to commodity price volatility and climate shocks, amongst other risk

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<sup>1</sup> Originally, CFA stood for Colonies françaises en Afrique, until 1958 when this changed to Communauté française d'Afrique, until 1962 when it became Coopération financière en Afrique in CEMAC and Communauté financière Africaine in UEMOA.

<sup>2</sup> Tunisia left the zone in 1958, Morocco in 1960, Guinea in 1959, Algeria in 1964, Madagascar in 1972, and Mauritania in 1973.

<sup>3</sup> Union Économique et Monétaire Ouest-Africaine (West African Economic and Monetary Union)

<sup>4</sup> In 1962, Mali exited and created its own currency, but re-adopted the CFA franc in 1984. Technically, the Comoros is an independent member of the franc zone, but is excluded from this study given the arrangement is separate, the small size of the economy and population, and its geographical location.

<sup>5</sup> Communauté Économique et Monétaire de l'Afrique Centrale (Economic Community of Central African States)

<sup>6</sup> A substantive political history is given in Chapter Three.

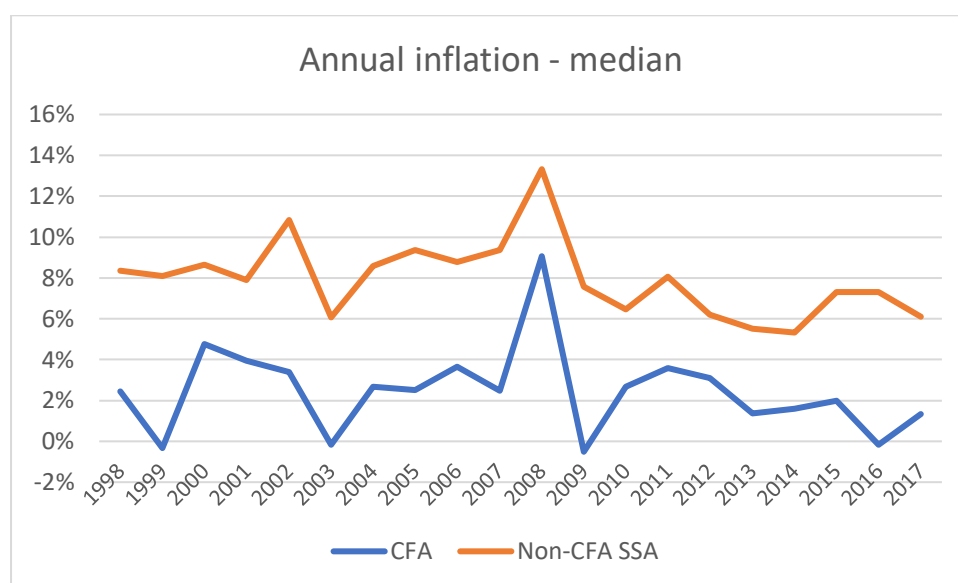
<sup>7</sup> Based on GNI per capita. The 'low income' bracket captures less than \$1,025; 'lower-middle income' is \$1,026 to \$3,395; 'upper-middle income' is \$3,396 to \$12,375.

<sup>8</sup> World Bank Development Indicators, 2011 PPP. It should be noted that GDP per capita has fallen markedly following the subsequent oil price crash, which has likely pushed poverty rates higher.

factors, while weak and underdeveloped economic and political institutions impair the ability to respond to and mitigate such shocks. This is not strictly a CFA member issue however, as the economic status of a number of neighbouring non-CFA countries is similarly fragile.

Each zone has its own central bank: the BCEAO in the West African CFA franc, and the BEAC for the Central African CFA franc, established in 1962 and 1972 respectively.<sup>9</sup> In recent decades, there have been a series of efforts to deepen integration within the currency zones, with two formal customs and monetary unions established in 1994. This was also the year of the only devaluation of both CFA francs. The adoption of the euro by France in 1999 meant that the CFA francs became pegged to the euro, at the same relative parity. This arrangement has led to consistently lower inflation than in the rest of Sub-Saharan Africa, as shown in Figure 1.<sup>10</sup> On the other hand, average real GDP growth has been broadly similar inside and outside the CFA franc zones (Figure 2).

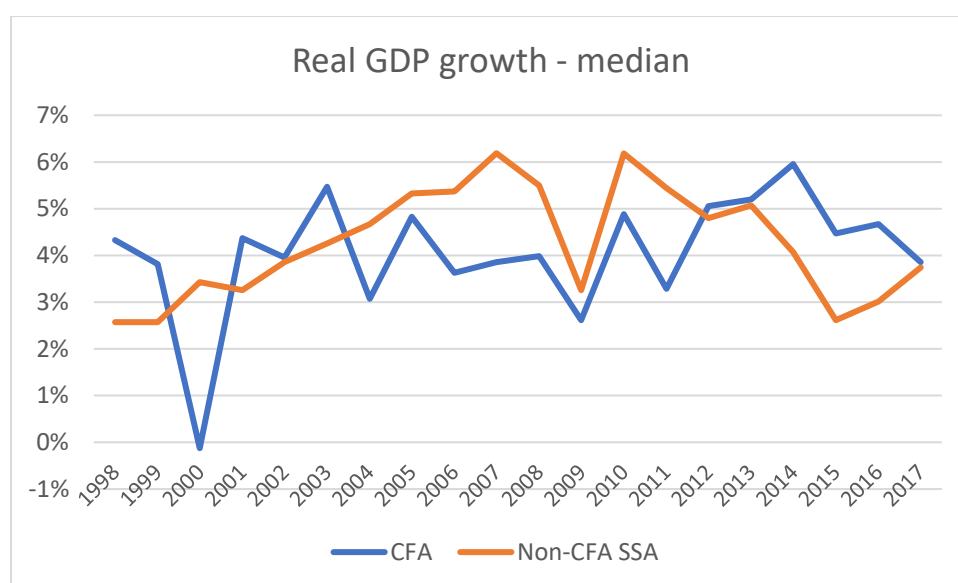
**Figure 1**



<sup>9</sup> Banque Centrale des États de l'Afrique de l'Ouest (BCEAO) and Banque des États de l'Afrique Centrale (BEAC) respectively.

<sup>10</sup> The average 'absolute deviation from the mean' for inflation over 1998-2017 is just 2.8 percent in CEMAC and 1.7 percent in UEMOA, compared to 13.1 percent in non-CFA SSA.

**Figure 2**



## The French guarantee

At the core of the arrangement is the external guarantee by France. The French Treasury provides a guarantee of unlimited convertibility between the euro and the CFA francs at a fixed rate. Since 1994, the year of the only devaluation of the currency, this rate has been at 656 CFA francs per 1 euro (or the equivalent 100 CFA francs to 1 French franc prior to France’s adoption of the euro). In return, national foreign exchange reserves are pooled at the two respective regional central banks, who have then been required to deposit at least 50 percent of these pooled reserves at an ‘Operations Account’ at the French Treasury – although this is no longer to be the case in UEMOA – as well as maintaining total foreign reserves in excess of 20 percent of sight liabilities.<sup>1112</sup> These Operations Accounts – one for each CFA franc zone – have an overdraft facility that can be used in case foreign reserves are depleted. In effect, the French Treasury acts as a lender of last resort of foreign reserves to the CFA zones. The arrangement also allows the free movement of capital between the African countries in each zone and between these countries and France.

In a conventional fixed exchange rate peg, there would need to be an adequate level of foreign exchange reserves to defend the peg against potential speculative attacks on the currency.

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<sup>11</sup> Sight liabilities are defined as deposits that are immediately repayable on demand, and so excludes most savings deposits.

<sup>12</sup> Fielding (2002, p.7) describes how free-riding would emerge without institutional constraints, by exploiting the unlimited French support to run large current account deficits.

However, the French guarantee entails what is, in theory, an unlimited credit line to the zones such that no one holding CFA francs will be concerned about its value falling relative to the French currency, as they will always be able to convert CFA francs into euros (formerly French francs) at the official rate. This imported monetary credibility stands in stark contrast to neighbouring non-CFA countries who have no such backstop, and has ensured the stability of prices in the zones: internally through a low and stable inflation rate, and externally through a stable exchange rate.

The credibility of the French commitment to providing this backstop, if and when it is required, is supported by a number of factors. Firstly, the financial liability to France is relatively small given the size of the combined CFA economies relative to the French economy. Secondly, France's commitment has been steadfast throughout the decades, with the track record of the stability of the currency speaking for itself. Lastly, France's role as a high-income country and, crucially, its perceived responsibility as the former colonial power means the geopolitics of unilaterally withdrawing its support to the arrangement would be very detrimental.

### **Key research questions**

The temptation is to attempt to draw a broad conclusion that appropriately weighs the costs and benefits of CFA membership for a specific country. But this is near impossible to answer in a definitive way given the myriad economic and political dimensions of the arrangement, as well as the considerable heterogeneity across countries in the region, even within the former colonies of French West Africa. These differences exist across a number of characteristics, including but not limited to: natural resource endowment (both quantity and type); climate; terrain; access to sea; population; and ethnic, linguistic, cultural and religious fractionalisation. The pre-colonial histories are also varied, as are the economic and political infrastructures that were established in the colonial era.

For these reasons, the empirical conclusions in this thesis seek to avoid making sweeping judgements on whether a country is better or worse off as a result of its membership. Instead, the analysis focuses on the ways in which specific events – such as commodity price shocks – affect economic outcomes for countries operating within this exchange rate structure, or the ways in which the arrangement influences government policy and creates incentives for policymakers to behave in unanticipated or undesirable ways. Of course, even this inevitably requires making somewhat generalised inferences, as CFA membership will impact individual countries in different ways. The way the arrangement shapes policies and outcomes will differ from the largest economy,

Côte d'Ivoire, to landlocked, conflict-affected Central African Republic; and from oil-rich Gabon to resource-poor Guinea-Bissau.

Previous studies have focused on the CFA as an optimum currency area – Zhao and Kim (2009); Couharde et al. (2013) – or the extent of and impact of real exchange rate misalignment – Azam (1996); Abdih and Tsangarides (2010) – while a lot of the literature was concentrated around the 1994 devaluation, assessing the period leading up to it, the impact of the devaluation event, and the policy responses in the aftermath. In both its quantitative and qualitative analysis, this thesis directs its focus to more contemporary issues in the CFA zones, taking advantage of richer data availability and a transformed political and economic landscape. Since the bulk of the studies cited above were carried out, much has changed: the 2000s commodity price ‘super cycle’ has ended; a formal fiscal framework has been introduced; currency crises outside the CFA zones have reduced; while levels of external debt have risen and been forgiven and risen again. These developments motivate updated economic analysis.

## **This thesis**

Accordingly, the first chapter analyses the effect on economic outcomes through the lens of the so-called resource curse, focusing on how a fixed exchange rate may restrict the ability of low-income, resource-rich economies to respond to commodity price shocks, in turn making them more vulnerable to the ‘curse’. The results suggest that CFA franc countries have appeared to experience a less favourable impact on their long-run per capita GDP as a result of their natural resource endowments than neighbouring non-CFA countries. This finding would appear to be driven either directly by the exchange rate inflexibility constraint, or by regional institutional structures within the CFA zones (or with France) that are further serving to restrict individual member countries’ ability to manage and benefit from their resource wealth, and to respond to price shocks.

The second chapter considers how the CFA arrangement may influence fiscal policy decisions in unintended and undesirable ways. The empirical findings show fiscal policy to be on an unsustainable path in the zones. They also show that countries’ fiscal stances are affected by the policies of fellow member countries, and that this effect is much stronger than in non-CFA Sub-Saharan African countries. Lastly, it argues that conventional fiscal frameworks are inadequate to address such an unconventional arrangement.

This cannot be a purely empirical exercise, as the political economy of the arrangement – both between member countries and between the members and France – is so fundamental to the zones' endurance. Hence, several key political elements are explored throughout this thesis, but particularly emphasised in the third chapter, which describes how the Franco-African economic and political relationship helped sustain the CFA arrangement upon members' independence. At this time, these countries were heavily dependent on France for aid, trade and security, while there were strong ties between the newly appointed presidents and France, with a number having served in the French National Assembly in the 1940s and 1950s. These economic and political ties have weakened considerably in recent decades, and there are reasons to think that the cord to France may finally be cut.

The argument of the third chapter is supported by the results of the first two empirical chapters, which stress the restrictions and distortions on economic policy and outcomes that the arrangement imposes. Brought together, these chapters paint the CFA arrangement as increasingly difficult to justify in its current form from an economic and political perspective. However, the conclusion discusses why it may be premature to expect radical changes, or even an outright abandonment of the arrangement, in the coming years.

## Chapter One

# Pegged Back: How does membership of the CFA franc zones affect the resource curse?

## 1.1 Introduction

The CFA Franc zones in Western and Central Africa consist of 14 countries, mostly former French colonies, with a number of these economies heavily reliant on natural resources revenues. Whereas in the Central African franc zone (CEMAC) the majority of countries are oil exporters, the key exports for members of the West African zone (UEMOA) are more diverse, from cocoa beans in Côte d'Ivoire to uranium in Niger or gold in Mali and Burkina Faso. In neighbouring countries that are not part of the CFA franc zones, commodity revenues also play a major role in the economy, such as oil in Nigeria, bauxite in Guinea, or copper and other metals in the Democratic Republic of Congo. As a result, business cycles tend to be highly sensitive to international commodity price movements.

The CFA franc arrangement, created towards the end of the colonial period with certain adjustments following the *de jure* decolonisation of the region, has resulted in an unusual set of economic outcomes within the CFA zones. The member countries benefit from a very stable exchange rate due to the peg to the French currency,<sup>13</sup> guaranteed by an unlimited contingent credit line provided by the French Treasury, which anchors an extremely low and stable rate of inflation in comparison to other low-income countries. While this monetary stability within the CFA zones compares very favourably to non-CFA peers, this has not translated into superior economic growth over recent decades.

In the CFA zones, this monetary stability comes at the expense of exchange rate policy. The exchange rate path of the CFA franc follows that of the euro and the eurozone, and thus is determined exclusively by economic and political activity in another continent. A flexible exchange

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<sup>13</sup> The French franc until 1999, when the Euro replaced it as the external anchor for the CFA franc, at an equivalent rate.

rate can play a key role in adjusting relative prices and facilitate external adjustments to imbalances brought about by swings in the terms of trade.<sup>14</sup> With the surrender of exchange rate policy, and arguably monetary policy too, it is unclear whether the CFA member countries have the policy flexibility and space to achieve sufficient real exchange rate adjustment. Given these circumstances, and the inherent volatility of commodity prices and importance of natural resources exports in the region, being part of the CFA arrangement will inevitably have some bearing on the economic experiences of resource-rich countries.

In addition to the restrictions imposed by the exchange rate policy, the institutional structure of the CFA franc zones may have impacted its capacity to manage its resource wealth. Adverse effects could be due to the perceived neo-colonial dependency on France;<sup>15</sup> weaker financial development explained by credit rationing;<sup>16</sup> the tendency for currency union membership to inhibit export diversification;<sup>17</sup> due to rigidities imposed on other policy instruments, such as fiscal policy; or inheritance of weaker institutions from the colonial era.<sup>18</sup> In December 2019, reforms to the West African CFA franc were announced;<sup>19</sup> however, the external guarantee of a fixed exchange rate to the euro has been maintained, preserving the most crucial feature of the arrangement and the central element being analysed in this chapter.

In this chapter, I consider whether CFA franc membership has affected the relationship between natural resource wealth and economic development. Since the seminal paper by Sachs and Warner (1997), a wealth of quantitative studies has been produced on the so-called natural resource curse. Even before empirical analysis was carried out to formally test the hypothesis, there had been some puzzlement at the underwhelming economic performance of countries like Nigeria, Venezuela or Zambia, despite their considerable commodity wealth. The resource curse hypothesis speaks to the idea that there is a negative causal relationship between commodity dependence and long-run economic growth.

This chapter uses a panel error correction model for 110 countries over the period 1970-2018 to empirically test the natural resource curse hypothesis, adopting the methodology used by Collier

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<sup>14</sup> Friedman (1953).

<sup>15</sup> Taylor (2019).

<sup>16</sup> Nubukpo et al. (2016). Additionally, Fielding (2002, p.15-34) finds that CFA membership has been associated with lower monetary growth than in other fixed exchange rate regimes in developing countries.

<sup>17</sup> Aizenman (2017).

<sup>18</sup> Singh and Kpodar (2009).

<sup>19</sup> See Section 1.2.1 for more detail.

and Goderis (2012). This analysis benefits from extending the dataset to 2018, which completes the recent commodity super-cycle, and so allows comparison between the two commodity cycles of the last 50 years (defined here as 1970-1999 and 2000-2018). I break down this broader result to look at how different *de facto* exchange rate regimes affect the result, taking heed of the inevitable endogeneity of regime choice within a growth regression context, and focus specifically on the implications for the CFA zones.

The empirical findings show that, despite positive short-term effects from commodity booms, there is statistically significant evidence that price booms were associated with a long-run decrease in real GDP per capita levels for the period 1970-1999. However, these effects were of a lesser magnitude than found by Collier and Goderis, and imply only a small impact on real income once the terms of trade benefit of higher commodity prices is accounted for. Moreover, in the second commodity cycle I find no evidence of the resource curse, suggesting that some of the conditions that fostered the adverse result may have receded or disappeared over the last two decades. Consistent with previous findings, the resource curse, where it exists, appears to be restricted to countries with weak governance.

A second, original, finding is that countries that are members of formal regional exchange rate institutions are found to experience a greater drag on long-term GDP from commodity wealth, relative to non-members. These countries appear to have suffered from losing the exchange rate as a valuable adjustment tool, but there may also be additional institutional effects that are restricting their ability and flexibility to respond to commodity price shocks, beyond the exchange rate restriction. This is a broad result, but when restricting the analysis to Sub-Saharan Africa, I find statistically significant evidence that this drag on growth is present in the CFA franc currency zones specifically. These results are shown to be robust to alternative approaches of identifying the effects of commodity price movements. This is a significant finding, as it implies that appropriately measured commodity shocks have very different effects across neighbouring countries.

The chapter consists of the following sections: Section 1.2 provides a background discussion and surveys the relevant literature; Section 1.3 describes the data and the methodology of estimation; Section 1.4 presents and discusses the empirical findings; Section 1.5 provides robustness checks; while Section 1.6 concludes.

## 1.2 Background

### 1.2.1 CFA franc arrangement

Established in the aftermath of the Second World War, the CFA franc zones exist as a monetary arrangement between France and 14 countries in Western and Central Africa. The CFA arrangement is noteworthy for a number of reasons: its longevity despite the political instability in many member countries; the monetary stability it has afforded some of the poorest countries in the world, including just one devaluation (by 50 percent in 1994) in over 70 years; and its colonial-era foundations and the political economy pertaining to the role and influence of France.

In December 2019, the presidents of France and Côte d'Ivoire made a joint announcement that BCEAO – the regional central bank for UEMOA – would no longer be required to deposit its reserves at the French Treasury, as part of reforms to lessen France's role in the currency union. Other reforms included the removal of French representation on the BCEAO board and a name change from the West African CFA franc to 'eco'. Crucially, however, the guarantee from France is to be maintained, for the foreseeable future at least, preserving the hard fixed exchange rate and the associated implications.

The nature of this unusual arrangement inevitably affects all parts of the policy spectrum. The impact on monetary policy is evident, as monetary sovereignty is transferred to a supranational authority. The close tracking of regional policy rates to those set by the ECB suggests that even the autonomy of the regional central banks is disputed (Dufrénot, 2010), reflecting the explicit and implicit requirements to maintain the external balance. The consequences for fiscal policy are more nuanced, and are explored in Chapter Two. There is the potential for undesirable incentives for national fiscal authorities through a combination of typical 'tragedy of the commons' problems related to monetary unions and moral hazard through France's incentives to maintain the relationship.<sup>20</sup> This may lead to overly aggressive fiscal policies, while fiscal rules designed to impose budgetary discipline may constrain fiscal authorities' ability to respond to shocks.

The interaction of commodity price shocks and monetary and fiscal policy could manifest through a number of channels, particularly given the importance of commodity revenues for government

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<sup>20</sup> Canac and Garcia-Contreras (2011).

budgets in most CFA countries. However, the central focus of this chapter is the way that the fixed exchange rate – and thus the sacrifice of the exchange rate as a flexible policy instrument – interacts with commodity wealth and price movements. The asymmetry of business cycles in the CFA zones<sup>21</sup> means that a common flexible exchange rate – such as in the eurozone – cannot simultaneously reflect all individual country fundamentals, instead reflecting the average across the members. For example, a fall in uranium prices could cause a downturn in Niger at the same time that a spike in gold prices boosts the economy in neighbouring Mali. With flexible national currencies, the exchange rates would react accordingly and help facilitate adjustment to the change in relative prices. A currency union cannot do this, as ‘one size fits all’.

The CFA franc zones take this one step further however, as the exchange rate against the dollar is determined predominantly by factors related to the eurozone economy (or the French economy prior to the euro), and so in no way reflects regional macroeconomic fundamentals in Western and Central Africa. The CFA franc exchange rate path does not adjust to idiosyncratic, or even regional, shocks and, given the difficulty of internally adjusting relative prices, this can produce prolonged periods of real exchange rate misalignment, as was the case leading up to the 1994 devaluation.

As has been described, the CFA franc arrangement creates a very different backdrop for members compared to those outside the zones. In the simplest terms, the comparison is between an arrangement which provides an extraordinary level of monetary stability but with limited policy flexibility, and countries outside the zones who have greater policy space – notably in monetary and exchange rate policy – but are also prone to high bouts of inflation and currency crises. That both sets of countries typically have a high natural resource dependence in common is what motivates the focus on commodity price movements and the so-called resource curse. In analysing the findings in Section 1.4, I also consider the political economy arguments for differences between the member and non-member countries, such as how the respective colonial histories may have shaped institutions. The rest of this section looks at the literature on the resource curse, and how choice of exchange rate affects the response to terms of trade shocks. Lastly, I look at the relevant empirical studies that have focused on the CFA franc zones.

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<sup>21</sup> Zhao and Kim (2009).

### 1.2.2 Resource Curse

While the literature on the resource curse is extensive, the starting point for this study is the 2012 paper by Collier and Goderis, which uses a panel error correction model for the period 1963-2008 to show that increases in the price of a country's commodity export basket have had a negative impact on long-term per capita output. This result is found to be driven by non-agricultural (or "point-source") commodities, for which governments can more easily extract rents. Indeed, once they control for governance levels, they find that the resource curse disappears in the presence of a sufficiently high level of governance. This last result affirms the extant literature which argues that countries with institutions that promote accountability and transparency are able to benefit from resource booms, while those without will tend to suffer.<sup>22</sup> Clark (1997) argued that the degree of oil rents in Republic of Congo had stunted the development of the country's political economy, and as a consequence its prospects for democratisation.

Subsequent papers have argued that institutions are themselves endogenous, and that resource wealth tends to weaken political institutions.<sup>23</sup> Tsui (2011) estimates that discovering 100 billion barrels of oil (the approximate initial endowment of Iraq) contributes to a fall in the country's democracy level of 20 percentage points below trend after three decades. He posits that oil discoveries and price booms increase the value to the politician of being in power, leading to more resources being used to maintain that power and allocated away from areas of the economy that need them.

Mlachila and Ouedraogo (2017) find evidence that commodity-dependent countries tend to have lower levels of financial development. They argue that volatile commodity price shocks mean banks require large risk premia, which increases domestic interest rates and reduces credit availability. As the multinational companies carrying out the resource extraction tend to finance externally, the domestic financial sector remains underdeveloped, further stunting the growth of the non-resource traded sector on top of potential Dutch disease effects. This analysis is highly relevant for a number of Sub-Saharan African countries, inside and outside of the CFA zones.

The empirical support for the resource curse is not definitive, with Van der Ploeg and Poelhekke (2017) noting that much of the cross-country evidence is fraught with issues of endogeneity and

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<sup>22</sup> For example, Robinson et al. (2006).

<sup>23</sup> Deacon and Rode (2015); Jensen (2004); Tsui (2011).

identification. Smith (2015) looks at major natural resource discoveries since 1950 and concludes that newly resource-rich countries experienced a boost to GDP that persisted into the long term.<sup>24</sup> Van der Ploeg and Poelhekke (2009) reject the standard interpretation of the curse, instead arguing that it is primarily a problem of volatility, where price volatility causes severe variability in output per capita for resource-rich countries; once this is controlled for, the traditional resource curse result disappears. This volatility effect is found to be aggravated by underdeveloped financial systems, current account restrictions, ethnic tensions and volatility of government spending. Brunnschweiler and Bulte (2008) write that the curse is a “red herring”, and that previous studies have looked wrongly at resource *dependence* which, when treated as an endogenous variable, is found to be insignificant. They instead look at a “curse of natural resource *abundance*”. and find it to be significantly associated with better institutions and more rapid growth, contrary to the resource curse hypothesis. Davis (2011) proposes that the phenomenon is actually a resource *drag*, driven by the relatively slower per capita growth in resource GDP compared to non-resource GDP, and thus explaining the relatively weaker growth of resource-rich countries.

The literature shows the different ways in which the resource curse question can be approached and interpreted. An emerging theme in recent papers is a growing case against the broad existence of the curse. This chapter builds on this literature, taking advantage of a richer data set running to 2018. It is noteworthy that the resource curse literature dedicates little time to considering the long-run effects of different exchange rate regimes. As explained in Section 1.4.3, this is partly because countries switch regimes and that these choices tend to be endogenous, making identification of effects a serious challenge. With respect to exchange rate flexibility, the focus has tended to be on the short-term impacts of commodity price shocks, as discussed in the next section.

### **1.2.3 Terms of trade shocks under fixed exchange rate regimes**

As commodities are typically denominated in US dollars, volatility in commodity export and import values can cause large swings in foreign exchange flows and have a significant impact on relative prices. Consequently, the choice of exchange rate regime and the management of these flows is a crucial determinant of the macroeconomic stability of a resource-dependent economy. Friedman’s (1953) elegant assertions<sup>25</sup> that flexible exchange rates facilitate external adjustment

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<sup>24</sup> Smith rejects the challenge that natural resource discoveries are endogenous (Deacon and Bohn, 2000).

<sup>25</sup> “The argument for a flexible exchange rate is, strange to say, very nearly identical with the argument for daylight savings time. Isn't it absurd to change the clock in summer when exactly the same result could be achieved by

and are thus preferred to fixed exchange rates shaped consensus thinking for the decades that followed. However, this section also describes how more recently there have been contentions that in the presence of certain market imperfections – notably those commonly found in less-developed economies – the economy may be better off pegging its exchange rate to some external anchor in order to import monetary stability.

In the context of terms of trade shocks, the results of empirical analyses are mixed. Broda (2004) found that after two years, a negative 10 percent terms of trade shock reduced real GDP by -1.9 percent under pegged exchange rates, compared to -0.2 percent under a floating regime, and that 30 percent of output volatility in fixed regimes can be explained by terms of trade shocks versus just 10 percent for floating. Ghosh et al. (2014) supports this, looking at bilateral exchange rate regimes, by finding an empirically robust relationship between exchange rate flexibility and the speed of external adjustment. Various authors also call for flexible exchange rates given their findings that commodity terms of trade shocks account for a significant part of output volatility.<sup>26</sup> Fernandez et al (2017) go a step further by arguing that a further amplification mechanism is a spillover from current account volatility to risk premia, intimating that the full impact of these shocks is likely underestimated. In contrast, Schmitt-Grohé and Uribe (2016) estimate that terms of trade shocks explain less than 10 percent of movements in output, and finds similarly low impacts for other key macroeconomic outcomes. Adler et al. (2017) use Markov regime-switching models to determine speed of adjustment to terms of trade booms and busts. They find that exchange rate flexibility plays an important adjustment role in terms of trade booms, but less so in busts, a result they attribute to countries' unwillingness or inability to finance large current account deficits.

Pushing back against the Friedman consensus, Chinn and Wei (2013) find no statistical evidence that a flexible exchange rate improves current account adjustment, adding that Friedman's paper was written during a time of limited financial integration, very different from today where there are substantially larger cross-border capital flows. In addition, a host of papers have discussed

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having each individual change his habits? All that is required is that everyone decide to come to his office an hour earlier, have lunch an hour earlier, etc. But obviously it is much simpler to change the clock that guides all than to have each individual separately change his pattern of reaction to the clock, even though all want to do so. The situation is exactly the same in the exchange market. It is far simpler to allow one price to change, namely, the price of foreign exchange, than to rely upon changes in the multitude of prices that together constitute the internal price structure." Friedman (1953), p.173.

<sup>26</sup> See Andrews and Rees (2009); Rafiq (2011); Roch (2004); Drechsel and Tenreyro (2017).

conditions under which the case for floating exchange rates weakens, such as the incidence of sticky prices, labour market rigidities, and limited financial integration and development.<sup>27</sup>

#### **1.2.4 Evidence from the CFA zones**

While the literature has focused more on bilateral fixed exchange rates, or the eurozone when it comes to looking at currency unions, some papers have focused on the role of the exchange rate in the CFA zones. Henry (2018) discusses the challenges posed by CFA member countries' inability to use the nominal exchange rate to respond to terms of trade shocks. The author notes that this presents an inherent instability due to the potential lack of synchronisation of business cycles between the CFA economy and the anchor economy. He also notes other challenges that arise, such as the direct pass-through of Eurozone monetary shocks to the CFA zones, as well as the loss of monetary policy autonomy and exchange rate policy, which means that long-term imbalances can be stubbornly persistent – notably overvaluations in the case of the CFA franc. Couharde et al. (2013) find that the rigidity of wages and prices in the CFA zones, along with the lack of nominal exchange rate adjustment, can produce lasting misalignments. Among others, Rodrik (2008) and Easterly (2005) both argue that enduring overvaluations and misalignments tend to be associated with weaker economic growth.

Gnimassoun (2017) also looks at exchange rate misalignments in the CFA zones, showing that the terms of trade, along with government consumption and relative productivity, is considered fundamental to the real exchange rate in the region. He finds that the misalignments resulting from the “double anchor” – a monetary union operating with an external anchor – has a negative and asymmetric impact on the current account, which tends to be exacerbated by export concentration. He also highlights the “double uncertainty” faced, due to uncertainty over both the terms of trade and the evolution of the value of the anchor currency. It is argued that real exchange rate depreciations will only benefit the external position if economies are sufficiently diversified and dynamic to boost production – typically not a feature of CFA economies – as otherwise they will face the increased cost of higher import prices without the export offset. It is noted how undervaluation is a consequence of the anchor currency's devaluation, and as such not a deliberate exchange rate policy, which may also explain the reduced ability to benefit from periods of undervaluation.

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<sup>27</sup> Aghion, Rogoff et al. (2009); Vegh (2011).

As with the resource curse literature, the consensus on the preferred exchange rate regime to guard against external shocks is far from definitive. Moreover, limited research has been devoted to the consideration of how long-term exchange rate regimes – notably regional fixed exchange rate institutions such as the CFA zones in West and Central Africa or the Eurozone – alter the long-run effects of commodity prices on GDP. Do the restrictions on macroeconomic policy flexibility and enduring real exchange rate misalignments impede the ability to manage resource wealth, exacerbating the short-term imbalances caused by changes in relative prices? These questions are especially pertinent for the CFA zones, given the high share of commodity exports as well as an underdeveloped financial system that can amplify shocks.

The empirical analysis in this chapter will thus be composed of two main parts. The first, as highlighted in Section 1.2.1, will be an extension of the Collier and Goderis paper to test the robustness of their conclusions to recent data. There is reason to suspect that the economic and political conditions that would foster the resource curse may have changed over recent decades, for example a heightened scrutiny on government accountability and transparency. Therefore, the resource curse result may be time-varying, manifesting previously but receding in recent years due to certain improvements in political and economic factors. The second part focuses on Sub-Saharan Africa and the CFA franc zones, building on the framework to control for exchange rate regimes and analyse what regime choice means for the long-run effects of commodity price movements on GDP per capita.

The papers discussed here use a range of econometric methods. For assessing short-term terms of trade shocks, a number of studies use a VAR approach – Broda (2004), Schmitt-Grohé and Uribe (2016), Aslam et al. (2016) – with impulse response function analysis used to analyse the impact of commodity price shocks on key macroeconomic variables. For similar analysis, Ghosh (2014) and Chinn and Wei (2013) use first-order AR models. Both Gnimassoun (2017) and Couharde et al. (2013) look at the convergence process and use the Behaviour Equilibrium Exchange Rate (BEER) approach. The error-correction model is used by Aizenman (2012) and notably by Collier and Goderis (2012). This latter approach is preferred in this study as it is able to separate the effects of movements in commodity wealth on real GDP per capita growth into its short- and long-run components. As the following analysis demonstrates, this enables a richer, less restricted analysis of commodity price movements, allowing for different effects in the near and long term.

## 1.3 Methodology

### 1.3.1 Empirical approach

The methods used in this chapter follow the statistical approach of Collier and Goderis, employing a neoclassical growth framework and transforming the specification in order to consider the short- and long-run effects of commodity price variation. The starting point is the typical specification of the augmented Solow growth model, where exogenous technological change determines long-run growth in GDP per capita, conditioned on the prior level of output. The empirical findings of Bond et al. (2010) support the endogenous growth model prediction of a positive relationship between capital accumulation and economic growth, and so investment and other potentially explanatory variables are included in the regression as control variables:

$$\Delta y_{i,t} = \gamma y_{i,t-1} + \beta'_1 x_{i,t-1} + \alpha_i + \delta t + u_{i,t} \quad (1)$$

for  $i = 1, \dots, N$  and  $t = 1, \dots, T$ , where  $y_{i,t}$  denotes logged real GDP per capita in country  $i$  in year  $t$ ,  $\Delta y_{i,t}$  is the growth in real GDP per capita,  $x_{i,t}$  is an  $m \times 1$  vector of variables of  $m$  variables that are predicted to impact the steady state level of GDP per capita. The time trend,  $\delta t$ , allows for a steady rate of growth per capita, common to all countries. Unobserved time-invariant individual effects are captured by  $\alpha_i$ , while the time-varying error term is  $u_{i,t}$ .

Equation (1) looks to capture long-run determinants of steady state output growth per capita and enables the study of steady state growth path convergence, conditional on countries having similar characteristics. However, it does not account for business cycle fluctuations generated by exogenous shocks during the transition to steady state. The distinction between short- and long-run effects is particularly pertinent here given the key explanatory variable of interest is commodity prices, where short- and long-run impacts of price shocks may differ. As a consequence, equation (1) is augmented to include contemporaneous and lagged changes in  $x_{i,t}$ . The first difference of the dependent variable is also included, to control for persistence in growth rates.

$$\Delta y_{i,t} = \gamma y_{i,t-1} + \beta'_1 x_{i,t-1} + \beta_2 \Delta y_{i,t-1} + \sum_{j=0}^J \beta'_{3j} \Delta x_{i,t-j} + \alpha_i + \delta t + u_{i,t} \quad (2)$$

This can be rewritten in error correction model form:

$$\Delta y_{i,t} = \lambda(y_{i,t-1} - \theta'x_{i,t-1} - \mu_i - gt) + \phi_1\Delta y_{i,t-1} + \sum_{j=0}^J \phi'_{2j}\Delta x_{i,t-j} + \phi_i + \phi_3t + u_{i,t}$$

(3)

where  $\lambda = \gamma$ ,  $\theta = -\beta_1/\lambda$ ,  $\phi_1 = \beta_2$ ,  $\phi_{2j} = \beta_{3j}$  for  $j = 0, \dots, J$ ,  $\phi_i = \alpha_i + \lambda\mu_i$ ,  $\phi_3 = \delta + \lambda g$ .

The term in parenthesis represents the long-run transition towards the steady state equilibrium, and the coefficient  $\lambda$  shows the speed of adjustment. With the model correctly specified, this coefficient will be between -1 and 0. If output in period t-1 is above the predicted long-run relationship then the term in parenthesis will be positive, and so the model ‘error corrects’, putting downward pressure on the per capita growth rate in period t. The long-run steady state is thus achieved when the term in parenthesis is equal to zero.

### 1.3.2. Construction of the commodity index

The commodity index used is taken from Gruss and Kebhaj (2019), and follows the approach of Deaton and Miller (1995), Dehn (2000), and Collier and Goderis (2012). The index uses a sample of 45 commodities, with the full list given in the Appendix. For these commodities, they collected the export and import values for country-year in the sample. Using this data, they calculated the country-specific net export value for each commodity. From here the country-specific weights for each commodity are computed by dividing the net export values by nominal GDP:

$$\omega_{c,i,t} = \frac{(x-m)_{c,i,t}}{GDP_{i,t}}$$

where  $(x - m)_{c,i,t}$  is the net exports of country  $i$  in commodity  $c$  at time  $t$ .

The volatility of commodity prices, the timing of natural resource discoveries, and other factors such as conflict mean that commodity weights are inherently unstable over the sample period. Deaton and Miller (1995) argue that weights should be held constant over time in order for the variable to be exogenous and so not to capture endogenous supply responses to world prices. They acknowledge that this inevitably means missing out on key commodity discoveries. For robustness,

the equivalent index with time-varying weights is also tested see if this alters the findings (Tables 1.4 and 1.5).

The choice of the base year is not obvious, as some countries have been in something of a steady state over the sample period, while the commodity profile of others has changed due to significant discoveries. While Collier and Goderis (2012) use 1990 weights,<sup>28</sup> the index used in this study instead uses weights based on average export and import flows over 1980-2015, so they are fixed, but with no specific reference year. By using this approach, it reduces the chances of missing significant changes in commodity export composition, such as the production of oil in Chad starting in the early 2000s.

As described in Gruss and Kebhaj, the index is constructed such that:

$$\Delta CommIndex_{i,t} = \sum_{c=1}^c \omega_{c,i,t} \Delta P_{c,i,t}$$

where *CommIndex* equals the log of the commodity price index in levels, and  $P_{c,i,t}$  is the log of the real price of commodity  $c$  at time  $t$ .<sup>29</sup>

The levels commodity index for all countries is set to 100 in 2012 such that a one percentage point increase in the commodity index is equivalent to a change in income equivalent to one percentage point of GDP. The use of the weights captures the fact that certain countries are more sensitive to changes in certain commodity prices, such that the larger the trade importance of a specific commodity, the greater the sensitivity of the country-specific commodity export price index to changes in the price of that commodity.<sup>30</sup>

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<sup>28</sup> Collier and Goderis note that pairwise correlation in weights between 1990 and 2000 is 0.84, reflecting quite high persistence in weights over time.

<sup>29</sup> This methodology differs from the approach in Collier and Goderis in two ways. Firstly, their index construction uses only commodities for which countries are net exporters, and so ignores terms of trade effects for goods for which imports exceeds exports. Secondly, the weight is captured in the level of the index in Collier and Goderis, while it is captured in the sensitivity of the index. However, this does not affect the magnitude or interpretation of the coefficients in the empirical analysis.

<sup>30</sup> By way of illustration, consider a one-commodity world where net export of the commodity is 50 percent of GDP, a weight,  $\omega$ , of 0.5. All else equal, a 2 percent price rise would be needed to generate a 1 percent increase in GDP. Instead, suppose  $\omega$  was equal to 0.05, then a 20 percent price rise would be needed to generate the equivalent increase in income.

### 1.3.3 Data summary

Figure 1.1 provides a statistical summary of the variables used in the analysis for the full dataset<sup>31</sup>, which covers 110 countries. A number of countries are omitted from the study due to having substantial missing data points, which risks distorting the analysis, particularly if the missing data are not random, which is likely to be the case. Additionally, small island states and microstates are also omitted, with the cut-off being a population of 1 million in 2010, as used in Collier and Goderis. Lastly, Belgium, Netherlands, Hong Kong and Singapore are excluded due to the distortions created by the ‘port effect’, which results from significant levels of re-exporting. This full sample is used for the first part of the empirical analysis, testing the broader resource curse result, while the sample is then limited to 40 Sub-Saharan African countries in the second part.

**Figure 1.1: Summary statistics**

	Observations	Mean	Standard deviation	Minimum	Maximum
Real GDP per capita (log)	5394	8.14	1.58	5.10	11.66
Δ Real GDP per capita (log)	5283	0.02	0.05	-1.05	0.57
Investment share (% of GDP)	4867	0.22	0.08	-0.02	0.89
ΔPopulation (log)	5606	0.02	0.02	-0.12	0.18
Percentage of population aged 0-14	5720	0.36	0.10	0.13	0.51
Trade openness [(exports + imports)/GDP]	5214	0.64	0.34	0.00	3.11
Government consumption (% of GDP)	5103	0.15	0.06	0.00	0.76
Inflation (CPI)	4804	0.11	0.26	-0.18	5.48
Commodity export price index (fixed weights)	5593	4.57	0.16	4	4.83
Commodity export price index (rolling weights)	5593	4.58	0.17	3	5.28
Good governance dummy	5720	0.17	0.38	0	1
Fixed exchange rate dummy	5500	0.66	0.47	0	1
Institutional fixed exchange rate dummy	5720	0.22	0.41	0	1
ICRG score if 'instfixed' dummy = 1	990	0.54	0.20	0.13	1.00
ICRG score if 'instfixed' dummy = 0	4180	0.54	0.20	0.19	1.00
Average export diversification score (1980-2015)	5512	3.39	1.22	1.45	6.34

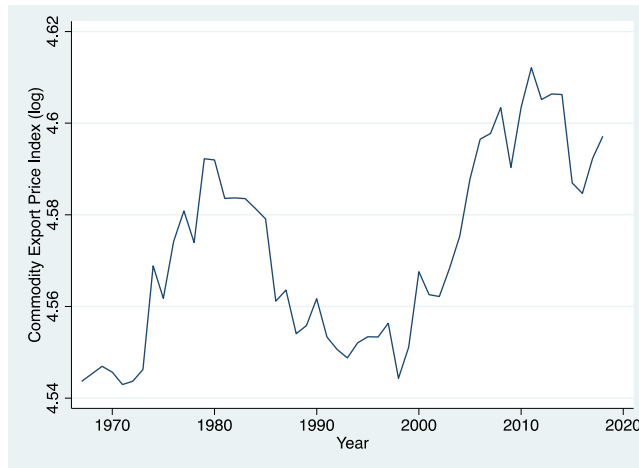
It should be noted that reliability of GDP and population data in Africa is an ongoing concern, as noted in a 2013 study by the African Development Bank. It highlights certain inconsistencies between countries in methodology, noting the imputations for non-monetary production, such as

<sup>31</sup> Appendix A provides a full review of the data sources.

value add for dwellings. Equally it calls into doubt some population data, commenting that Algeria, Democratic Republic of Congo and Nigeria had not conducted population censuses in the prior 20 years. Lastly, it notes the crude extrapolation methods sometimes used to produce price indices and thus the GDP deflator. Given the use of per capita real GDP as the dependent variable in this paper, the question of data reliability cannot be ignored when considering the final conclusions of this paper.

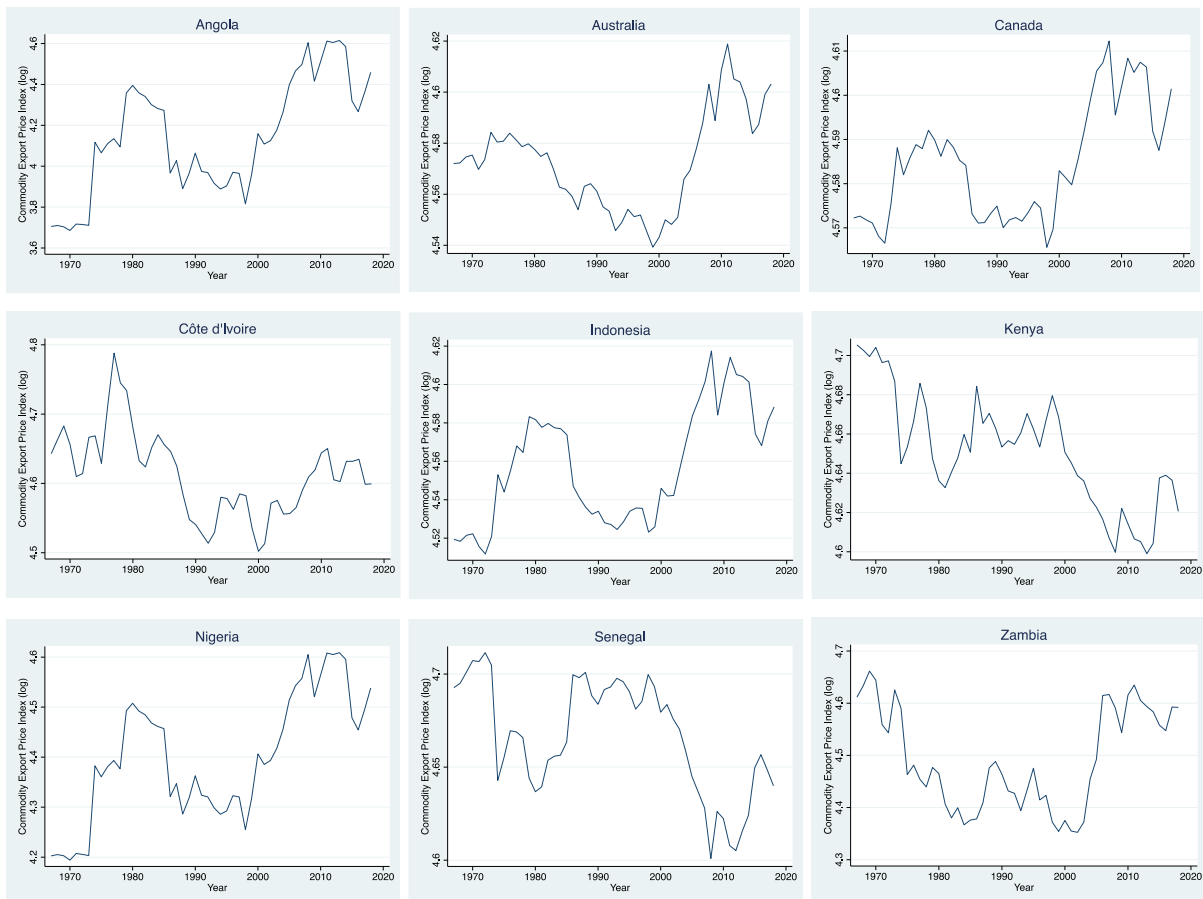
It is also informative to look at the variation in the commodity price index used across countries. Figure 1.2 graphs the average fixed-weight commodity export price index across all countries in the sample, showing the two global commodity cycles, from 1970-1999 and 2000 to the present day. Figure 1.3 displays a selection of countries, highlighting the different index movements across countries, with the different scales on the y-axis show the differing extent of deviations in the index. There are favourable long-term trends for oil-abundant countries Angola and Nigeria, as well as more diversified oil exporters such as Canada and Indonesia; very propitious price movements in the early 2000s for metals mining in Australia and Zambia after losing out in the first commodity cycle; and more mixed performance for agricultural exporters Côte D'Ivoire, Kenya and Senegal. The equivalent graphs for the rolling-weight index are shown in Appendix E.

Figure 1.2



Mean log commodity export price index across all countries

Figure 1.3



### 1.3.4 Specification checks

In order to use the error correction model specification, it is necessary to check the order of integration of the variables and verify the existence of cointegration between the long-run variables. If we cannot reject a null hypothesis of no cointegration, then the specification used in the estimations is not valid. The Pesaran (2004) cross-sectional dependence test shows that I reject the null of cross-sectional independence, which is typically to be expected in a cross-country panel growth regression. In light of this, the Pesaran (2007) unit root test is used, which tests for unit roots in the presence of heterogeneous panels with cross-sectional dependence. This augments the standard augmented Dickey-Fuller test with the cross-sectional averages of lagged levels to deal with the cross-dependence problem, and first differences to deal with residual serial correlation. The tests find that the orders of integration of the long-run variables are a mix of  $I(0)$  and  $I(1)$ , which is not surprising as, for example, one would expect real GDP per capita to be  $I(1)$ , but investment as a percentage of GDP to be  $I(0)$ .

When looking at error correction models, conventional cointegration tests require the long-run variables to all be integrated of order 1. Therefore, a different approach is required, and so the “bounds test” proposed by Pesaran et al. (2001) is used, which can be employed on an unrestricted error-correction model (such as equation 2) with a mix of  $I(0)$  and  $I(1)$  variables. The bounds test consists of an F-test on the null hypothesis that the coefficients on the lagged level variables,  $y_{i,t-1}$  and  $x_{i,t-1}$ , are equal to zero. Because exact critical values aren’t available for a mix of  $I(0)$  and  $I(1)$  variables, Pesaran et al. (2001) provides bounds on the critical values of the asymptotic F-statistic distribution. If the F-statistic lies within the bounds then the test is inconclusive, if it is below the lower bound then we cannot reject the null, and if it is above the upper bound then we can conclude that there is cointegration. The ‘bounds t-test’ can also be used, which is a one-tailed test on the coefficient on the lagged level of the dependent variable,  $y_{i,t-1}$ , with the alternative null that  $\gamma < 0$ . To reject the null, I use the  $I(1)$  critical bound provided by Pesaran et al.<sup>32</sup> Both methods suggest that the variables are cointegrated.

Using the Wooldridge test for autocorrelation in panel data and the Modified Wald test for group-wise heteroskedasticity, there is clear evidence of both serial correlation and heteroskedasticity in

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<sup>32</sup> For the test, there are  $(k+1) = 8$  variables, so  $k = 7$ . The t-statistic of -5.59 exceeds the 1-percent significance level  $I(1)$  critical value of -5.49 in absolute terms, which rejects the null hypothesis of no cointegration and means the ECM specification can be used to test short- and long-run dynamics.

the model. As noted earlier, there is also reason to believe there is cross-sectional dependence. To account for this, I use robust standard errors, clustered by year.<sup>33</sup>

The fixed effects approach is used to control for the time-invariant heterogeneity between countries that is not taken into account by the control variables in the framework. The null hypothesis is rejected in the Hausman test, indicating that a random effects estimator would produce biased and inconsistent estimates, and that a fixed effects approach is preferred. Nickell (1981) shows that the fixed effects estimator will be biased in the presence of explanatory variables that are not strictly exogenous for panels with “small T, large N”. This bias grows negligible as T grows large and, through Monte Carlo simulations, Bond (2006) finds that for T=30 or greater that the bias can be ignored. Given the sample size used in this study, this should not generally be a concern, but is worth noting when considering the truncated 2000-2018 period.

As in Collier & Goderis (2012), I use regional time dummies<sup>34</sup> rather than just a time trend. This helps to account for the heterogeneity across regions and reduce the potential for omitted variable bias. For instance, the dummy variables for East Asia and Asia Pacific (EAPAC) for the years 1997 and 1998 should pick up the East Asian crisis, and the dummies for Central and Eastern Europe and Central Asia (CEECA) capture the large negative growth shock caused by the breakup of the Soviet Union.

There is no general consensus regarding the selection of control variables in cross-country growth regressions. In part I look to follow the controls used by Collier and Goderis, but also to be informed by the literature in this area.<sup>35</sup> A large proportion of the proposed explanatory variables in Sala-i-Martin et al. (2004) are time-invariant (for example, initial 1960 GDP level) so will be controlled for by the fixed effects estimation, or regional dummies, which I already include. Further, there are data availability restrictions for many of the countries. Most of the control variables included in the regressions are significant at the 5 or 10 percent level across the different estimations. Other variables proposed by Sala-i-Martin and other areas of the growth literature

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<sup>33</sup> On average, using robust standard errors clustered by year increased the standard errors of the explanatory variables by 96 percent.

<sup>34</sup> This consists of a vector of  $RT \times 1$  variables where R is the number of regions. The same geographic split is used as in Collier and Goderis (2012), using the regions: Western European and North America; Latin America; Middle East and North Africa; Sub-Saharan Africa; South Asia; East Asia and Asia-Pacific; Central and Eastern Europe and Central Asia. Analysis of the regional time dummies within the results is provided in Appendix B.

<sup>35</sup> Sala-i-Martin et al. (2004); Hendry and Krolzig (2004); Bond et al (2010).

were not found to have statistically significant explanatory power over the sample period, and so were left out.<sup>36</sup>

## 1.4 Results

### 1.4.1 Testing the resource curse

Table 1.1 displays the estimation results from testing equation (2). The long-run control variables all have the signs predicted by economic theory and found in the growth literature, with most variables yielding statistically significant coefficients. It is also reassuring that the coefficient on the lagged GDP level, the error-correction term  $\lambda$ , is negative and significant at the 1 percent level. Consistent with previous studies, the short-run impacts are unambiguous, so that higher commodity prices raise output in the short-term. The main take from column (1) is that over the period 1970-2018, there is a similar result as that found in Collier and Goderis (2012), but with a slightly smaller coefficient on the commodity export price index.

However, that definition is restricted solely to the effect on real GDP, whereas a more comprehensive approach should consider the impact on real income.<sup>37</sup> To conclude that there is evidence for the resource curse, the adverse impact on long-run GDP from commodity price increases needs to be sufficiently large to offset the favourable terms of trade income effect, so that the overall impact on real income is negative. The terms of trade gain is represented by the increase in the commodity price index multiplied by the respective weights for each commodity. These two effects can be brought together to show that, for a 1 percent increase all commodity prices, the net impact on real income will be  $1\% * \sum_c \omega_{c,i} (1 + \theta)$ . So, even for a negative long-run elasticity,  $\varepsilon$ , we would still see a positive impact on real income from an increase in the commodity price index, so long as  $\theta > -1$ .

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<sup>36</sup> This included the price level of investment, secondary schooling, military spending as a percentage of GDP, share of population aged over 65, fertility rate.

<sup>37</sup> This distinction between real income and real GDP is explored in Kohli (2004), where he shows that real GDP understates the increases in real domestic income and welfare when there has been an improvement in the terms of trade. The paper also notes that, if real GDP is measured using the Laspeyres quantity index, an increase in the terms of trade actually leads to a *fall* in real GDP.

**Table 1.1 – Baseline results**

Dependent variable: first-differenced log of real GDP per capita				
	(1)	(2)	(3)	(4)
<b>Long-run coefficients</b>				
Investment share of GDP	0.715 (.471)	-0.071 (.498)	1.205*** (.353)	0.674 (.465)
Δ Population (log)	1.424 (10.437)	7.541 (11.746)	-6.645*** (1.834)	1.369 (10.316)
Inflation (log)	-0.232*** (.08)	-0.088*** (.05)	-0.447** (.172)	-0.228*** (.079)
Share of population aged 0-14	-3.464*** (1.062)	-4.331*** (.928)	-0.901 (1.48)	-3.441*** (1.047)
Trade openness	0.573*** (.121)	0.380** (.141)	0.280** (.108)	0.581*** (.121)
Government share of GDP	-0.784 (.583)	-1.283*** (.558)	0.128 (.319)	-0.774 (.575)
Commodity export price index	-1.229* (.567)	-1.975*** (.681)	0.327 (.334)	-1.337** (.595)
Commodity export price index * good governance				2.530*** (.832)
<b>Short-run coefficients</b>				
GDP per capita (log), t-1	-0.049*** (.007)	-0.084*** (.015)	-0.088*** (.018)	-0.050*** (.007)
Δ GDP per capita (log), t-1	0.160*** (.045)	0.158*** (.042)	0.072 (.086)	0.159*** (.045)
Δ Commodity export price index, t	0.027 (.052)	0.041 (.091)	0.047* (.023)	0.026 (.053)
Δ Commodity export price index, t-1	0.111** (.043)	0.231*** (.075)	0.049* (.027)	0.111* (.043)
Δ Commodity export price index, t-2	0.108** (.053)	0.158 (.117)	0.099*** (.033)	0.108** (.053)
R-squared	0.255	0.288	0.265	0.256
Years	1970-2018	1970-1999	2000-2018	1970-2018
Observations	4015	2143	1872	4015
Restrictions	(2): 1970-1999 (3): 2000-2018			

*All estimations use regional time dummies, country fixed effects.  
Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

The expanded dataset allows this study to go beyond previous literature as it comes after the end of the latest commodity super cycle, peaking in 2011.<sup>38</sup> This allows for more variation in the explanatory variable of interest and does not limit the analysis to looking at one full commodity cycle, from the late-1960s to late-1990s. To attempt to explore whether these cycles may have had different characteristics, I split the sample period in two and repeat the initial regression for 1970-1999 and 2000-2018. The results lead to interesting conclusions about the resource curse, shown in columns (2) and (3).

The results in column (2) for 1970-1999 show a negative and statistically significant  $\hat{\theta}=-1.98$ , suggesting a negative elasticity of the long-run level of real GDP per capita to commodity price levels. As an example, a country would experience a 2 percent fall in its long-run GDP per capita level if it experienced a 1 percent rise in its commodity export price index, but the qualitative hit to real income would be offset by 1 percent from the terms of trade gain. Therefore, in the period 1970-1999, commodity price rises dragged not only on long-run GDP, but also on real income. In contrast, the results in column (3) for the period 2000-2018, in effect the second commodity cycle, yield a positive and statistically insignificant  $\hat{\theta}$ , showing no evidence of an adverse impact on long-run per capita GDP in the later period.

When compared to the results of Collier & Goderis, I can make two observations. Firstly, that the resource curse effect for 1970-1999 is of a similar magnitude to what was estimated in that paper<sup>39</sup> (for 1963-2008), noting that some of the drag on GDP is offset by the qualitative increase in welfare<sup>40</sup> as a result of the favourable terms of trade impact; and secondly that this effect is only present in the first of the commodity cycles defined here. This suggests the Collier and Goderis result was driven by the earlier years of their sample. It may be that some of the factors explaining the first result have receded or disappeared over the period. The Polity IV data series measures the level of democracy, with scores ranging from -10 for strict autocracies to 10 for full democracy. To the extent that democracy fosters transparency and accountability, we might reasonably expect that an improvement in this index reduces the capacity for crony capitalism and rent-seeking behaviour. The mean score for the first period in this sample is 0, whereas for 2000-2018 the

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<sup>38</sup> Different commodities peaked in different years around this time, but 2011 is often considered the peak of the 2000-2018 cycle, and this is confirmed by looking at the commodity export price index used in this study (Figure 1.1).

<sup>39</sup> The relevant comparison is -1.475, taken from Column (5) of Table 2 in Collier and Goderis (2012).

<sup>40</sup> Real income and welfare are certainly very different concepts, but it is not controversial to say that, all else equal, a rise in real income leads to a rise in welfare.

average is 4. In addition, the percentage of ‘autocracies’ in the sample had fallen from 47 percent in 1970 to 16 percent by 1999, and down to just 11 percent by 2016.

Another explanation is that there is evidence of an improvement in the way countries operate their fiscal policy. A common criticism of resource-rich countries is that governments have reacted to commodity windfalls by pursuing expansionary fiscal policy, spending additional commodity revenues to reduce taxes on households or increase consumption spending. These procyclical policies, which have to be painfully reversed once commodity revenues start to dry up, have the potential to aggravate boom-bust cycles, with the resulting volatility damaging long-term growth potential. Aslam et al. (2016) find that the degree of fiscal procyclicality in the most recent commodity boom was half of what it was in pre-2000 episodes. Céspedes and Velasco (2014) observe that, once controlling for the output gap, the average elasticity of government expenditure to commodity prices was positive in episodes before 2000, but that this has reversed post-2000 with policy becoming more countercyclical. This points to governments acting with greater fiscal prudence and responding more to across-the-cycle commodity prices rather than short-term political cycles.<sup>41</sup>

#### **1.4.2 Conditioning on governance**

Further investigation into the political economy of resource rents is carried out by Collier and Goderis (2012) who introduce levels of governance into the analysis. I apply the same methodology, using the average ICRG Political Risk Rating over the period 1984-2015. I use a dummy variable ‘good governance’ that equals one if a country scores 0.75 or higher, and zero otherwise.<sup>42</sup> The final column in Table 1.1 displays the results, offering similar conclusions to Collier and Goderis, with a large positive and statistically significant coefficient on the interaction term of commodity index and good governance, more than offsetting the standalone effect. This supports the argument that the resource curse is often a consequence of poor governance (or poor institutions), and the potentially damaging effects of commodity price booms are avoided by those economies with good governance. This result is intuitive and elegant, but the test lacks power, as most of the ‘good governance’ countries have negligible dependence on natural resources;<sup>43</sup>

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<sup>41</sup> This argument on the fiscal response to commodity price changes is supported by the empirical findings in Chapter Two.

<sup>42</sup> 19 countries fall under ‘good governance’, 90 under ‘bad governance’. None of the CFA countries are in the former group.

<sup>43</sup>  $\omega_i$  averages 3 percent, compared to 12 percent for the ‘bad governance’ countries in the sample.

indeed, only five have a net commodity export share of GDP greater than 5 percent.<sup>44</sup> Moreover, as noted in Section 1.2, there are concerns about endogeneity of institutions, which may mean the interaction term is not correctly identified. Instruments for governance could be explored to correct for this, but this isn't pursued here as it is not the principal thrust of this chapter.

In an earlier version of this paper, a commodity terms of trade index was constructed, following the method of Collier and Goderis, that enabled the decomposition of the index into an agricultural commodity index and a non-agricultural commodity index. As non-agricultural commodities are typically geographically-concentrated 'point resources' (in contrast to 'diffuse-source' agricultural products, with some exceptions), it would in theory be easier for rent-seeking governments to control production and extract rents. Consistent with expectations and prior findings, it was found that the non-agricultural commodity export price index coefficient was negative and statistically significant, but only from 1970-1999 as in the second period there is no evidence of a resource curse for either commodity group.

However, the Gruss and Kebhaj index was preferred for the main empirical section in the final version of this paper, due to its more complete data set. It is still possible to test the hypothesis that point resources drive the adverse result with the Gruss and Kebhaj index. I created a dummy variable equal to one for the 24 countries for which gross agricultural commodity exports as a share of GDP is greater than 5 percent in 2000, zero otherwise, which is then interacted with the commodity export price index. This additional term was added to the regression in column (1) and the interaction term was positive (and insignificant), suggesting that it is the non-agricultural commodities that are driving the main result. This result it is particularly emphasised when using the more recent time period.

### 1.4.3 Impact of exchange rate regimes

In moving towards focusing on the CFA franc zones, I look firstly at how the results in Section 1.4.1 are impacted by choice of exchange rate regime, following on from the discussion in Section 1.2. In order to determine *de facto* exchange rate regimes, I use the updated Ilzetzki, Reinhart and Rogoff (2017) classification. The *fixed* dummy takes a value of 1 if the country scores 1 or 2 in the "coarse" exchange rate classification, zero otherwise. Adding an interaction term between *de facto* fixed exchange rates and the commodity index to the standard specification – as in Table 1.2,

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<sup>44</sup> Australia, Canada, Cyprus, Finland, Norway.

column (5) – appears to provide evidence that it is fixed exchange rate regimes that drive the result, due to the interaction term. However, this is complicated by the positive coefficient on the standalone fixed dummy variable.<sup>45</sup>

Crucially, there are a couple of important comments to be made. Firstly, the ‘non-fixed’ group of countries includes what Ilzetki, Reinhart and Rogoff refer to as “freely floating”.<sup>46</sup> They observe that GDP performance in *de facto* floating regimes is far better (2.3 percent vs 0.5 percent) once freely floating countries are removed from the sample. Given that freely floating episodes are sometimes the result of failed *de facto* pegged regimes (as well as failed floating regimes), there is a risk of endogeneity bias infecting the results. This may explain the large positive fixed dummy coefficient, compensating for the negative economic growth of freely floating regimes (when *fixed* = 0). As an example, post-crises, it is common that a country *de facto* pegs their exchange rate for a period until economic growth returns to stable levels, meaning the choice of regime is inevitably endogenous. In a more general sense, a country might be more inclined to switch regime if growth was suffering. To illustrate this, I looked at all 215 instances where there has been a change in *de facto* regime in the sample and found that the average three-year annual growth was 1.1 percent in the three years preceding the changes, compared to an average growth rate across the whole sample of 1.6 percent.<sup>47</sup> The fact that changes in exchange rate regime have followed periods of growth that are, on average, one standard deviation below trend strongly suggests there is some causality from growth to choice of exchange rate regime.

One way of removing the endogeneity of regime choice is to limit the fixed exchange rate countries to those who have remained *de facto* fixed across the entire sample period 1970-2018.<sup>48</sup> But even here there may be concerns, as there could be endogeneity when considering *not* switching *de facto* regimes and remaining *de facto* fixed, just as there is about switching. As it happens, a significant number of countries in the sample are members of formal regional institutions, whether monetary unions<sup>49</sup> or, in the case of the Gulf Cooperation Council, a political union that has shown full commitment to pegging their respective currencies to the US dollar. In these instances, the choice of exchange rate regime is ostensibly independent of economic performance, motivated instead

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<sup>45</sup> Note the fixed regression only captures 1970-2016 as this is where the exchange rate data ends.

<sup>46</sup> This category describes countries where the inflation rate is over 40 percent or the country is within six months of a currency crisis. From 1970-2001, this made up 12.5 percent of the Ilzetki et al. sample.

<sup>47</sup> The t-test to compare these two means yields a t-statistic of 4.79.

<sup>48</sup> This is 29 percent of the sample.

<sup>49</sup> The two CFA franc zones in Western and Central Africa, the Common Monetary Area in Southern Africa, and the Eurozone from 1999 onwards.

by political or historical factors. Consequently, controlling for these formal regional institutions should remove, or at least greatly reduce, this bias.

Column (6) shows that the natural resource curse is present over the whole sample, both on a standalone basis and conditional on being part of a formal regional fixed exchange rate regime (defined as ‘institutional fixed’). These findings indicate that – while there may not be a direct way of identifying how *de facto* fixed exchange rates contribute to potential adverse long-term effects from commodity booms – there is statistically significant evidence that being part of a regional exchange rate mechanism does have this negative impact. But, while it is statistically significant at the 1 percent level, this additional drag on long-term growth associated with institutional fixed regimes is very small.

Given the focus on governance, the sample is then restricted to countries that fall below the cut-off for ‘good governance’ described in Section 1.4.2. Whereas in the eurozone over 80 percent of members classify as having ‘good governance’, for the CFA, GCC and CMA zones none of the countries have average ICRG scores above the cut-off. Once this restriction is added in (7), the result is more clear-cut, with the interaction coefficient of -1.34 suggesting that the real income effect is negative for the institutional fixed countries, but positive for countries with weaker governance who are operating independent exchange rate regimes.

The most apparent interpretation is that the findings reflect the potential adverse effects resulting from a rigid exchange rate regime that allows real exchange rate misalignments to persist on a national level. Indeed, it would appear to support Friedman’s initial claim that flexible exchange rates help smooth external adjustment to exogenous commodity shocks and foster higher growth. However, also to be considered is the political element, noting that this is the principal motive for virtually all regional integration arrangements. As such we cannot ignore its role, and consider that the unfavourable result may also be a consequence of broader political economy failings.

Given concerns about endogeneity of governance, it should be noted that a lot of non-members also score poorly on the ICRG ratings. In fact, the average ICRG score is virtually identical between the ‘institutionally fixed’ group and the rest of the sample, both equalling 0.54. Therefore, if country-level political indicators, as measured by ICRG scores, are not sufficient to explain the result, then it may be that the supranational institutions are failing the member countries, creating rigidities and restricting countries’ abilities to respond to idiosyncratic shocks.

**Table 1.2 – Fixed exchange rate interaction**

Dependent variable: first-differenced log of real GDP per capita

	(5)	(6)	(7)
<b>Long-run coefficients</b>			
Investment share of GDP	0.715 (.442)	0.686 (.468)	0.881* (.465)
Δ Population (log)	1.530 (9.72)	1.345 (10.362)	2.838 (11.281)
Inflation (log)	-0.195** (.074)	-0.229*** (.079)	-0.209*** (.079)
Share of population aged 0-14	-3.248*** (1.002)	-3.682*** (1.054)	-3.890*** (1.212)
Trade openness	0.561*** (.115)	0.593*** (.121)	0.476*** (.132)
Government share of GDP	-0.961* (.564)	-0.736 (.572)	-0.576 (.56)
Commodity export price index	-0.146 (.798)	-1.230** (.564)	-0.372 (.797)
Commodity export price index * Fixed	-1.341* (.752)		
Fixed	6.276* (.187)		
Commodity export price index * Institutional fixed		-0.073*** (.017)	-1.415* (.758)
<b>Short-run coefficients</b>			
GDP per capita (log), t-1	-0.054*** (.007)	-0.050*** (.007)	-0.053*** (.008)
Δ GDP per capita (log), t-1	0.148*** (.045)	0.158*** (.045)	0.147*** (.048)
Δ Commodity export price index, t	0.033 (.052)	0.025 (.052)	0.030 (.056)
Δ Commodity export price index, t-1	0.124*** (.041)	0.111** (.043)	0.112** (.046)
Δ Commodity export price index, t-2	0.109** (.053)	0.108** (.054)	0.109** (.053)
R-squared	0.261	0.257	0.250
Years	1970-2016	1970-2018	1970-2018
Observations	3919	4015	3106

Restrictions (7): only countries for which  
*good governance*=0

*All estimations use regional time dummies, country fixed effects.  
Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

#### 1.4.4 The resource curse within Sub-Saharan Africa

The next step is to focus on the result in the context of Sub-Saharan Africa, with particular emphasis on the CFA franc zones relative to non-CFA countries. To do this, the fixed exchange rate institutions variable is decomposed to isolate the effect of the CFA, while the CMA<sup>50</sup> is also broken out. The results are shown in Table 1.3. Column (8) includes the CMA countries, but there is a case for excluding these countries given that two – Lesotho and Swaziland – are in the smallest 10 percent of countries in the sample by GDP, while Namibia only gained independence in 1990. Further, the close geographic and economic connection to the economy of the anchor currency, South Africa, reduces the impact from loss of monetary sovereignty. Accordingly, (9) shows the results ex-CMA, which are similar to (8) and imply that the drag on long-term real GDP per capita growth has been present across all countries in Sub-Saharan Africa, but is larger in the CFA countries. The SSA countries appear to have been better off outside the monetary unions when it comes to realising long-term gains from commodity wealth. As has been discussed, this appears to reflect the adverse effects on growth of real exchange rate misalignment and restrictions on policy flexibility that that can persist in fixed exchange rate regimes, particularly when the nominal exchange rate path is entirely driven by external factors.

Columns (10) and (11) look at this result over the two commodity cycles previously described. They show that the drag on growth from the interaction variable was larger – and statistically significant despite the reduced power resulting from the smaller sample – for the CFA zones in the period 1970-1999, while the coefficient is positive for the non-CFA countries. In the second commodity cycle, there is still a drag on CFA franc zone growth, but this is no longer statistically significant, suggesting the problem has receded to some extent in the last couple of decades.

#### 1.4.5 A resource ‘drag’ in the CFA franc zones

The overall results suggest that appropriately measured commodity shocks have had different effects across neighbouring countries in West and Central Africa. This bordering exists because the selection of the CFA member countries was predominantly determined by their colonial histories, rather than by geography. This means that many members are bordered by non-member (typically Anglophone) countries. Beyond the exchange rate story, another factor that may be

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<sup>50</sup> Note that South Africa is excluded from the CMA here as the Rand is not fixed but acts as the anchor currency for the other three countries.

driving this apparent failure of the CFA zones is the nature of the external guarantee and the French influence in the region. This may have stunted development due to an over-reliance on France, and also curtailed financial development in the zones.

The findings are consistent with Aizenman (2017). In a paper commenting on the increasing vulnerability of fixed exchange rate regimes to financial shocks, he concludes:

*“Currency unions with low financial depth and low financial integration among its members may face complex dynamic challenges. Limited finance may reduce the exposure to asymmetric financial shocks, thereby stabilizing a currency union, at a cost of inhibiting the growth of sectors that depend on external funding. A currency union member country blessed with exportable commodities may find that union membership inhibits diversification toward manufacturing and magnifies the impact of Dutch Disease concerns over time, thus hindering the adjustment to terms of trade shocks.”*

Nubukpo et al. (2016) present the CFA franc as a tool of political and economic repression rather than for development. In particular, they believe that the inflexible monetary policy inherent in the CFA structure leads to endogenous credit rationing, as the result is prohibitively high real interest rates that stymie credit expansion and, as a consequence, economic development. This will reduce the ability for financial markets to provide insurance and smooth the impact of commodity shocks on the economy, with the resulting output volatility dragging on longer-term economic growth, as shown in Ramey and Ramey (1995). Looking at the Republic of Congo, Clark (1997) argues that its oil wealth intensified French interests in the country, creating an economic dependence on the former colonial power. He argues that the “tight embrace” that France has over Congo “must be regarded as a significant impact to democratisation”.

Singh and Kpodar (2009) argue that shallower financial development in the CFA zone relative to the rest of SSA is driven by legal factors. They test the reasons for variations in financial depth using a panel of 40 SSA countries over 1992-2006 and find that this can be explained by differences in institutional quality. They cite empirical work showing that countries whose legal frameworks are based on the English tradition tend to fare better than those based on the French when it comes to deepening financial markets. As an example, they note that there is a higher number of credit registries compared to non-CFA SSA, but despite this there is poorer availability of credit information, while they also observe weaker property right enforcement and bureaucratic quality in the CFA zones.

**Table 1.3 – SSA-only**

Dependent variable: first-differenced log of real GDP per capita				
	(8)	(9)	(10)	(11)
<b>Long-run coefficients</b>				
Investment share of GDP	0.012 (.517)	0.007 (.522)	-0.411 (.467)	0.543 (.499)
Δ Population (log)	14.929 (15.51)	15.214 (15.654)	8.176 (11.282)	4.214 (6.065)
Inflation (log)	-0.159 (.109)	-0.160 (.109)	0.015 (.073)	-0.171 (.062)
Share of population aged 0-14	-6.740*** (1.627)	-6.833*** (1.654)	-4.966*** (1.664)	-2.742** (1.99)
Trade openness	0.507*** (.187)	0.532*** (.199)	0.219 (.199)	0.229 (.169)
Government share of GDP	-0.096 (.376)	-0.136 (.385)	-0.260 (.489)	0.225 (.154)
Commodity export price index	-0.709** (.328)	-0.720** (.331)	0.293 (.472)	-0.015 (.285)
Commodity export price index * CFA	-0.262*** (.081)	-0.264*** (.082)	-0.368* (.19)	-0.216 (.33)
Commodity export price index * CMA	-5.126 (3.997)			
<b>Short-run coefficients</b>				
GDP per capita (log), t-1	-0.070*** (.009)	-0.069*** (.009)	-0.131*** (.03)	-0.131*** (.028)
Δ GDP per capita (log), t-1	0.067 (.049)	0.065 (.049)	0.010 (.077)	0.094 (.058)
Δ Commodity export price index, t	0.006 (.071)	0.007 (.072)	0.119 (.142)	0.002 (.036)
Δ Commodity export price index, t-1	0.138*** (.045)	0.138*** (.045)	0.253*** (.069)	0.064 (.055)
Δ Commodity export price index, t-2	0.128* (.066)	0.130* (.067)	0.188 (.16)	0.109*** (.028)
R-squared	0.208	0.213	0.279	0.221
Years	1970-2018	1970-2018	1970-1999	1970-2018
Observations	1195	1153	543	610

Restrictions (8): SSA  
(9): SSA, excluding CMA  
(10): SSA, excluding CMA, 1970-1999  
(11): SSA, excluding CMA, 2000-2018

*All estimations use regional time dummies, country fixed effects.  
Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

Earlier comments on fiscal procyclicality could also be relevant, given the role commodity price movements play in driving output volatility in the region. Member countries of the CFA zones have adopted at least two simple fiscal rules since the turn of the century<sup>51</sup>, whereas only five<sup>52</sup> of the remaining twenty-seven sub-Saharan African countries in the sample have introduced rules. Bova et al. (2014) provide some evidence that in developing countries the presence of fiscal rules has led to the fiscal stance becoming more procyclical, contrary to its intended purpose. Indeed, conceding this to be the case, the amendment to the CEMAC fiscal balance rule in 2016 directly sought to address this problem.<sup>53</sup> Bova et al. note that most fiscal rules lack the mechanisms that make the rules more flexible across cycles, observing that only Chile (2001), Colombia (2011), Panama (2009), and Serbia (2009) have incorporated cyclically-adjusted targets. Much has been written on how Eurozone members were constrained to procyclical policies fiscal policies as a consequence of the fiscal rules within the Stability and Growth Pact (SGP).<sup>54</sup> Unfortunately, less has been written on the experiences in developing economies. A counter to this argument however is that CFA countries have persistently violated these fiscal rules,<sup>55</sup> which suggests they are not seen as a credible binding constraint. A natural extension of this work would be to explore the political economy of the zones to better understand the extent to which there are political constraints on growth and resource management in the region.

It is worth noting that the results show the effects of CFA membership conditional on other characteristics that may themselves depend on membership. This point is explored in Fielding and Shields (2005), who consider the effect of membership on macroeconomic integration, notably on trade where they find a meaningful effect for very close neighbours. In the methodology used in this paper, two variables stand out: firstly, trade openness – measured here as a function of exports plus imports – for CFA members has been impacted by the relationship with France, with Section 3.6 showing how, in the 1960s and 1970s, France had been the dominant trading partner for the CFA zones. That being said, the data show that average openness does not significantly between the CFA and non-CFA countries in Africa,<sup>56</sup> possibly because this relationship displaced trade

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<sup>51</sup> UEMOA countries introduced three fiscal rules in 2000, CEMAC introduced two rules in 2002.

<sup>52</sup> Using the IMF Fiscal Rules Dataset these countries are Botswana, Kenya, Liberia, Namibia, Nigeria. (<http://www.imf.org/external/datamapper/fiscalrules/matrix/matrix.htm>).

<sup>53</sup> The new CEMAC fiscal rule, effective as of 2017, put a floor on the ‘reference fiscal balance’ at minus 1.5 percent. This is calculated as the overall budget balance minus 20 percent of oil revenue and minus 80 percent of the gap between current oil revenue-to-GDP and the average of the prior three years. This aims to reduce procyclicality by being disconnected by the current year’s oil revenue, and gives a three-year period to adjust to permanent falls in oil revenues.

<sup>54</sup> For example: Bénassy-Quéré (2015), De Grauwe and Foresti (2015), Whelan (2012).

<sup>55</sup> In CEMAC, this rule was only enforced in 40 percent of cases over 2006-2018, and by none of the countries in 2016 (IMF CEMAC Selected Issues, December 2017).

<sup>56</sup> Over the sample CFA countries average 0.64, while non-CFA SSA countries average 0.68.

volumes with other countries, rather than adding. Section 3.6 also highlights the relatively low intra-zone trade compared to other currency unions. It appears that there is more of an association between openness and commodity wealth than CFA membership.<sup>57</sup> The second variable is inflation, which has consistently been lower for CFA member countries compared to non-CFA neighbours, as noted in the Introduction. The results do not change markedly if inflation is excluded from the explanatory variables. Lastly, the exclusion of time-invariant variables, by virtue of the fixed effects model, means that the estimation does not produce a coefficient for the effect of CFA membership on long-run per capita growth.

## 1.5 Robustness checks

### 1.5.1 Alternative commodity price index

The methodology in this chapter takes the stance that country-specific commodity export weights should be held constant over time in order to avoid capturing endogenous supply responses to changes in world prices. However, this approach has its own shortcomings. Using a fixed weight, even if it is an average from 1980-2015, does not fully capture the evolving importance of commodity exports for a country over time. As such, a natural resource discovery and subsequent production towards the end of this period will be watered down considerably. For example, while oil exports now make up over 90 percent of total exports in Angola, this was less than 5 percent in the early 1990s. As a consequence, the net income effect of a change in oil prices now is much greater in Angola than it was 30 years ago. The alternative approach is therefore to allow the commodity exports-to-GDP weights to vary over time. This is the alternative method in Gruss and Kebhaj (2019), where they use the three-year rolling average of trade values in order to smooth volatility, and lagged by one year in an attempt to overcome endogenous volume responses in the weights.

The rolling weights approach is used to test the robustness of the results in Section 1.4 to changes in the construction of the commodity index. The main results are tested and shown in Table 1.4 in Appendix A. The first two columns show that the initial findings are maintained, namely that there is evidence of a resource curse in the earlier period, 1970-1999, but that this effect appears to disappear in the second cycle (column (14)). The governance result is consistent too in (15). In

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<sup>57</sup> For example, the top 10 percent net oil exporters average 0.85 for trade openness compared to 0.62 for the rest of the sample.

addition, looking at developing countries, as in Section 1.4, in column (16) in Table 1.5 shows that countries that are part of institutional fixed exchange rate regimes appear to be more prone to experiencing a drag on economic growth as a result of growing resource wealth. When the sample is restricted to Sub-Saharan Africa in column (17), the implication again is that countries in the CFA franc zones are more likely to suffer from the resource curse than non-CFA peers, as in the main results in Table 1.3, with the interaction term statistically significant at the 1 percent. That the result is supported under two fundamentally different commodity price indices is supportive for the robustness of the findings. In this restricted sample, robustness tests were also carried out dropping each of the CFA countries in turn. For each country excluded, the coefficient on the interaction term between CFA franc membership and the commodity price index remained statistically significant, with the magnitude remaining within a 10 percent band of the core result in column (9). This would appear to rule out the possibility that the central result is driven by one particular outlier.

### 1.5.2 Possible endogeneity bias

Another key area is the potential for endogeneity bias emanating from the commodity export price index, which uses net commodity exports as a percentage of GDP,  $\omega_i$ , in its calculation. A resource abundant country may be highly diversified, such as Canada, or instead may be undiversified, such as Angola, and rely heavily on their natural resource sector. Therefore,  $\omega_i$  would be biased upwards for undiversified economies, so they will be over-weighted in the regression. As there is overwhelming evidence that diversified economies tend to experience higher levels of per capita GDP in the long run, this effect should bias  $\hat{\theta}$  downwards. This would be reinforced if governments have high discount rates and front-load resource extraction, as this would raise the share of commodity exports in GDP in the near term, but likely have a damaging effect on long-run output. A downward bias would increase the chances of a type I error for the null that  $\theta = 0$  to the alternative hypothesis that  $\theta < 0$ , but the findings in Section 1.4.1 already reject the traditional resource curse result in recent decades (by not rejecting the null hypothesis of  $\theta = 0$ ), so the more likely effect is that the positive long-run benefits of commodity wealth are actually underestimated in the model.

For the exchange rate result in Section 1.4.4, the main takeaway is the statistically significant lower long-run elasticity of GDP to commodity prices for the members of regional fixed exchange rate institutions compared to non-members countries, when excluding ‘good governance’ countries (or

alternatively, when looking at developing countries, as shown in the robustness checks). The risk is that this result is driven by bias rather than reflecting the underlying relationship. However, the key insight is the difference between the elasticities for member and non-member countries, as defined above. If we assume that quality of governance is a reasonable proxy for a country's tendency to promote a diversified economy and extract resources at a sustainable level, then the almost identical average ICRG risk rating for the two groups should mean the bias affects each group's long-run elasticity to a similar extent. Moreover, with respect to the CFA vs. non-CFA result in Sub-Saharan Africa, the two groups not only have very similar average ICRG ratings but also similar levels of commodity export dependence.

### 1.5.3 Sample adjustments

Another potential concern here is that the sample used is not appropriate. It comprises all the countries in the world for which there is sufficient data and for which the 2010 population exceeds 1 million, with a few notable exceptions.<sup>58</sup> Such a broad sample provides variation but risks adding too much noise, as the inclusion of countries where commodity exports are negligible raises questions about inference. Column (20) restricts the main result to developing countries, where gross commodity exports as a share of GDP are on average more than four times larger than for the developed economies in the sample. Next, in (21) the sample is restricted to countries whose average export diversification score on the IMF Export Diversification database is above 4 over the period 1970-2010, where a higher score corresponds to less diversification.<sup>59</sup> I include the results for the oil-exporting countries<sup>60</sup> in column (22), as defined by the UN's Standard International Trade Classification.<sup>61</sup>

For developing countries, the regressions produce very similar results as in the main section. The result is more definitive for the undiversified group of countries, with countries outside of institutional fixed exchange rate regimes experiencing a positive and statistically significant impact on long-run GDP per capita from resource wealth, while the opposite is true for members of such arrangements. Even in the more restricted oil exporter sample the results still hold, despite the sample size being cut by over 80 percent. The results presented in Table 1.6 use the fixed weights commodity index, but are robust to the rolling weights index.

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<sup>58</sup> See Section 1.3.3

<sup>59</sup> This undiversified group represents 38 of the 110 countries used in the study.

<sup>60</sup> 18 countries in the sample are classified as oil exporters.

<sup>61</sup> UN's Standard International Trade Classification (SITC 3) for countries whose fuel export earnings exceeded 50 percent of total export earnings for the period 2008-2012.

#### 1.5.4 Testing asymmetry of short-term commodity price shocks

Finally, I also investigate asymmetry of commodity price shocks to see if economies respond differently to booms and busts in the short term. There are several reasons why we might expect this to be the case. For example, the presence of nominal rigidities may impact a country's ability to adjust to the resulting change in relative prices, driving a wedge between domestic and world prices. Schmitt-Grohe and Uribe (2016) document that nominal wages are downwardly rigid in developing countries – a well-established result for developed economies - and that this asymmetry in labour market prices means economies should adjust differently to booms and busts. Further, the lack of developed financial markets mean that it is very difficult for agents to adequately insure themselves against losses, or to get access to emergency credit in the event of a large price fall that causes an economic contraction. As a consequence, for a country sufficiently dependent on a single commodity, the effect of a crash in the price may have a more substantial effect than a price boom if it leads firms to hit liquidity constraints, depressing innovation and risking defaults on borrowings. A similar argument considers the countries' foreign reserve position, and its ability, or inability, to intervene following commodity price slumps. From a political economy perspective, governments may have greater incentive to act to boost the economy in the event of a downturn than they do to dampen the effects of a boom. Consequently, governments could be inclined to ride the wave of commodity-driven economic booms, ignoring inflationary pressures in favour of popularity among voters, whereas the political motivation to rescue an ailing economy would be unambiguous.

Using an analogous methodology to that used by Chinn and Wei (2013), I create a dummy variable defined as  $posComm = 1$  if the change in the commodity export price index is positive, 0 otherwise. Inserting interaction terms into equation (3) between  $posComm$  and the first difference and lagged first difference of the commodity price index allows the regression to distinguish between the effects of positive and negative shocks. Column (23) displays the results for the full sample. This result suggests that positive shocks have a greater impact on short-run GDP, which is slightly surprising, but supports the argument that governments may be more inclined to boost government spending in booms than they are to cut back following commodity price downturns. However, column (24) tests the same specification, but for the second commodity cycle in the sample, 2000-2018. Over this period, the prior result disappears entirely, and there does not appear to be clear evidence of asymmetries. This is consistent with Addison (2015), who finds no evidence

that an unanticipated agricultural commodity price increase or decrease will lead to a significantly different response in per capita incomes.

## 1.6 Concluding remarks

This chapter has cast some doubt on the traditional resource curse hypothesis. It only finds statistically supportive evidence for the curse in the first commodity cycle in the sample (1970-1999) and even then, the adverse impact of commodity booms on long-run GDP per capita appears to be smaller than previous estimates, to the point where it barely offsets the positive terms of trade income effect. There is no evidence of a ‘curse’ in the most recent commodity super-cycle (2000-2018), implying that long-run growth has more recently become independent of commodity prices. In addition, in a variety of specifications aimed to reduce endogeneity concerns, good governance is unambiguously seen to raise the long-run elasticity of long-run GDP to price changes in commodity export baskets.

However, the chapter finds evidence of a special case of the resource curse result, specifically that membership of a formal regional exchange rate institution appears to adversely affect the channels through which commodity booms affect long-run GDP, notably in developing countries. For the CFA franc zone specifically, there is statistically significant evidence that commodity wealth has been a drag on long-run GDP per capita. There is shown to be a benefit to real income, given the favourable terms of trade effects of price rises, but this is lower than in SSA countries outside the CFA zones.

Despite these conclusions, there are limitations to what can be inferred from the empirical findings. It does not follow that a fixed exchange rate regime is never appropriate for a commodity-rich country, as the result described here may be driven by other factors related to regional institutions, including historical reasons, rather than direct exchange rate effects. Unfortunately, in order to overcome endogeneity concerns, the exchange rate dummy is identified in such a way that doesn’t separate these two forces. Specifically, identification of effects from CFA membership are difficult to interpret given the role of colonial history in shaping institutions and macroeconomic performance. In addition, real GDP per capita is by no means a perfect measure for economic welfare, as some countries in the sample may score highly on this indicator but also

have severe levels of income inequality and poverty if this wealth is concentrated in the hands of a small elite.

Secondly, even if the implication is that a fixed exchange rate reduces the long-run elasticity of output to commodity prices, this partial analysis ignores the other roles that exchange rates play in the CFA zones. For instance, as a result of the hard fix, inflation in the CFA zones has consistently been lower and more stable than in the neighbouring *de jure* floating non-CFA countries. The economic implications of slower and steadier inflation need to be considered. This itself is nuanced, as some argue that near-zero inflation rates are too low for developing countries,<sup>62</sup> as money supply growth is insufficient to match the growth in money demand for investment opportunities. Beyond this, one would need to consider the distributional effects as well as the potential socio-political benefits of this internal and external price stability in order to make a more general inference. Lastly, to the extent that currency unions form a part of broader political projects, one may reasonably expect positive impacts from closer regional integration such as reduced cross-border corruption or even conflict. Unfortunately, there is little existing research on the association of these specific outcomes with CFA membership. Nevertheless, these non-economic consequences – for example, the effect of membership on the incidence of civil war, or migration – need to be considered alongside the economic arguments.

Nevertheless, this chapter provides statistically significant evidence that, all else equal, countries outside of regional exchange rate institutions have reaped greater economic rewards, as measured by gross domestic product, from their commodity endowments than those inside. As a consequence, this result should be used to inform the debate on the future of the CFA zones, as well as the discussion of prospective monetary unions in Eastern and Western Africa.

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<sup>62</sup> Recent studies on developing economies suggest that the threshold above which inflation has a detrimental impact on growth is between 10 and 20 percent, and that there may be a lower threshold below which growth can be constrained. See Espinoza et al. (2010); Ibarra and Trupkin (2016); Ndoricimpa (2017).

## 1.7 Appendix A: Additional results tables

**Table 1.4 - Time-varying commodity weights**

Dependent variable: first-differenced log of real GDP per capita				
	(12)	(13)	(14)	(15)
<b>Long-run coefficients</b>				
Investment share of GDP	0.700 (.47)	-0.067 (.478)	1.237*** (.351)	0.689 (.469)
Δ Population (log)	1.481 (9.858)	6.880 (10.576)	-6.764*** (1.796)	1.475 (9.822)
Inflation (log)	-0.237*** (.079)	-0.102** (.048)	-0.448** (.166)	-0.234*** (.078)
Share of population aged 0-14	-3.642*** (1.032)	-4.708*** (.883)	-0.976 (1.419)	-3.598*** (1.022)
Trade openness	0.530*** (.119)	0.377*** (.136)	0.265** (.106)	0.528*** (.118)
Government share of GDP	-0.696 (.538)	-1.025* (.553)	0.096 (.318)	-0.683 (.534)
Commodity export price index	-1.330** (.569)	-1.344*** (.436)	0.269 (.347)	-1.357** (.57)
Commodity export price index * good governance				1.491* (.751)
<b>Short-run coefficients</b>				
GDP per capita (log), t-1	-0.052*** (.007)	-0.092*** (.014)	-0.089*** (.018)	-0.052*** (.007)
Δ GDP per capita (log), t-1	0.158*** (.046)	0.163*** (.047)	0.071 (.086)	0.158*** (.046)
Δ Commodity export price index, t	0.005 (.029)	-0.030 (.04)	0.054** (.023)	0.004 (.029)
Δ Commodity export price index, t-1	0.034 (.046)	0.018 (.062)	0.059** (.025)	0.034 (.046)
Δ Commodity export price index, t-2	0.083*** (.028)	0.077* (.038)	0.097*** (.029)	0.083*** (.028)
R-squared	0.259	0.293	0.269	0.260
Years	1970-2018	1970-1999	2000-2018	1970-2018
Observations	4015	2143	1872	4015
Restrictions	(13): 1970-1999 (14): 2000-2018			

*All estimations use regional time dummies, country fixed effects.*

*Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

**Table 1.5 – Time-varying commodity weights**

Dependent variable: first-differenced log of real GDP per capita				
	(16)	(17)	(18)	(19)
<b>Long-run coefficients</b>				
Investment share of GDP	0.887* (.47)	0.082 (.537)	-0.397 (.5)	0.588 (.498)
Δ Population (log)	2.448 (10.772)	14.654 (15.611)	7.774 (10.881)	3.985 (5.885)
Inflation (log)	-0.215*** (.078)	-0.150 (.108)	0.016 (.073)	-0.172 (.068)
Share of population aged 0-14	-3.833*** (1.227)	-6.982*** (1.706)	5.033*** (1.77)	-2.692** (2.004)
Trade openness	0.449*** (.13)	0.524** (.202)	0.262 (.198)	0.213 (.171)
Government share of GDP	-0.440 (.535)	-0.105 (.392)	-0.431 (.489)	0.200 (.162)
Commodity export price index	-0.355 (.827)	-0.220 (.318)	0.567 (.632)	0.130 (.321)
Commodity export price index * Institutional fixed	-1.235* (.679)			
Commodity export price index * CFA		-0.257*** (.083)	-0.351* (.189)	-0.237 (.359)
Commodity export price index * CMA				
<b>Short-run coefficients</b>				
GDP per capita (log), t-1	-0.055*** (.007)	-0.069*** (.01)	-0.135*** (.03)	-0.132*** (.029)
Δ GDP per capita (log), t-1	0.145*** (.05)	0.074 (.051)	0.030 (.078)	0.094 (.058)
Δ Commodity export price index, t	0.004 (.028)	0.012 (.049)	0.043 (.136)	0.044 (.034)
Δ Commodity export price index, t-1	0.030 (.047)	0.092*** (.034)	0.148** (.062)	0.062 (.036)
Δ Commodity export price index, t-2	0.076* (.026)	0.069 (.044)	0.055 (.087)	0.098*** (.023)
R-squared	0.254	0.203	0.265	0.221
Years	1970-2018	1970-2018	1970-1999	1970-2018
Observations	3106	1153	543	610
Restrictions	(16): SSA (17): SSA, excluding CMA (18): SSA, excluding CMA, 1970-1999 (19): SSA, excluding CMA, 2000-2018			

*All estimations use regional time dummies, country fixed effects.  
Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

**Table 1.6 – Additional sample restrictions**

Dependent variable: first-differenced log of real GDP per capita	(20)	(21)	(22)	(23)	(24)
<b>Long-run coefficients</b>					
Investment share of GDP	0.896* (.469)	0.428 (.385)	-0.286 (.513)	0.722 (.498)	1.135*** (.365)
Δ Population (log)	2.936 (11.176)	8.606 (13.517)	-3.508 (2.277)	1.369 (11.062)	-6.677*** (1.845)
Inflation (log)	-0.208** (.078)	-0.071 (.077)	-0.203* (.103)	-0.247*** (.082)	-0.444** (.175)
Share of population aged 0-14	3.871*** (1.163)	-3.397 (2.038)	2.555 (1.896)	-2.981** (1.167)	-0.733 (1.497)
Trade openness	0.478*** (.133)	0.473*** (.144)	0.494 (.343)	0.634*** (.126)	0.295** (.11)
Government share of GDP	-0.671 (.557)	-0.302 (.894)	-0.767 (1.283)	-0.917 (.628)	0.154 (.332)
Commodity export price index	-0.448 (.805)	0.979* (.558)	0.878 (1.019)	-1.139** (.563)	0.409 (.404)
Commodity export price index * Institutional fixed	-1.411* (.763)	-1.902*** (.592)	-1.383** (.682)		
<b>Short-run coefficients</b>					
GDP per capita (log), t-1	0.052*** (.008)	-0.091*** (.022)	-0.115*** (.039)	-0.04*** (.007)	-0.087*** (.018)
Δ GDP per capita (log), t-1	0.145*** (.048)	0.094 (.08)	0.103 (.131)	0.169*** (.044)	0.076 (.088)
Δ Commodity export price index, t	0.030 (.055)	0.030 (.073)	-0.109 (.103)	-0.075 (.063)	0.022 (.037)
Δ Commodity export price index * posComm, t				0.192 (.171)	0.008 (.121)
Δ Commodity export price index, t-1	0.115** (.046)	0.140*** (.049)	0.080 (.077)	0.157 (.081)	0.025 (.07)
Δ Commodity export price index * posComm, t-1				-0.114* (.117)	0.065 (.124)
Δ Commodity export price index, t-2	0.114** (.055)	0.108 (.074)	0.006 (.068)		
R-squared	0.241	0.332	0.538	0.248	0.260
Years	1970-2018	1970-2018	1970-2018	1970-2018	2000-2018
Observations	3025	1052	499	4065	1874

Restrictions (20): only developing countries  
(21): only countries with low export diversification  
(22): only oil exporters (as defined in text)  
(24): only 2000-2018

*All estimations use regional time dummies, country fixed effects.  
Standard errors are clustered by year and reported in parentheses.*

*Statistical significance shown by: \*\*\* at 1 percent level, \*\* at 5 percent level, \* at 10 percent level.*

## Appendix B: Data sources

**Real GDP per capita** in constant 2000 US \$ (World Bank's World Development Indicators (WDI))

**Investment share of GDP:** gross fixed capital formation as a share of GDP (WDI)

**ΔPopulation (log)** (WDI)

**Trade openness:** exports plus imports as a share of GDP (WDI)

**Government consumption** as a share of real GDP (WDI)

**Inflation:**  $\log(1 + (\text{annual percentage change in consumer prices})/100)$  (WDI)

**Good governance:** this measure is taken from the ICRG indicator of 'Quality of Government' (The PRS Group), taken from the University of Gothenburg Quality of Government Institute. The 'good governance' dummy = 1 if a country's average score is greater or equal to 0.75 over the period of available data, 1984-2016, 0 otherwise. The following countries were not included in the ICRG indicator: Benin, Burundi, Central African Republic, Chad, Laos, Lesotho, Mauritania, Mauritius, Nepal, Rwanda, Swaziland. For these countries, I set the dummy equal to 0.

**Monetary union classifications:** Classifications taken from the IMF. Note for 'Eurozone' that Denmark is included despite maintaining its own currency as it has formally stated its intention to peg to the Euro, and has done so since inception.

**Commodities used in commodity index (Gruss and Kebhaj, 2019):** Agricultural: bananas, barley, beef, cocoa, coconut oil, coffee, corn, cotton, fish, fish meal, groundnuts, hard logs, hides, lamb, olive oil, oranges, palm oil, poultry, rapeseed oil, rice, rubber, sawn hardwood, sawn softwood, shrimp, soft logs, soybean meal, soybean, soybean oil, sugar, sunflower oil, swine, tea, wheat, wool. Non-agricultural: aluminium, coal, cobalt, copper, crude oil, diamond, gold, iron ore, lead, natural gas, nickel, platinum, tin, titanium, uranium, zinc.

## Appendix C: Review of regional time dummies

Closer inspection of the coefficients and standard errors of the regional time dummies shows that 56 percent of the coefficients are statistically significant at the 1 percent level. A simple correlation matrix suggests a positive relationship between each region's set of dummies over time – an average correlation coefficient of 0.29 - but this is not so overwhelming to suggest that a time trend would better suit the data. Further, graphing each region's coefficients over the time period shows there is meaningful variation between regions, particularly in the period before 2000. It is intuitive that regional shocks have become more aligned in the past two decades, given the moves towards globalisation and greater financial interdependence. There is a question of heterogeneity within regions, and whether the regions are suitably defined. For example, the CFA Franc devaluation in 1994 directly affected only approximately half of the Sub-Saharan Africa region, whereas the dummy is for the whole region. Whilst this is not ideal, using more than the seven regions used here would further constrain the regression by reducing the degrees of freedom.

## Appendix D: Time-varying commodity terms of trade index

The time-varying commodity terms of trade index is also taken from Gruss and Kebhaj (2019). As before, the annual change in country  $i$ 's commodity terms of trade in year  $t$  is given by:

$$\Delta \log CTOT_{i,t} = \sum_{j=1}^J \Delta P_{j,t} \tau_{i,j,t}$$

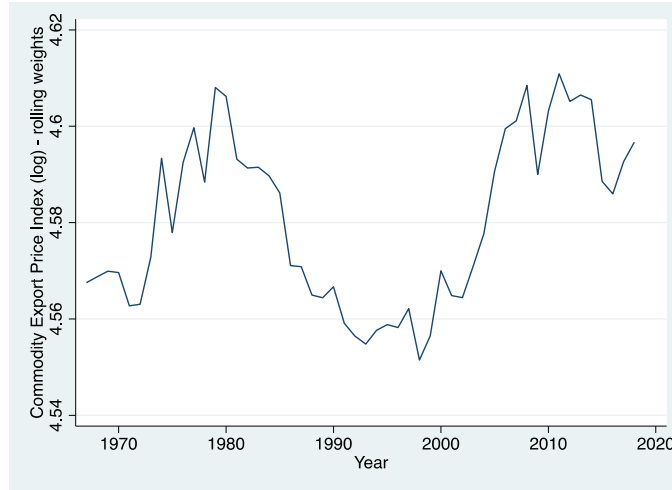
But the weights are an average of the prior 3 years (the current year is not used to attempt to avoid endogeneity concerns):

$$\text{with } \tau_{i,j,t} = \frac{1}{3} * \sum_{s=1}^3 \frac{x_{i,j,t-s} - m_{i,j,t-s}}{GDP_{i,t-s}}$$

Where  $P_{j,t}$  is the natural logarithm of the price of commodity  $j$  at time  $t$ ;  $\Delta$  represents first differences;  $GDP_{i,t-s}$  denotes the nominal GDP of country  $i$  at time  $t$ . The weight  $\tau_{i,j,t}$  varies according to the country and its net export share of each commodity. Unlike the fixed-weight index used in the chapter, its variance over time allows it to capture changes in countries' resource wealth (typically due to resource discoveries). See Gruss and Kebhaj (2019) for the full list of data sources.

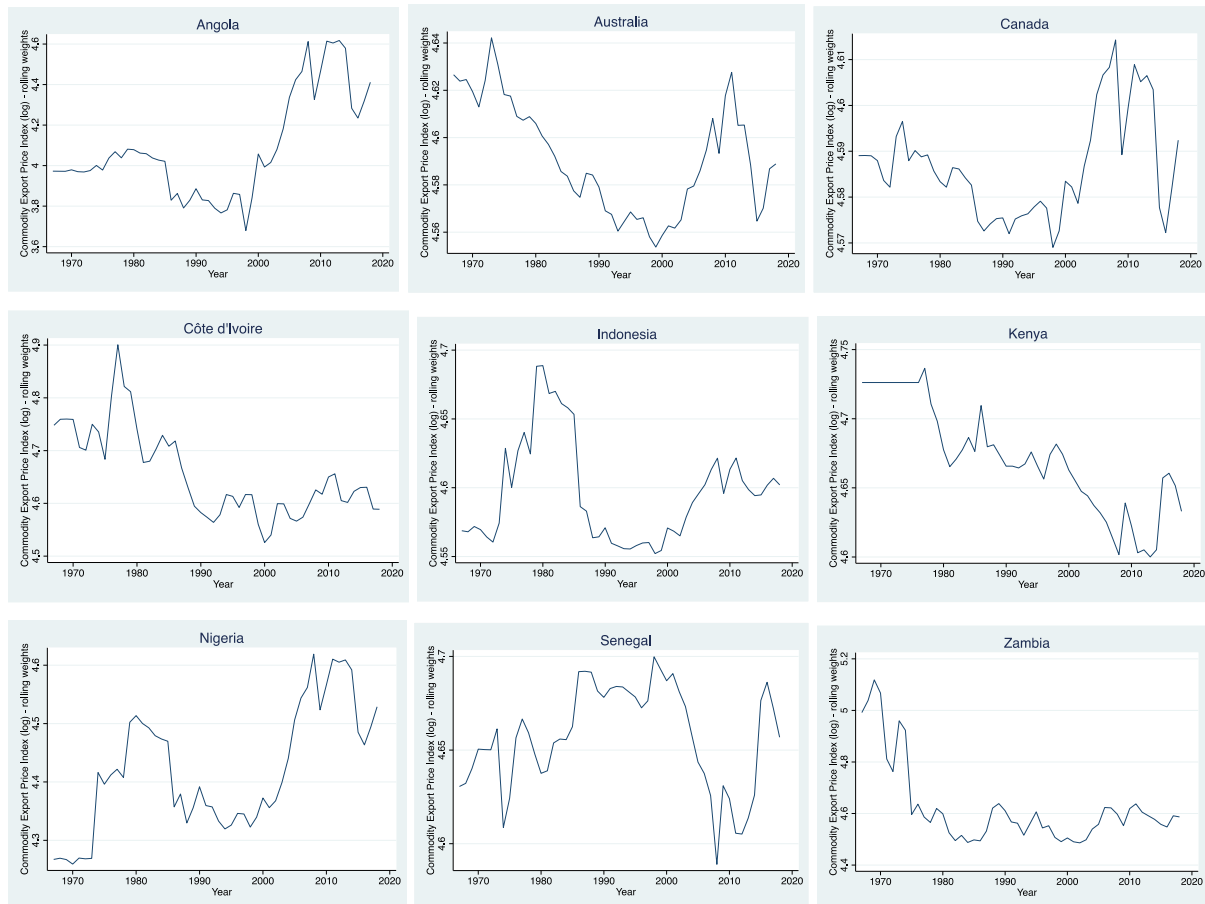
## Appendix E: Graphs for time-varying commodity terms of trade index

Figure 1.4



Mean log commodity export price index across all countries

Figure 1.5



## Chapter Two

# A Tragedy of the Common Currency? Fiscal policy in the CFA franc zones

### 2.1 Introduction

For nearly half a century, following its introduction in 1945, the CFA franc arrangement in Western and Central Africa was seen to consistently deliver low inflation and macroeconomic stability for its member countries, at a time when non-CFA neighbours were often experiencing high inflation and currency crises. There was a sense that, on purely economic terms at least, this unusual post-colonial institution was creating a propitious environment for development. However, the combination of a strong French currency – against which the CFA franc is pegged – and a decline in key commodity exports in the second half of the 1980s, added to a lack of domestic price flexibility, resulted in a significant deterioration of member countries' competitiveness. This raised concerns that monetary stability was coming at the cost of policy flexibility and the ability to adjust relative prices to changes in external conditions.<sup>63</sup> Eventually, a devaluation of the currency by 50 percent came in 1994.

While this one-time adjustment helped realign the real exchange rate to better reflect economic fundamentals at the time, it did not address the inherent problems of internal and external price rigidity, fiscal profligacy, and an exogenous exchange rate path. The short-run gains were not consolidated, as fiscal and trade deficits began to re-emerge, and there was increased pressure to put in place more formal measures to address the perceived weaknesses of the structure. Accordingly, multilateral convergence criteria were introduced in the CFA franc zones at the turn of the century, with a focus on achieving fiscal convergence and sustainability. The design of this framework was undoubtedly influenced by the Stability and Growth Pact introduced in the European Union just prior to this period. This chapter looks at the period following the

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<sup>63</sup> Azan (1996); Devarajan and Rodrik (1991).

establishment of these fiscal criteria, assessing their ability to rein in fiscal policy excesses and distortions.

The CFA franc zones present a combination of a nationally-determined fiscal policy, a regionally-determined monetary policy, and an externally-guaranteed exchange rate policy. This results in a unique set of challenges and incentives for policymakers. It is important to understand how the resulting incentive structures can influence national fiscal policies – often creating distortions – and how they interact with a rule-based framework whose institutional form was largely borrowed from an advanced economy context.

The risk is that the CFA framework allows the potential costs of fiscal policy to be spread over space – to other member countries – and time. This is typical of any monetary union, but the external guarantee of the exchange rate by France adds two extra elements. Firstly, the exchange rate does not reflect macroeconomic fundamentals and so does not impose discipline on deteriorating conditions. Secondly, the threat that France, in its position as the high-income former colonial power, would unilaterally withdraw its support is very low. This chapter shows how this classic ‘tragedy of the commons’ problem<sup>64</sup> could play out in a number of ways. Additionally, there are also potential moral hazard problems stemming from debt relief programmes, such as the HIPC initiative.<sup>65</sup> Ultimately, the goal is to better understand what drives fiscal policy in these currency unions.

While there is a wealth of literature on fiscal policy in monetary unions relating to the Eurozone, the arguments cannot simply be transplanted into the CFA franc zones as there are key differences between the two. These currency areas deserve a more nuanced analysis, partly due to the unusual external arrangement, but also because of the limitations of comparing advanced and developing economy contexts. The poor growth performance in the CFA zones suggests that, while monetary instability may be enough to impede economic growth, monetary stability is not sufficient for sustained economic development. There is a large literature considering the role that fiscal policy

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<sup>64</sup> The tragedy of the commons describes a scenario where self-serving agents exploit a shared resource to the detriment of the group as a whole.

<sup>65</sup> The Heavily Indebted Poor Countries (HIPC) initiative was launched in 1996. As of 2019, 36 countries have received close to \$100bn of debt relief, 30 of which are located in Sub-Saharan Africa.  
<http://www.worldbank.org/en/topic/debt/brief/hipc>

<sup>66</sup> Countering this particular effect may be the notion that countries will make an effort to avoid requiring debt relief as a signalling mechanism to international investors. This relates to the discussion in Jones and Zeitz (2019), which describes how some developing economies have looked to adopt international banking standards as a signal to international investors.

can play in driving productivity and employment,<sup>67</sup> in facilitating macroeconomic stability,<sup>68</sup> and notably in resource-rich economies.<sup>69</sup> Fiscal policy therefore has a vital part to play within the CFA franc context, particularly given monetary and exchange rate policy are effectively sacrificed.

I draw on the literature on the role of fiscal policy in a monetary union, with emphasis on the fiscal-monetary policy nexus and the evidence of fiscal slippage in the CFA franc zones to present a static game that attempts to emulate the incentive structure facing a national fiscal authority in a monetary union. This shows how self-serving national interests will tend to induce overly expansionary fiscal behaviour, as a spatial tragedy of the commons problem leads to pushing the inflation cost of one country's fiscal deficits onto other member countries.

The second part of the chapter consists of an empirical analysis of the fiscal reaction function in the CFA franc zones for the period 2004-2017. Three main results emerge:

Firstly, the results suggest an apparent absence of sustainable fiscal policies. Bohn (1998) contests that a sufficient condition for fiscal sustainability is that the fiscal position improves in response to rises in public debt levels. This is not found to be the case for the group of CFA franc countries over the sample period. Moreover, there is some evidence that the tendency towards fiscal deficits has increased in the aftermath of the debt relief received in the mid-to-late 2000s, speaking to the potential for moral hazard problems.

Second, I find co-movement in fiscal behaviour between member countries, even once commodity shocks and the output gap have been controlled for. This provides support for one of the conclusions of the theoretical model, that monetary union members will base part of their fiscal policy decision on the behaviour of their peers. By contrast, this result is not as obvious for non-CFA Sub-Saharan African countries.

Third, the analysis shows a strong persistence in fiscal balances, as well as a statistically significant, positive relationship between fiscal surpluses and the commodity terms of trade. This is intuitive and consistent with previous studies, including Ghosh et al. (2013a), implying that countries will tend to save at least part of commodity revenue windfalls. This is notable given the elevated natural resource sector component of many of the CFA member countries' economies.

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<sup>67</sup> Jaramillo and Cottarelli (2012).

<sup>68</sup> Debrun and Kapoor (2010)

<sup>69</sup> Bova et al. (2016); Cespedes and Velasco (2014).

A deeper analysis of these results is presented in the final section which concludes with an examination of the role of fiscal rules, and specifically what problems can be realistically addressed given political economy constraints. I argue that strict European-style fiscal policy rules are not appropriate, and that the threat of punishment for rule breaking is not credible from the guarantor France, due to the nature of the post-colonial relationship. Additionally, a longer-term smoothing approach such as the Chile-style resource stabilisation fund may not be politically feasible when current poverty levels are so high, and may also not be appropriate from a purely economic perspective either when the returns to investment today are potentially very high due to the low levels of productive capacity. Rather than importing ideas from other continents, a more creative and flexible approach is required, specific to the unique characteristics of the zone.

The chapter proceeds as follows: section 2.2 sets the scene of fiscal policy in the CFA zone, reviewing the literature and highlighting the key dynamics; the following section presents a static game that models the interplay between misaligned incentives in the zones; section 2.4 describes the empirical approach; the results of which are presented in section 2.5; the penultimate section considers how these findings contribute to the challenges facing fiscal rules in the CFA zone, and the final section briefly concludes.

## **2.2 Background to fiscal policy in the CFA zone**

### **2.2.1 External arrangement with France and its interaction with fiscal policy**

The CFA franc zones are not typical currency unions, better described as “partly a monetary union and partly a hybrid currency board.”<sup>70</sup> The two regional central banks set monetary policy and hold foreign reserves on behalf of the member countries, at least half of which are required to be held at an Operations Account at the French Treasury.<sup>71</sup> However, in December 2019, a joint statement by the French and Ivorian presidents announced that this latter requirement would be dropped for UEMOA from 2020. In exchange, the Treasury provides an unlimited convertibility guarantee of the CFA franc to the French franc (and latterly the euro) at a fixed rate. In addition, the

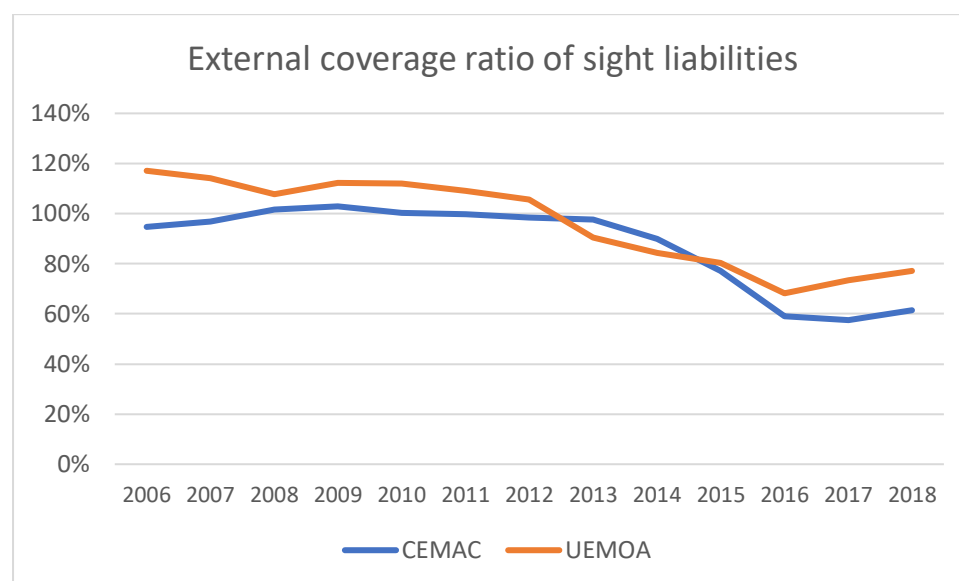
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<sup>70</sup> Adam (2009), p.6.

<sup>71</sup> This number had previously been 65 percent in UEMOA before being lowered to 50 percent in 2005. Before 1972 this covered all reserves except those required for daily transactions.

respective zones' foreign reserves are required to be at least 20 percent of sight liabilities. Figure 2.1 shows the ratio of foreign reserves to sight liabilities over time – known as the external coverage ratio – which have been much higher than 20 percent, though notably not always above 100 percent, which would be required in a currency board arrangement. The rate of interest on reserves held at the Operations Account is currently 0.75 percent.

**Figure 2.1**



An overdraft facility at the Operations Account allows the central bank balance to go into debit, on which they pay an increasing interest rate. Deficits emerged episodically for both zones in the 1980s, but not since the 1994 devaluation. In the event of a dramatic drawdown of Operations Account balances, the regional central bank can request that all foreign currencies held by public or private entities are transferred to the central bank in exchange for CFA francs – a process called *ratisage*.<sup>72</sup>

Typically, a conventional exchange rate peg would impose strict fiscal discipline through the need to keep the external position of the economy in check, particularly when current account balances are negative. UEMOA has consistently run sizeable current account deficits,<sup>73</sup> and while CEMAC ran a surplus while oil prices were high,<sup>74</sup> the IMF forecasts deficits for both zones into the

<sup>72</sup> Fielding (2002, p.7) describes the necessity of these requirements, in order to curb free-riding on the theoretical unlimited and unconditional support provided by France, through large current account deficits effectively funded by the French Treasury (through a debit on the Operations Account).

<sup>73</sup> BCEAO data show UEMOA has run deficits in all but one year since the 1994 devaluation.

<sup>74</sup> Since the 1994 devaluation, CEMAC has run deficits 68 percent of the time.

foreseeable future,<sup>75</sup> with the exhaustibility of natural resource reserves a structural drag for CEMAC in the medium-to-long term. If a country is seen to be running a persistent fiscal deficit alongside a current account deficit – commonly referred to as ‘twin deficits’ – then the peg will tend to come under pressure and foreign reserves will be depleted in order to defend the peg. If the necessary fiscal adjustment is not taken and the rate of foreign reserve depletion remains high, the pressure on the peg will eventually be too much and a devaluation will be taken, or even a change of exchange rate regime.

But, in theory, for the CFA countries there is no pressure on the peg and no speculation on the foreign exchange markets. The guarantee from the French Treasury is seen as highly credible, and the potential bailout cost sufficiently small as a share of French GDP that there is limited risk of exchange rate devaluation. Aggregated foreign reserve levels are required by the French Treasury to be kept above 20 percent of the monetary base, but this is an extremely low threshold as it equates to roughly 1 month of import coverage in CEMAC.<sup>76</sup> This reflects the underdeveloped financial sector and low base money-to-GDP ratio. Dabla-Norris et al. (2011) calculated that the optimal reserve levels for African countries operating with a fixed exchange rate lies between 5 and 13 months of imports. This range increases further if the country is a commodity exporter and further still if it is categorised as fragile.<sup>77</sup> This is very relevant for any discussion of potential CFA reform or exit. For the CEMAC region it is especially so, as all countries are commodity exporters – predominantly of oil, except for Central African Republic – and levels of economic and political fragility are high. A separate IMF study in 2017 estimated an adequate import coverage ratio of 8 months for the CEMAC.<sup>78</sup>

The depletion of reserves in the CEMAC zone in the 2010s,<sup>79</sup> and the economic crisis that followed, was driven by a sharp decline in oil prices. This was exacerbated by the high inter-member correlation of exposure to oil price shocks, limiting the benefits of pooled risk. Whether because of the pooling arrangement or otherwise, it has been seen that many of the member countries under-reserved in the high growth years. The nature of the CFA structure, with its

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<sup>75</sup> In the 2019 CEMAC ‘Country Report No.19/1’, the IMF forecasts a 4 percent current account deficit for 2022.

<sup>76</sup> From 2010 to 2017, 20 percent equated to between 0.7 and 1.2 months of imports in CEMAC. (BEAC annual report 2018)

<sup>77</sup> Being a commodity exporter adds approximately 1 month to the optimal level, while fragility adds an additional 1 to 3 months.

<sup>78</sup> IMF Country Report No. 18/106.

<sup>79</sup> Official foreign exchange reserves fell from 9 trillion CFA francs in 2012 to 3 trillion CFA francs in 2016. The peak-to-trough decline for half the members – Republic of Congo, Chad, Equatorial Guinea – was greater than 90 percent.

pooling of foreign exchange reserves, can create incentives to under-reserve. Several factors may have contributed to this, such as the free-rider problem; the low return on foreign exchange reserves; and the low target set for the French guarantee giving a false sense of security.

Looking at this from the French perspective, Veyrune (2007) estimates the economic cost of bailing out the CFA zones – the “potential fiscal effort” – in case of a balance of payments crisis where the CFA central banks require foreign reserves corresponding to the liability of the financial system, as measured by M1 money supply. His simulation estimates the one-time cost to be relatively small, at less than 3 percent of annual French fiscal revenue. This is attributed to the underdeveloped financial system in the region and the fact that the aggregated GDP of the 14 CFA countries in 2017 was just 7.5 percent of that of France.

This is important when considering the potential cost-benefit analysis for France of maintaining the CFA structure in its current form. Canac and Garcia-Contreras (2011) argue that as the “cost to France of maintaining influence over its former colonies” is minimal, France has a clear incentive to preserve the arrangement. One inference to take from this is that the motivation for the African countries to honour their macroeconomic and fiscal obligations will therefore be low – a case of the Samaritan’s dilemma – as they know it is not in France’s interests to terminate its support. This can create perverse incentives when it comes to budgetary management if the expectation of a bailout is high or if there is little fear that the exchange rate fixity could be in jeopardy.

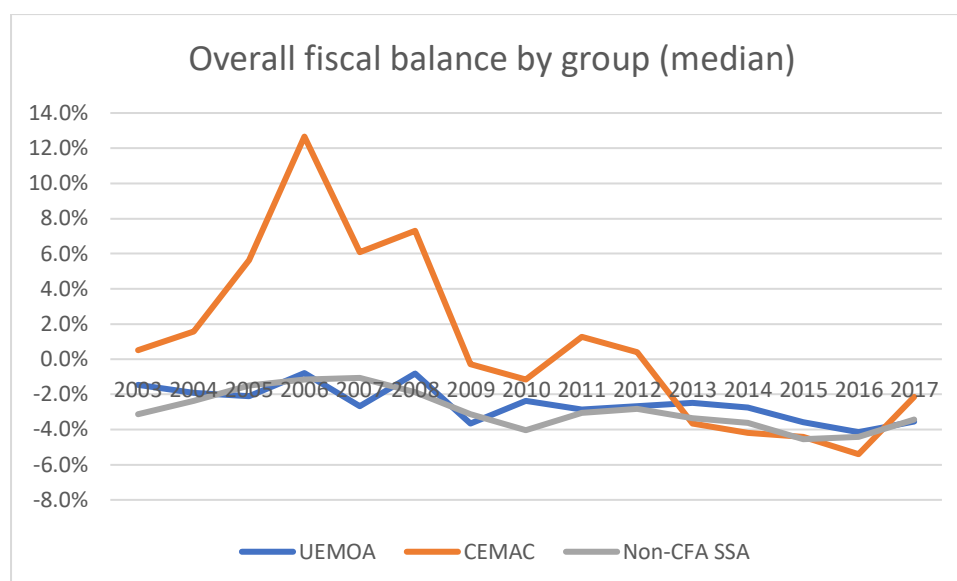
Figure 2.2 shows that, on average, countries have been running fiscal deficits – aside from the period of high oil growth which benefited heavily oil-dependent CEMAC economies – but that this experience has not been limited solely to CFA countries. The latter period shows a persistent violation of rules that call for the basic fiscal balance to be in surplus in CEMAC,<sup>80</sup> and for any overall fiscal deficits to be below 3 percent in UEMOA.<sup>81</sup>

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<sup>80</sup> This was altered in 2017 to reflect the cyclicity of oil revenues. Section 2.6.3 provides further detail.

<sup>81</sup> Initially this was a balanced budget rule, excluding budget grants and foreign-financed capital expenditures.

**Figure 2.2**



### 2.2.2 The impact of the 1994 devaluation on fiscal policy

The decision to devalue the currencies in 1994 – the only devaluation in the currency’s history<sup>82</sup> - inevitably had a political element. The IMF had ceased lending money to finance growing deficits the previous year, and France pulled support until an IMF reform plan was implemented.<sup>83</sup> Some have argued that the death of Ivorian president Houphouët-Boigny – the leading figure in post-independence Franco-African relations – in 1993 also helped open the door to devaluation, as he had always opposed any devaluation while he was alive.<sup>84</sup> Even if the decision was taken out of the hands of CFA member countries, the economic causes of the budgetary deterioration were very evident. The real exchange rate overvaluation had become increasingly unsustainable, caused by a sharp fall in the key regional exports – cocoa, coffee, cotton and oil – and a strengthening of the French franc against the currencies of other trading partners. The latter was a consequence of the ‘franc fort’ policy adopted in 1983 by French Finance Minister Jacques Delors, which entailed a deliberate overvaluation of the French franc in order to shadow the Deutschmark under the European Exchange Rate Mechanism as the countries moved towards the European Monetary Union.

<sup>82</sup> There was a revaluation of the CFA franc in 1948, when 1 CFA franc was revalued from 1.7 French francs to 2 French francs.

<sup>83</sup> Canac and Garcia-Contreras (2011), p.57.

<sup>84</sup> Martin (1995), p.20.

The nominal value of the currency was halved, from 50 CFA francs to 1 French franc to 100 to 1. In the immediate aftermath, the World Bank judged the existing macroeconomic framework as inadequate, and recommended an approach in line with the ‘Maastricht model’, which was being proposed for the future eurozone.<sup>85</sup> Therefore, as a response to the fiscal imbalances in the years prior to the devaluation, multilateral convergence criteria were established in order to promote fiscal convergence in both currency zones.<sup>86</sup> The convergence pacts in 1999 (UEMOA) and 2001 (CEMAC) mandated a balanced budget (or surplus), and targets on public debt (to be less than 70 percent of GDP) and inflation (below 3 percent per year). Secondary objectives referred to the public sector wage bill, tax revenues, domestically-financed public investment and the current account.<sup>87</sup> Limits were also introduced on the amount of credit extended to government, which is now prohibited in UEMOA and is targeted in CEMAC.<sup>88</sup> These limits reduce the use of seigniorage<sup>89</sup> as a way of bridging funding gaps for deficit-financing. In a currency union, discretion over the use of seigniorage is sacrificed on a national level, while regional seigniorage is suppressed in the CFA franc zones due to the very low inflation and monetary base growth.

The name given to the UEMOA initiative – the Convergence, Stability, Growth, and Solidarity Pact – would appear to be a nod to the Stability and Growth Pact (SGP) in the Eurozone, reflected also by the principal focus on limiting budget deficits and the level of public debt. However, as shown by the increased criticism in recent years of the SGP,<sup>90</sup> the effectiveness and appropriateness of a strict fiscal framework in a managed monetary environment faces increasing scrutiny. A fundamental feature of such arrangements is that monetary policy is determined at a regional level, while fiscal policy is decided at a national level. This makes coordination of the two instruments difficult and the different objectives of the national and regional authorities may

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<sup>85</sup> Devarajan, S. and Walton, M. (1994).

<sup>86</sup> van den Boogaerde and Tsangarides (2005).

<sup>87</sup> Specifically, these were 1) that the public sector wage bill be less than 35 percent of government revenue; 2) domestically-financed public investment to be greater than 20 percent of tax receipts; 3) current external balance excluding foreign grants to be at least minus 5 percent; 4) tax revenue to be at least 17 percent of GDP.

<sup>88</sup> In CEMAC this remains a policy goal, as progress was halted due to budgetary challenges caused by the fall in commodity prices from 2012 onwards.

<sup>89</sup> Buiter (2007) describes seigniorage as “the way in which the state acquires command over real resources through its ability to issue fiat money”. He refers to the ability to grow the monetary base; the interest earned on central bank assets funded by issuing non-interest-bearing liabilities; the ‘inflation tax’ that reduces the real value of the outstanding stock of money. Its use tends to increase when the costs of levying taxes or issuing debt are significant, and so central bank financing bridges the funding gap for the fiscal deficit. While its misuse as a policy instrument can lead to untenable high-inflation episodes and even currency crises, it can play a crucial role in providing short-term financing to smooth out fluctuations in tax revenues often experienced by resource-dependent economies.

<sup>90</sup> See Section 2.6.1.

produce undesirable outcomes. The next section outlines how this structure can influence the path of national fiscal policies.

### **2.2.3 The role of fiscal policy in a currency union**

The external guarantee from France and the accompanying political elements are central to all aspects of the CFA arrangement, but there are additional dynamics that exist more generally in currency unions that influence how macroeconomic policy is implemented. Along with management of the exchange rate, monetary and fiscal policy are the two main policy instruments used to steer the economy. This section highlights how these policy tools cannot be looked at separately in a currency union context. It looks at the interactions between the policy instruments from the perspective of the national fiscal authority, who takes monetary policy as not only exogenous, but also not necessarily set with the national economy in mind (as a result of the common regional monetary policy).

Firstly, I address the increased burden placed upon fiscal policy to achieve internal and external stability. I also look at the Walters critique, which considers the consequences of the loss of control over relative prices – the real exchange rate and the real interest rate. There is also discussion of challenges in coordinating policy and in imposing fiscal discipline within the regional structure. Lastly, I consider how fiscal behaviour may reflect the ‘tragedy of the commons’ game, with countries having an incentive to overspend as they are able to push the different costs of doing so onto their peers.

#### **Impact of an exogenous monetary policy on fiscal policy**

Over 50 years ago, Mundell (1968) described the way in which fiscal policy and monetary policy can be used to achieve internal stability and balance of payments equilibrium, but only if fiscal policy is used for the former and monetary policy to address the latter as a “failure to follow this prescription can make the disequilibrium situation worse than before the policy changes were introduced”. In the CFA zones, the credible monetary policy and exchange rate arrangement is expected to have a stabilising effect on the external equilibrium, as the financial account should be less exposed to large shocks given the lack of volatility around monetary conditions. However, when this fails to maintain external equilibrium, fiscal policy must be used. Mundell argued that if

fiscal policy is used to address a balance of payments deficit, then the resulting fiscal tightening will reduce employment, affecting internal stability.<sup>91</sup>

By having to use fiscal policy to address external imbalances, the result is a suboptimal management of internal stability, as the government budgets are forced to react to the balance of payments' position. In effect, one instrument is being used for two goals. Ultimately, the externally determined monetary policy leads to fiscal policy becoming somewhat endogenous. If real exchange rate adjustments cannot come through the nominal exchange rate, then they must operate through changes in domestic wages and prices. The sluggishness of these prices makes the adjustment process slow, which may lead to excessively long periods of disequilibrium in output and labour markets.

Ghosh et al. (2013b) also speak to this policy challenge. They underline that when business cycles across a monetary union are not symmetric, national fiscal policy will have to take on a bigger role for macroeconomic adjustment, because regional monetary policy will be set up for the average cycle of the zone. They also note that member countries operate within a “money dominant” regime<sup>92</sup> – where the price level, and thus inflation, is determined by the monetary authorities, or in this case, the broader CFA arrangement – as they are unable to use seigniorage or engineer inflationary pressures to reduce the real value of liabilities.

### **The Walters Critique**

At the heart of the macroeconomic challenge in monetary unions is the so-called ‘Walters Critique’,<sup>93</sup> which addresses the problems that may arise from the endogeneity of the real interest rate and the real exchange rate – seen as the two key relative prices in maintaining a stable growth path – in a monetary union. As the nominal exchange rate is pegged to the euro, and the nominal interest rate determined by the regional central banks, it is the relative domestic price levels between countries that determine both relative prices. In the case of an idiosyncratic negative demand shock to one country, such as a fall in cocoa bean prices for Côte d’Ivoire, inflation in

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<sup>91</sup> Mundell then argues that a loosening of monetary policy in response to the fiscal tightening will weaken the balance of payments deficit further, on the grounds that the balance of payments is more sensitive to interest rates than domestic expenditure.

<sup>92</sup> This contrasts with a “fiscally dominant” regime, where the monetary authority is beholden to the actions of the fiscal authorities. As national monetary policy is sacrificed, this is not strictly possible within the existing CFA arrangement.

<sup>93</sup> Alan Walters was an advisor to the British government, campaigning against continued British membership of the European Monetary System, in particular the European Exchange Rate Mechanism, a forerunner to the eurozone. See Allsopp and Vines (2007).

that country will decelerate, other things equal. If Cote d'Ivoire ran its own monetary policy, it would choose to reduce its nominal interest rate in order to lower the real interest rate and thereby stimulate aggregate demand. However, in a monetary union, the regional central bank either doesn't adjust the interest rate or does so only marginally. As a result, the real interest rate in Cote d'Ivoire rises, the opposite of what is needed, and so risks further depressing and destabilising the economy.

The fall in prices, through a depreciation of the real exchange rate, should increase competitiveness and provide some offset, but Walters argues that the interest rate effect tends to dominate, particularly in instances when there are price and wage rigidities. As a result, the endogeneity of the monetary union means that we risk seeing economic divergence rather than convergence. In this environment, the monetary union fails to be a self-stabilising mechanism. In a CFA context, the external guarantee certainly provides great stability from a monetary perspective, but the concern is that the ability of the real economy to cope with shocks is compromised by the imposed nominal rigidity.

Allsopp and Vines (2008) explore the Walters critique formally, showing that the combination of price stickiness and no fiscal intervention will lead to an unstable outcome. However, they argue that fiscal policy can play a stabilising role in the face of price stickiness. In the situation described above, an expansionary fiscal policy is able to offset the effects of a higher real interest rate by supporting consumption. Kirsanova et al. (2007) show the welfare-improving effects in a paper looking at the eurozone. Allsopp and Vines contest that fiscal rules, specifically the Stability and Growth Pact (SGP), may lead to procyclical policy that exacerbates the recession and amplifies the economic cycle, as countries are forced to cut spending in response to lower tax revenues (resulting from the drop in output). This link to fiscal rules is explored in greater depth in Section 2.6. The Walters critique emphasises the key role that fiscal policy has to play in the CFA zones in order to stabilise the economy and restore equilibrium.

### **Coordination challenges**

While the internal mechanics of the economy mean that monetary policy has implications for fiscal policy, there are also difficulties in coordination between the different policymaking bodies. In many developed economies, national monetary policy decisions are, in theory at least, taken independently from budgetary decisions, but the two authorities can respond to the others' actions to implement policy that is most appropriate for the current state of the national economy. For

example, a period of enforced fiscal austerity may lead the central bank to operate a looser monetary policy. This game can run in either direction, and repeat, in order to reach the desired policy mix through a *tâtonnement* process. But when the monetary authority is regional, the national fiscal policymakers are the effective ‘price-takers’.

Foresti (2018) reviews models on the coordination between fiscal and monetary policies in a monetary union. He notes that a symbiosis between the common central bank and fiscal authorities is only achieved if the two entities have aligned objective functions. He describes why this symbiosis is unlikely to be achieved: firstly, the construction of the eurozone is such that regional central bank and national fiscal targets are separate, with respective priorities of inflation and fiscal discipline (as well as growth); secondly, that monetary shocks can have different effects in different countries within the zone; and lastly that there will be consequences resulting from economic and political heterogeneity across states.

### **Imposing fiscal discipline**

Early literature had generally considered fixed exchange rates to be good for imposing fiscal discipline on countries, given the importance of maintaining sound macroeconomic fundamentals in order to defend the peg. Tornell and Velasco (2000) contested this, by arguing that flexible exchange rate regimes are forced to immediately face the consequences of unsound fiscal policies, while countries with fixed exchange rates, on the other hand, are often able to push the inflation costs of fiscal profligacy into the future. The degree of fiscal discipline will be affected by the policymaker’s discount rate, with a high discount rate likely to encourage less fiscal caution. With the French guarantee on the CFA franc’s peg to the euro, this effect is potentially very strong.

This is supported by Fatás and Rose (2001), whose empirical analysis finds that unilateral currency unions are not associated with fiscal discipline due to the perceived lower threat from issues of credibility. They note the larger role being asked of fiscal policy in order to steer the economy, and write:

*“...in the case of unilateral currency unions, the lack of monetary and exchange rate policies impedes a stabilizing mechanism against shocks that needs to be compensated by a larger government that can provide the required insurance. For this analysis to be correct, it has to be the case that the issues of credibility are not so relevant for the unilateral currency unions as they are for currency boards. This is plausible, given the origin of these currency unions and the fact that most of them have remained as such for the whole sample period.”*

Masson and Pattillo (2001) analyse the fiscal discipline angle for the proposed West African monetary union, noting that the pegged exchange rate may exacerbate a tendency towards fiscal profligacy. This is because the exchange rate doesn't play the signalling role that it would otherwise, as it doesn't reflect potentially deteriorating macroeconomic fundamentals,<sup>94</sup> a point also made by Dembélé (2011). Masson and Pattillo believe the threats clearly outweigh the proposed arguments for greater fiscal discipline, such as the monetary union providing an "agency of restraint", or unified capital markets invoking market discipline.

### **Misaligned incentives – tragedy of the commons**

Related to this issue of discipline is the risk that, without a strong set of rules, a monetary union of several countries creates perverse incentives for national policymakers. The 'tragedy of the commons' describes a situation where players fail to internalise the cost of their activity on other players. Although the benefits of increased public spending will be largely enjoyed by an individual country, the costs of higher inflation (or indeed bailout) are potentially borne by all members of the union. In the CFA zone, this tragedy of the commons goes one step further, because the zone as a whole has an external guarantee on the exchange rate, which permits larger fluctuations in the debt stock.<sup>95</sup>

The increased dimensionality in a currency union – compared to a conventional fixed exchange rate peg – comes from member countries' ability to spread the costs of overspending not only across time, but also across space. The sub-optimal outcome derives from the fact that countries fail to internalise the impact of their national debt policies on the common regional inflation rate.<sup>96</sup> Looking at the Caribbean, Duttgupta and Tolosa (2006) find evidence that fiscal balances within currency unions display greater free-riding behaviour. They also find that an increase in pooled foreign reserves at the common central bank can encourage greater fiscal slippages. They don't find a negative relationship between central bank reserves and fiscal policy for countries that are not part of a currency union.

Fielding (2002) sets up a model to show how free-riding can occur when there aren't binding limits on excessive public borrowing at a national level, and that if certain governments accumulate more

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<sup>94</sup> "In a monetary union, with pooled foreign exchange reserves, the expanding country can avoid market discipline even longer". Masson and Pattillo (2001), p.30.

<sup>95</sup> Allsopp and Vines (2005).

<sup>96</sup> See Beetsma and Uhlig (1999); Bergin (2000).

public debt then it leads to an implicit resource transfer between countries within the CFA zones. He notes the interdependence of balance sheets, and that “public borrowing in one country leads to money creation affecting all”. He observes fiscal and monetary prudence at an aggregate level, but not at a national level, leading to inequality between countries. Looking at the 1980s, he finds that the lax policies of Senegal and Côte d’Ivoire in UEMOA – namely persistent Operations Account deficits – were funded by surpluses in the smaller countries, with these smaller country surpluses ultimately funded by large IMF debts.

### **Financial integration**

A further way in which the monetary-fiscal nexus manifests itself in a monetary union is through closer financial integration, a core objective of both CFA franc zones. Where cross-border financial integration is high, national central banks (NCBs) borrowing from each other is a crucial cog in the infrastructure, in order to clear cross-border payments made through the banking system. This has become an important factor in the recent history of the eurozone, through inter-NCB balances known as TARGET2. National central banks in the healthier ‘core’ economies, notably Germany, built up substantial TARGET2 claims on the weaker ‘periphery’ economies, such as Greece and Spain, after the latter saw substantial capital flight post-2008.<sup>97</sup> These claims effectively filled the financing hole that has been left by capital outflows, described by Sinn and Wollmershäuser (2012) as “current account financing” that allows countries to avoid having to make potentially painful adjustments to their current account. In effect, this suggests that currency unions replace currency crises with credit crises, and that these TARGET2 imbalances are products of deeper balance of payments imbalances.

Consider instead a country operating a fixed exchange rate against another currency, where such a deterioration in the external balance would put pressure on the peg and deplete foreign exchange reserves. Seeking to avoid this, the country would be wary of running imbalances and so has a strong incentive to pursue sound economic policies, crucially looking to avoid large budget deficits. In a monetary union this incentive is reduced.

The situation in the CFA zones is somewhat removed from the eurozone, as financial development and integration is much lower. Since 2004,<sup>98</sup> the STAR-UEMOA exists in UEMOA as the

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<sup>97</sup> From being less than €20bn in 2007, the German TARGET2 surplus grew to over €700bn in 2012, with Italy and Spain accumulating deficits of over €250bn and €400bn respectively, from a similarly low level. (ECB data)

<sup>98</sup> “Prior to the implementation of STAR-UEMOA, payment instructions between two UEMOA countries went through current accounts at the BCEAO, via the provision of funds from one National Directorate to another.” UEMOA website: <https://www.bceao.int/en/content/star-uemoa>

equivalent of TARGET2, but its role is much less significant given the small scale of inter-member cross-border flows. This may change over time. Nevertheless, the role of the Operations Account at the French Treasury, by providing a contingent credit line, does draw some parallels with the eurozone experience. It reduces the concern about the level of foreign reserves, but in doing so allows for external imbalances to persist over time, in a similar fashion to the TARGET2 system. This may be perceived by countries as creating more ‘fiscal space’, encouraging more expansionary policy than would otherwise have been the case. The political element of this is explored in Section 2.6, in particular the real-life difficulty of imposing discipline upon an economically weaker country or, in the case of France and the CFA franc zones, a former colony.

This section has detailed a number of the elements that may affect the decision making of fiscal authorities in the CFA franc zones. Firstly, it has described the inextricable link between monetary and fiscal policies, and the increased burden on fiscal policy required to drive internal adjustment to correct the inevitable relative price misalignments detailed in the Walters Critique. It also highlights the challenges of operating an appropriate national fiscal policy when a country is beholden to a monetary policy that may only be suitable on a regional level. In addition, the credible, externally-guaranteed fixed exchange rate in the zones may not impose discipline on fiscal authorities in the way a normal peg might, and especially without the immediate disciplining associated with a floating exchange rate. Additionally, a tragedy of the commons-like situation may be present as well, where countries push the costs of expansionary fiscal policy onto other member countries, and ultimately onto France, which may encourage fiscal slippage, in particular if peer countries are pursuing loose fiscal policy.

The next section uses a static fiscal game to demonstrate the free-riding behaviour that may occur within currency unions, illustrating the tragedy of the commons effect and how policy can be influenced by the fiscal behaviour of peers within the same currency union. Section 2.4 then uses empirical analysis to consider how fiscal policy responds to certain macroeconomic variables and events, testing some of the factors highlighted in this section, notably those of budgetary discipline and peer effects. Finally I conclude with a discussion of what this means for the regional fiscal framework.

## 2.3 Misaligned incentives - fiscal model

### 2.3.1 Static fiscal game

The prior section highlighted the conflicting objectives of the common regional central bank and national fiscal authorities. This is formalised in the following one-period game introduced by Uhlig (2003), simplified from a multi-period model by Clarida, Gali and Garter (1999). By setting policymaking up as a non-cooperative game, its purpose is to show how fiscal free-riding can occur in a monetary union with decentralised fiscal policy. While Uhlig focuses on the eurozone, the model can be used to provide an insight into the dynamics that exist in the CFA franc zones. Section 2.3.2 discusses how the parameters of the model – reflecting policy priorities as well as the effectiveness of policy transmission – differ in the CFA zones, producing different outcomes to the eurozone. The model has limitations in its static nature, discussed in Section 2.3.3, but it clearly demonstrates how free-riding behaviour can arise in such institutional arrangements.

The first equation in the model is the IS curve (1), that describes how the output gap,  $x_j$ , is driven by the real interest rate – central bank-determined  $\bar{i}$  minus expected inflation,  $\pi_j^e$  – and government deficit,  $g_j$ . The Phillips curve (2), depicts inflation as a function of the output gap, eurozone inflation, and cost-push shocks. This reflects some of the empirical literature that looks at the determinants of inflation in the CFA zones: Oulatta (2016) finds that in UEMOA the levels of foreign (French) inflation, rainfall and the output gap help explain inflation; in CEMAC studies, variations in inflation have been attributed to imported inflation, fiscal policy, and domestic supply shocks (Portillo, 2018).<sup>99</sup> The interaction between these two equations and the fiscal and monetary objective functions drive the optimisation problem.

$$x_j = -\theta(\bar{i} - \pi_j^e) + g_j \quad (1)$$

$$\pi_j = \lambda x_j + \gamma \pi^{EZ} + \mu_j \quad (2)$$

The central bank's objective function minimises the average deviations of the squared output gap,  $\bar{x}$ , and the average inflation rate,  $\bar{\pi}$ , across the region. This is a more plausible representation than

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<sup>99</sup> Other studies include Kinda (2011) who notes the importance of rainfall shocks, public spending, exchange rate movements and foreign inflation in Chad, as well as Diop et al. (2008). Girardin (2018) finds a strong influence for global factors, particularly in UEMOA.

using the average of the output gaps squared, as this would imply the central bank would allow a large positive output gap (or inflation rate) in Burkina Faso alongside a large negative output gap (or inflation rate) in Niger. Despite this important difference, it does not change the derivation of the interest rate rule.

$$\max_{\bar{\pi}} -\frac{1}{2}[\alpha\bar{x}^2 + \bar{\pi}^2] \quad (3)$$

While the fiscal authority of country  $j$  minimises the deviations of its own output gap, it cares about setting the government deficit equal to a budget shock,  $\varepsilon_j$ . For the CFA franc zone in this model, this demand shock is designed to represent a change in commodity revenues to the government, given the magnitude and volatility of these flows.

$$\max_{g_j} -\frac{1}{2}[x_j^2 + \beta(g_j - \varepsilon_j)^2] \quad (4)$$

Averaging variables over the currency union and substituting equation (2) into (3) gives:

$$\max_{\bar{x}} -\frac{1}{2}[\alpha\bar{x}^2 + (\lambda\bar{x} + \gamma\pi^{EZ} + \bar{\mu})^2] \quad (5)$$

We can use this to calculate the interest rate rule that the central bank will follow. First order conditions from (5) yield:

$$\bar{x} = -\frac{1}{\alpha+\lambda^2}\lambda(\gamma\pi^{EZ} + \bar{\mu}) \quad (6)$$

Taking the regional average of equation (2) and plugging this into (6) yields the average inflation rate from the common central bank's optimisation problem:

$$\bar{\pi} = \frac{\alpha(\gamma\pi^{EZ} + \bar{\mu})}{\alpha+\lambda^2} \quad (7)$$

From here we can calculate expected inflation, which is a function of the eurozone inflation rate:

$$\bar{\pi}^e = \frac{\lambda\gamma}{\alpha+\lambda^2}\pi^{EZ} \quad (8)$$

Substituting (6) and (7) into (3), and maximising, we can derive the nominal interest rate rule:

$$-\frac{\lambda(\gamma\pi^{EZ} + \bar{\mu})}{\alpha + \lambda^2} = -\theta \left( \bar{i} - \frac{\lambda\gamma}{\alpha + \lambda^2} \pi^{EZ} \right) + \bar{g}$$

$$\bar{i} = \frac{\lambda}{\theta} \frac{1}{\alpha + \lambda^2} \bar{\mu} + \frac{1}{\theta} \bar{g} + \frac{\lambda\gamma}{\theta} \frac{1}{\alpha + \lambda^2} (1 + \theta) \pi^{EZ} \quad (9)$$

Given the setup of the game, the individual country knows the interest rate rule that the common central bank will follow, and so substituting (9) and (8) into (1):

$$x_j = -\frac{\lambda}{\alpha + \lambda^2} \bar{\mu} - \frac{\lambda\gamma(1 + \theta)}{\alpha + \lambda^2} \pi^{EZ} + \theta \pi^{EZ} - (1 - \vartheta_j) g_j - \vartheta_j g_{-j} + g_j$$

Where  $g_{-j}$  represents the weighted average of all other countries, and  $(1 - \vartheta_j)$  represents country  $j$ 's weight in the currency union. Note that in a symmetrical solution with  $n$  identical countries,  $\vartheta_j$  equals  $(n-1)/n$ . This is simplified to:

$$x_j = -q\lambda\bar{\mu} - k\pi^{EZ} + \vartheta_j(g_j - g_{-j})$$

Where  $k = \lambda q \gamma (1 + \theta) - \theta$

This can be plugged into equation (4) to solve the optimisation problem for the fiscal authority:

$$\max_{g_j} -\frac{1}{2} [(-q\lambda\bar{\mu} - k\pi^{EZ} + \vartheta_j(g_j - g_{-j}))^2 + \beta(g_j - \varepsilon_j)^2]$$

Which yields the following solution for country  $j$ :

$$g_j = \frac{1}{\beta + \vartheta_j^2} [\beta \varepsilon_j + \vartheta_j^2 g_{-j} + \vartheta_j q \lambda \bar{\mu} + \vartheta_j k \pi^{EZ}] \quad (10)$$

This is the key equation, as it shows the fiscal authority's response function. Although the makeup of the CFA franc zones doesn't suggest a symmetric equilibrium, for illustrative purposes this is shown by setting  $\vartheta_j = \frac{(n-1)}{n}$  and  $g_j = g_{-j} = \bar{g}$ , which yields the response function:

$$\beta \bar{g} + \left(\frac{n-1}{n}\right)^2 \bar{g} = \left(\frac{n-1}{n}\right)^2 \bar{g} + \frac{(n-1)}{n} q \lambda \bar{\mu} + \beta \bar{\varepsilon} + \frac{(n-1)}{n} k \pi^{EZ}$$

$$\bar{g} = \bar{\varepsilon} + \frac{(n-1)}{n\beta} q \lambda \bar{\mu} + \frac{(n-1)}{n\beta} k \pi^{EZ} \quad (11)$$

This model is driven by the fiscal authority's response to the interest rate rule of the central bank. The common central bank will respond to adverse supply-side shocks to inflation by raising the interest rate. Knowing this and the effect it has on lowering the output gap, the fiscal authority will be inclined to increase its government spending in order to offset the downward pressure on demand. Although the increase in government spending,  $\bar{g}$ , further tightens the central bank's monetary stance, each country has an incentive to do so given that their individual effect on the monetary union's inflation rate is only equal to  $1/n$  (in a symmetric, identical equilibrium). This describes the process through which the free-riding phenomenon manifests itself. It is shown in equation (11) that in the  $n=1$  case for an independent country, the fiscal deficit (surplus) will just be equal to the budgetary shock.

The equilibrium deficit in equation (11) increases not just because of a shock to the budget, but also due to cost-push shocks, and to inflation in the eurozone. The literature suggests that the inflationary cost of fiscal profligacy may be spread over time and space for countries in a monetary union.<sup>100</sup> This model shows the spatial effect, but its static nature doesn't incorporate the intertemporal fixed-versus-floating dynamic described in Tornell and Velasco (2000), whereby the lack of immediate exchange rate discipline allows for imbalances to grow.

We can see in equation (10) that in the non-symmetric case, national fiscal authorities are unilaterally incentivised to increase their deficits in a common currency setup like the one described, and will produce a greater deficit than if they were independent. In the independent case, where  $n = 1$ , the optimum fiscal policy will only respond to the commodity revenue shock,  $\varepsilon_j$ , whereas in the multi-country case fiscal authorities respond to cost-push shocks and eurozone inflation. The deficit of country  $j$  will increase as its size in the currency union decreases, in other

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<sup>100</sup> Dutttagupta (2006); Masson and Pattillo (2001).

words as  $\vartheta_j$  increases.<sup>101</sup> In effect, a smaller economy should be able to run deficits within the zone with relatively low costs, due to the minimal effect it has on the regional average. It should also be noted that in this setup, the fiscal authority doesn't care about inflation. If it did care somewhat about inflation, there would be less difference between the government's objectives and those of the central bank, which would yield a lower deficit, due to greater concern about the inflationary consequences.

Importantly, equation (10) describes a co-movement between fiscal policies in the region, such that the fiscal deficit of country  $j$  will move upwards and downwards relative to what is done by peer countries. The central thrust of the model is that countries are unconditionally driven towards more expansionary fiscal policy, but it may be that if peers are running surpluses – a negative  $g_{-j}$  – then this reins in the spending of country  $j$ . Although the model itself does not account for it, this could be due to concerns of regional reputation or credibility signalling, and is explored in the empirical findings.

### 2.3.2 How to interpret this result in a CFA franc context?

The model shows how free-riding behaviour can result in a tendency towards fiscal profligacy. Taken from a member country's perspective, in one way this effect is independent of what other countries in the zone are doing, as the relative payoff of looser fiscal policy will favour this path, but there is also a direct peer effect in equation (10), with deficits abroad further encouraging deficits at home. In addition, the model shows how this effect becomes stronger as the currency union grows, in particular as a country's economic weight in the union decreases. The result provides some insight for the CFA franc zones and theoretical grounding for the empirical section.

There are clear factors that differ in the CFA zones relative to monetary unions among developed economies, such as the eurozone. Considering the model parameters through a CFA lens further helps to put the dynamics of the model into context:

- **Monetary policy transmission is weak**, and as a consequence we would expect a lower  $\theta$  than in developed economies, reflecting the relatively low impact of real interest rates on the output gap. This requires a stronger interest rate response to inflation from the

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<sup>101</sup> Note that from Equation (10),  $\frac{\partial g_j}{\partial \vartheta_j} > 0$  for all  $0 < \vartheta_j \leq 1$ .

central bank, and increases the punishment on the fiscal authority of running deficits, as this additional monetary tightening will weigh on demand. This helps to counter the free-rider phenomenon, but does not eliminate it. This can be seen by setting  $\theta = 0$ , in other words assuming no relationship between interest rates and output, which removes only part of the upward bias to the fiscal deficit.

- **Inflation-output trade-off:** A criticism of the existing CFA franc framework is that the regional central banks gear their policy towards inflation rather than output considerations,<sup>102</sup> as the latter is not an explicit part of the central banks' mandate. It is argued that nominal inflation rates are much too low given the stage of economic development in the region.<sup>103</sup> If this is the case then we would expect a low value for  $\alpha$  in the central bank's objective function (3). The effect of a low  $\alpha$  can be seen through equations (6), (7) and (8) as it shows the central bank will target lower inflation (and expected inflation) at the expense of output. The response of the fiscal authority is to increase the deficit, as it tries to overcome what it perceives to be an overly hawkish central bank.
- **Fiscal discipline:** The tendency towards expansionary fiscal policy is increased with a lower  $\beta$  in equation (4), which reflects the degree to which the fiscal authority cares about budgetary discipline.
- **Eurozone inflation:** Fiscal deficit is increasing in the level of eurozone inflation, so long as  $\gamma > 0$ . In essence, this transmits through the model in the same way as the cost-push shock, as it serves to tighten the central bank's monetary policy and thus encourages a looser fiscal policy.

The CFA franc context also justifies the use of an inflation target in the model rather than a different indicator for the central bank. The most obvious alternative, particularly given the analysis of Chapter 1, would be to use a real exchange rate target. This can be a popular approach for developing economies who are heavily reliant on exports to drive economic growth. Allsopp and Vines (2008) argued that targeting the real exchange rate over the longer term through fiscal policy would be a more effective approach than frameworks such as the Stability and Growth Pact

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<sup>102</sup> Nubukpo et al. (2016); Dembélé (2011).

<sup>103</sup> Pigeaud (2016).

(and given its close nature, the fiscal convergence and stability criteria in the CFA zones). However, for both franc zones, the primary objective of the central bank in its operation of monetary policy is internal price stability, as defined by an annual rate of inflation of 2 percent, within a margin of plus or minus one percentage point over a 24-month horizon.<sup>104</sup> Indeed, the BCEAO annual report makes no mention of the real exchange rate, although this does not mean that they are not mindful of it. This official policy may change in the future, particularly if real exchange rate misalignment becomes as acute as it did in the 1980s and early 1990s. Moreover, it would appear more likely that real exchange rate misalignment would be the trigger for a future revaluation of the currency, as in 1994, rather than an extreme inflation event. Nevertheless, on a day-to-day basis, it is the inflation rate that the monetary authorities are mandated to target.

### 2.3.3 Limitations to the model

As has been alluded to, owing to its simple framework, the model has certain limitations. The static nature removes the exposition of debt dynamics and the future cost of running deficits, while balanced budget targets will be linked intertemporally due to issues relating to practicality<sup>105</sup> and political economy.<sup>106</sup> These omissions from the model reduce in importance, notably concerns about long-term fiscal sustainability, if policymakers' preferences are heavily weighted towards near-term targets. In addition, I have discussed how the intertemporal discipline imposed on weak debt fundamentals may not be as powerful in the CFA franc zones, given the virtually unconditional nature of the French guarantee on the value of the exchange rate.

Foresti (2015) introduces a static debt consideration into the fiscal authorities' optimisation problem, which presents a trade-off between stabilising the output gap and the debt position. In this scenario, a higher existing debt level serves to curtail expansionary fiscal policy when monetary policy tightens, offsetting the effect described in the model above.

In order to introduce this effect in the model, the objective function for the fiscal authorities could include a stock of debt variable that introduces greater penalties for fiscal expansions at higher pre-existing levels of debt,  $B_j$ :

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<sup>104</sup> BCEAO 2017 annual report, p.23. Translated from "Dans ce cadre, l'objectif opérationnel de stabilité des prix a été défini comme un taux d'inflation annuel de l'Union, compris dans une marge de plus ou moins un point de pourcentage (1%) autour d'une valeur centrale de 2% à l'horizon de 24 mois."

<sup>105</sup> Arezki (2013).

<sup>106</sup> Talvi and Vegh (2005).

$$\max_{g_j} -\frac{1}{2} [x_j^2 + \beta(g_j - \varepsilon_j)^2 + \rho(B_j + g_j)^2] \quad (12)$$

This transforms the fiscal solution in equation (10) to give the following:

$$g_j = \frac{1}{\beta + \vartheta_j^2 + \rho} [\beta \varepsilon_j + \vartheta_j^2 g_{-j} + \vartheta_j q \lambda \bar{\mu} + \vartheta_j k \pi^{EZ} - \rho B_j] \quad (13)$$

This indicates that the fiscal position will become more conservative if the pre-existing stock of debt is higher and if the fiscal authority's aversion to rising levels of debt,  $\rho$ , is also high. The magnitude and sign of this  $\rho$  will be tested empirically in the next section. Debt ceilings are a possible response to the concern that conflict between the common central bank and fiscal authority will result in high debts, but the structural differences between member countries may call for country-specific targets. A further extension related would be to consider factoring in a country's expectation that they will receive debt relief. Arguably, as debt grows, this expectation would rise, such that the aversion to debt,  $\rho$ , would itself be a function of the debt level and so not a constant. The empirical model that follows applies a dummy variable to capture the post-debt relief period, as policymaker behaviour may change if it expects future debt relief.<sup>107</sup>

In addition, while the model allows for different sized economies by allowing the weights,  $\vartheta_j$ , to vary across countries, there is an underlying assumption that the costs of fiscal behaviour are similarly distributed proportionately to the sizes of the economy. Absolute costs may be born equally by all states, or proportional to the size of pre-existing government debt, or more asymmetrically. Looking at the case of reserve pooling in UEMOA over the 1980s, Fielding (2002, ch.4) describes a key difficulty in setting up such a free-rider model, namely the apportioning of costs of a country's excessive debt accumulation, in terms of the relative weights of the cost function allocated to the country itself and to the other members of the zone. He discusses reasons why costs of increasing government debt may be distributed asymmetrically among member countries, and finds different behaviour between the larger and smaller countries.

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<sup>107</sup> This touches on a bigger question, which asks why countries would display any fiscal prudence at all, if they believe France or the 'Paris Club' creditors would provide bailout funds or debt forgiveness. Without pursuing arguments as to why this is not the case, it suffices to see that historical behaviour – whether voluntary or due to external pressure – shows some degree of prudence given the external coverage ratio has consistently remained well above the statutory requirement of 20 percent, as shown in Section 2.2.1.

Lastly, the interest rate rule appears to ignore the policy rate of the eurozone, which is seen to be influential in determining CFA central banks' monetary policy. However, the inclusion of eurozone inflation in the policy rule accounts for this, to the extent that the link between inflation and policy rates exists in the eurozone. Despite this, the relative passivity of monetary policy in the zones, as compared to regional non-CFA peers, implies that the sensitivity of the BCEAO and BEAC policy rates to the macroeconomic variables in equation (9) will be low.

## 2.4 Empirical analysis - methodology

As the previous section shows, it is very difficult to capture the free-riding effect through one variable, as it manifests in a number of ways: through the response to debt levels, to inflation or directly to the behaviour of peers. This section focuses on testing two key hypotheses from the previous two sections: the spillover effects of fiscal policy in a currency union and the responsiveness of a country's fiscal balance to its own level of debt. It also considers the moral hazard that arises from debt forgiveness and, through controlling for output and terms of trade shocks, tests the procyclicality, or otherwise, of fiscal policy.

### 2.4.1 Previous fiscal reaction function studies

The standard fiscal reaction function models the response of the fiscal balance – general government net lending (borrowing) as a percentage of GDP – to changes in the lagged government debt-to-GDP ratio, controlling for other influences. The literature on this subject is rich, with considerable attention given to the papers of Bohn (1995, 1998), which argued that a sufficient condition for fiscal sustainability is that the primary balance improves in response to increases in public debt levels – equivalent to a positive  $\rho$  in equation (13) in section 2.3. Following on from this work, a number of papers have found supporting evidence that there is a positive, significant effect of debt levels on the fiscal balance.<sup>108</sup> Some papers show that this trend weakens above certain debt thresholds.<sup>109</sup>

These studies have primarily focused on advanced economies, while studies focusing on developing economies have produced less conclusive results, in some cases not showing any signs

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<sup>108</sup> See Checherita-Westphal et al. (2017); Berti et al. (2016); Afonso and Jalle (2011).

<sup>109</sup> Ghosh et al. (2013a); Medeiros (2012).

of fiscal sustainability and often observing procyclical fiscal policy. Using a first-differenced panel VAR approach for Southeast European countries, Tashevskaja et al. (2017) find that increases in debt levels are initially met with a deterioration in the fiscal balance, followed by some medium term stabilisation. While Baum et al. (2017) estimate an insignificant effect of debt on fiscal behaviour for 27 low-income countries, they discover evidence of procyclical fiscal policy, but note that commodity booms tend to help reduce deficits. They also find that access to financing is the greatest determinant of fiscal space. Geiregat et al. (2014) look at low-income countries who have received debt relief, notably through the HIPC initiative, and find signs of sustainability in the aftermath, but that this is less the case for high-debt countries.

While less attention has been paid to the CFA franc zones specifically, the results have also been mixed. Adedeji and Williams (2008) look at 1990-2006 and conclude that member countries operated with a fiscal policy that is sustainable, but procyclical, notably in the CEMAC. Guillaumont Jeanneney and Tapsoba (2011) find that fiscal policy in UEMOA, and to a lesser extent CEMAC, is significantly more procyclical than the rest of Sub-Saharan Africa, with no evidence that fiscal behaviour responds to developments in government debt in a stabilising way. Bikai (2015) looks only at CEMAC, and produces similar results, noting also the favourable effect of terms of trade on fiscal balance, as in Baum et al.

This study uses a Blundell-Bond system GMM estimator, in line with recent fiscal response analyses.<sup>110</sup> In addition to testing the results of prior studies, I augment the standard model to capture the peer effects that may exist as a consequence of the CFA franc zone structures, as theorised in Section 2.3.

#### 2.4.2 Model specification

The starting point for the fiscal reaction function is the prevailing economic specification used in the literature, which reflects the fiscal response function given by equation (13) in Section 2.3.3:

$$fb_{j,t} = \alpha + \beta_1 fb_{j,t-1} + \beta_2 debt_{j,t-1} + \beta_3 peerfb_{j,t} + \sum_{k=4}^K \beta_j X_{k,j,t} + \delta_j + \varepsilon_{j,t} \quad (14)$$

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<sup>110</sup> Baum et al. (2017); Checherita-Westphal (2017); Berti et al. (2016).

where  $fb_{j,t}$  is the fiscal balance of country  $j$  in time  $t$ , the net lending (borrowing) by the general government as a percentage of GDP,<sup>111</sup> where a positive value denotes a surplus;  $debt_{j,t}$  is the gross government debt as a share of GDP;  $X_{k,j,t}$  is a set of macroeconomic control variables that may also impact on the government's fiscal decision-making;  $\delta_j$  captures unobserved country-specific fixed effects; and  $\varepsilon_{j,t}$  captures measurement errors and the time-varying random component.<sup>112</sup>

The coefficient  $\beta_2$  is equivalent to the effect represented by  $\rho$  in the previous section, that is the impact of the (lagged) level of public debt on the fiscal balance. As noted, Bohn argues that a sufficient condition for fiscal sustainability is a positive and statistically significant coefficient on  $debt_{j,t-1}$ , which means that there is a stabilising fiscal response to developments in the level of public debt.

The variable  $peerfb_{j,t}$  measures the fiscal behaviour of the other countries in the respective currency zones. This is calculated by taking the GDP-weighted average of the fiscal balance of the other members in the respective currency zones. Note that the two CFA zones are treated as distinct and separate, such that the 'peer group' doesn't include all CFA countries. For example, for Gabon this variable would be the GDP-weighted average fiscal balance of the five other countries in the CEMAC, while for Burkina Faso the average of the other seven UEMOA countries would be used. Formally this is represented by:

$$peerfb_{j,t} = \sum_{i \neq j} Y_{i,t} fb_{i,t} \quad \forall i \in A(j)$$

Where  $A(j)$  is the set of peers for country  $j$ , and where  $Y_{i,t} = \frac{GDP_{i,t}}{\sum_{m \neq i} GDP_{m,t}}$  with  $GDP_{i,t}$  representing nominal GDP of country  $i$  at time  $t$ .

This shows how the peer matrix will be different for each country, and assumes that the larger economies in the zones – such as Cameroon and Côte d'Ivoire – will have a greater influence on neighbours' behaviour than smaller economies like Guinea-Bissau. The inclusion of this spillover

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<sup>111</sup> For consistency with the fiscal model in Section 2.3, and the definitions used for the fiscal rules in UEMOA and CEMAC, the overall fiscal balance is seen as more appropriate for the empirical approach. The correlation of the overall fiscal balance with the primary fiscal balance is 99.4 percent, and the conclusions of the paper are invariant to the definition used. These alternative results are displayed in full in Appendix H.

<sup>112</sup> Appendix A provides data sources.

effect is a departure from much of the fiscal reaction function literature, and looks directly at how the behaviour of fellow currency union members may impact on national fiscal policy decisions.<sup>113</sup> Appendix D shows that on average the unconditional GDP-weighted correlation between fiscal balances of countries in the same neighbourhood is higher between CFA countries (0.50) than between non-CFA countries (0.31). The empirical analysis explores whether this difference is robust when I control for potentially confounding factors.

The choice of macroeconomic control variables is motivated by the theoretical model in Section 2.3 and also informed by previous fiscal reaction function studies. The output gap is the cyclical component of real GDP, capturing deviations from trend output growth. The resulting coefficient estimate will give an indication of whether fiscal policy in the CFA zones has been counter-cyclical, as is perceived desirable, or acyclical, or indeed even procyclical as some studies have found in the region.<sup>114</sup> Standard practice has been to use the Hodrick-Prescott filter to capture the cyclical component of a data-generating process, but Hamilton (2018) presents evidence against the use of this method, arguing that it produces spurious dynamic relations that have no basis in the underlying process. As a result, this analysis uses the alternate method proposed by Hamilton, while the Hodrick-Prescott filter is used in robustness checks.

Given the economic importance of natural resource exports for the majority of the CFA member countries, a variable is included to account for the impact of swings in global commodity prices. A commodity terms of trade (CTOT) measure is taken from the index constructed in Gruss and Kebhaj (2019)<sup>115</sup>, which captures country-specific impact of commodity price movements. The index weights the global prices of 45 individual commodities by country-specific net exports, and takes into account the importance of natural resource exports relative to GDP.

The additional control variables used include the government expenditure gap, which attempts to capture unexpected expenditures unrelated to the economic cycle, such as military spending. Together with the terms of trade variable, this expenditure shock is designed to capture the budget shock in the theoretical model in Section 2.3. Likewise, in line with the cost shocks introduced in the theoretical model, shocks to inflation are included. As with the output gap, both of the expenditure and cost shocks – the deviations from trend – are calculated using the Hamilton filter.

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<sup>113</sup> This approach using a matrix of ‘distance’ weights (or, in this case, GDP weights) mimics spatial panel data models.

<sup>114</sup> Guillaumont Jeanneney (2011); Bikai (2015).

<sup>115</sup> See Appendix B for a description of the construction of the index, as well as the commodities used by the authors.

I also account for the impact of the HIPC initiative and MDRI,<sup>116</sup> which 12 of the 14 countries in the zones benefitted from in the 2000s.<sup>117</sup> There is a dummy variable for the year that the debt relief was delivered, as this could confound identifying the lagged public debt effect. Without this dummy, a sharp reduction in the debt ratio due to debt relief would bias the estimation of the underlying fiscal response that the coefficient on the lagged debt variable looks to capture. Appendix G displays the progression of debt ratios over time, showing the extent of the debt relief in the mid-2000s. The  $PostHIPC_{j,t}$  dummy captures the period after the debt relief, to see if fiscal behaviour had changed. This effect could be either positive or negative, as countries may commit to greater fiscal prudence, but may also look to take advantage of the newly-created fiscal space at their disposal. Countries may also make the bulk of their tax effort in order to meet debt relief requirements, and then loosen afterwards. Alternative variables are tested, but not included in the main specification as they yield small and insignificant outputs, suggesting an unfavourable efficiency-bias trade-off in the system GMM estimator described in the next section.<sup>118</sup>

In equation (14), a number of the variables are likely to be endogenous and so there is the possibility that the regression produces inconsistent parameter estimation. Using a variety of instrumental variables estimators is necessary to obtain consistent coefficient estimates from the regression. The next section focuses on the estimation approach and overcoming the issue of endogeneity among the regressors, and weighs the relative costs and benefits of using different estimators.

As significant biases can emerge from a large instrument set relative to the number of cross-sectional units, I collapse the instrument set and limit the number of lags to three<sup>119</sup> (starting from lag two for endogenous variables as proposed by Roodman (2009b)). Further, due to

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<sup>116</sup> Multilateral Debt Relief Initiative, introduced in 2005, and operationally related to the HIPC initiative.

<sup>117</sup> All member countries except Equatorial Guinea and Gabon. Details of when debt relief was provided is given in Appendix C. While the official HIPC delivery dates are used for the dummy variable, robustness tests are carried out that define the delivery of debt relief as any year when debt-to-GDP ratio falls by more than 10 percent. These robustness tests show no meaningful changes in the output.

<sup>118</sup> An election dummy is tested to cover years where a presidential election, or its equivalent, has taken place, in case ruling governments have sought to win votes through fiscal expansion programmes. However, this effect is found to be small and insignificant in all specifications, and so is dropped from the estimation. Additionally, year dummy variables are tested, as well as global GDP growth, to try to capture common time-varying effects, but their inclusion does not yield any statistically significant results, nor meaningfully alter the main output. Given the associated loss of parsimony, these common variables are excluded from the main specification, but results are shown in Section 2.5.

<sup>119</sup> While limiting the number of lags reduces the number of instruments, and the information that can be obtained from lagged values, I find that higher lags cause the Hansen test to approach 1.00, an indicator of overfitting. A reduction in the number of lags is also tested.

considerations of sample size, the two zones – UEMOA and CEMAC – are not separated. Given the shape and size of the panel, as well as endogeneity problems, a one-step system GMM estimator is preferred. Alternative methods are explored as robustness checks. Lastly, in all the GMM estimations, the fiscal balance variables, debt-to-GDP, government expenditure gap and output gap are all treated as endogenous variables, while the changes in the commodity terms of trade index and debt relief are treated as weakly exogenous. This specification means that the number of identifying restrictions across the regressions that follow vary from 12 to 22. Roodman (2009) recommends trying the limit the number to less than the number of cross-sectional units, which is either 14, in the case of the CFA sample, or 21 for the non-CFA countries. Consequently in some cases the number of identifying restrictions is greater than the country set, but only by a small margin and so is not expected to greatly bias results.

### 2.4.3 Estimation methods

The augmented fiscal reaction function in equation (14) is a dynamic panel data model, with past realisations of the dependent variable expected to have a bearing on future realisations. Given this, and the inherent interlinkage of the macroeconomic variables in the model, there is likely to be reverse causality. Hence, there are estimation challenges, such as the Nickell bias that arises in dynamic panel data models and the fact that regressors are likely to be endogenous. One way of addressing this is the GMM estimator, which handles two important concerns for dynamic panels: fixed effects and the endogeneity of regressors, as well as avoiding the so-called Nickell bias.

More specifically, the Nickell bias refers to evidence that suggests a fixed effects instrumental variable estimator could produce significant biases for short time periods. This bias goes to zero when T is large, but Judson and Owen (1999) estimate that the bias produced by using a fixed effects estimator for dynamic panel data can be sizeable in time periods up to 20 years. As such, the short panels in this study better suit a GMM approach,<sup>120</sup> even though GMM delivers estimates that are consistent but not unbiased.

The Blundell-Bond (1998) system GMM estimator uses lags in differences and levels of the endogenous variables as instrumental variables. This augments the Arellano-Bond difference GMM estimator, which only uses as instrumental variables the lags in differences. As noted in

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<sup>120</sup> Roodman (2009a) notes that some authors have suggested, as a rule of thumb for dynamic panel data models, that the time period should ideally be between 10 and 15 periods, and should not exceed the number of cross-sectional units.

more recent studies, such as Kiviet et al. (2017), the accuracy and efficiency of the system GMM estimator can be impaired in the presence of certain characteristics. Notable is that in cases of long time periods and reduced cross-sections, the number of instruments can proliferate quickly relative to the number of time period and risk overfitting the model. Kiviet et al. remark that reducing the number of instruments can limit potential bias, but at a potential loss of power as efficiency suffers. They argue that collapsing the set of instruments can help to resolve problems of overidentification. In a simulation, Windmeijer (2005) estimates that a cut in the instrument count from 28 to 13 on average reduced the bias by 40 percent in a two-step procedure.

In many of the previous fiscal reaction function studies, there was been concern about potential non-stationarity of series, in particular debt-to-GDP. Unit root testing here is not conclusive, and the series itself is impacted by episodes of debt relief, while the period used is also short, which affects the ability to determine whether the series is stationary or not. Bohn (2007) argues that this issue is less acute in panel data and that the debt series only needs to be stationary after an arbitrary finite order of differencing. In addition, Daniel and Shiamptanis (2013) argue that dividing debt by GDP further reduces, or even removes entirely, any concerns with non-stationarity.

#### **2.4.4 Sample period**

The baseline model is estimated from 2004-2017 for a panel of the 14 countries of the CFA franc zones. Importantly, this is the period following the introduction of the fiscal framework. In addition, the cross-section of the panel is restricted by the number of countries in the CFA Franc zone, while the time dimension is also limited by the availability of data.<sup>121</sup> While for some countries the data available goes back further, the time period 2004-2017 is used in this analysis. This is in order to provide a panel that is almost perfectly balanced, which is crucial when looking at peer effects, as this requires data for all member countries of the respective zones.<sup>122</sup>

## **2.5 Results**

This section sets out the findings of the empirical analysis described in the previous section. The results should be considered in the context of the existing fiscal reaction function literature, notably that pertaining to low-income countries, as well as a focus on the peer fiscal effects.

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<sup>121</sup> Data sources are provided in Appendix A.

<sup>122</sup> Gaps in the data can also lead to disproportionate loss of sample size with the system GMM estimation.

### 2.5.1 Baseline results

Before the notion of peer effects in fiscal policy is introduced, the conventional fiscal reaction function specification (1) in Table 2.1 shows strong persistence effects of the prior year's fiscal balance, which is intuitive and has typically been the case in previous studies. The negative, albeit statistically insignificant, coefficient on the lagged debt-to-GDP measure is more noteworthy. It implies that fiscal policy does not appear to be reined in by growing debt levels and that the countries in the zones in general may not be adhering to a sustainable fiscal path. Unlike in Baum et al. (2017), the inclusion of debt relief control dummies does not change this result.

The output gap coefficient is also statistically insignificant, which means I cannot reject the null that fiscal policy is acyclical, but its negative sign is a nod to the procyclicality in the CFA zones observed by Guillaumont Jeanneney and Tapsoba.<sup>123</sup> In addition, the results indicate that fiscal balances tend to improve when countries experience favourable commodity terms of trade movements, consistent with previous studies (for example, Ghosh et al., 2013b). This is an important finding given the large share of member countries whose exports are heavily weighted towards natural resources.

In models (2) and (3), additional variables are included to try and capture the effects of the static fiscal game described in Section 2.3, specifically equation (13). The signs are consistent with the theory described earlier, in that inflation shocks and higher imported inflation are associated with a deterioration in the fiscal position. However, while these results are intuitively interesting, the lack of statistical significance limits the conclusions that can be drawn. Indeed, in certain robustness tests the sign of the inflation shocks coefficient turns positive.

A (lagged) dummy variable for debt relief does not provide statistically significant evidence that this has an effect on fiscal behaviour, or that the effects discussed in Section 2.4.2 are offsetting. However, its inclusion as a control is important for the correct identification of the effect of the lagged debt variable. The HIPC initiative and MDRI were designed for countries who faced an unsustainable debt burden, so by its very nature its main aim was to provide greater fiscal space for countries. Despite this, an unintended, if not necessarily unforeseeable, consequence may be

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<sup>123</sup> Given question marks over the reliability of GDP estimates in Sub-Saharan Africa (Jerven, 2013), some caution should be taken in the interpretation of the output gap coefficient, given the sensitivity of the estimated output gap.

that countries feel more emboldened to run unsustainable fiscal policies, if there is an expectation of future debt forgiveness. Column (4) shows that the result – a negative and statistically significant coefficient on the lagged debt variable – still holds once a dummy variable is used to capture the country-specific post-debt relief period.<sup>124</sup> In fact, that the lagged debt coefficient is now significant is an important development, due to the implications for debt sustainability.

### 2.5.2 Peer effects

It is notable that the result on the peer fiscal balance variable is significant. There is evidence of a positive and significant relationship between the fiscal policy of one country and the behaviour of those in the same zone. This result holds across all specifications, including the robustness checks provided in Table 2.2 and detailed in the next section. The result is also robust to using an unweighted average of peers' fiscal balances, although this is less intuitive as one would expect that the behaviour of Cameroon would have a greater influence on CEMAC peers than, say, Chad. This provides some support for the result in Section 2.3, that describes how currency unions exhibit free-riding behaviour when a nationally-determined fiscal policy operates within a regional monetary arrangement.

#### Identification of peer effect

The identification of peer effects is not straightforward, however. A number of papers – famously Manski (1993), but see also Angrist (2014) – have highlighted the challenges in identifying a true 'peer effect' when there may be other factors biasing the coefficient, such as shared characteristics within groups (inducing an upward bias). In effect, the challenge is to distinguish between an endogenous 'true' peer effect and a correlated effect. They also discuss the challenges with correctly identifying reference groups. This latter point is less of a concern, as the CFA franc zones are clearly defined, while robustness checks on the non-CFA peer groups suggests the main findings are invariant to different groupings. However, in order to test the robustness of the peer effect coefficient, some alternative approaches are tested.

In all specifications, the peer fiscal balances are instrumented using lagged terms, which should serve as strong instruments given the observed persistence of fiscal policy. One alternative approach is to change the peer effect variable so that it reflects the fiscal behaviour of the one or

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<sup>124</sup> This *post-HIPC* dummy is equal to 1 for 52 percent of the CFA country-years in the sample, and for 37 percent of the non-CFA country-years.

two largest economies in the peer group, rather than a weighted average of all members, which avoids issues that may arise from using group averages.<sup>125</sup> In Appendix E, I show the results for CFA and non-CFA countries from using, firstly, the largest economy and, secondly, the average of the two largest economies in the respective peer groups. I also outline the countries used as the ‘peer’ for each group.<sup>126</sup> These results show that the peer effect is present as in the main findings, and is still statistically significant, although the magnitude is slightly larger. I also show that if the lagged peer fiscal balance is used, the effect is still positive, but no longer significant, which suggests the contemporaneous effect is stronger.

The choice of covariates is also crucial to separating the true peer effects from common shocks. The commodity terms of trade (CTOT) variable is important for this, particularly for the CEMAC countries, who are all heavily exposed to the price of oil, with the exception of Central African Republic. However, I also try dummy year variables to try to capture time-varying common factors. Additionally, I test whether the global real GDP growth rate helps in identifying effects. When added to the specification in column (4), none of the year dummies are found to have a statistically significant effect on the fiscal balance, nor meaningfully affect the key outputs of the estimation. Column (5) shows the results when global real GDP growth is added. As may be expected, the sign is positive, such that better global economic conditions are associated with healthier fiscal positions, but the effect is small and not statistically significant.

### **Are the peer effects asymmetric?**

By construction, the peer effect variable assumes a symmetric response to different fiscal behaviour by peers. It is also implied by the model setup in Section 2.3. (Even if the model shows there are incentives to run larger deficits, the isolated peer effect is symmetric, as equations (10) and (13) show). However, taking a step back from the model, there are reasons to suggest that policymakers may respond asymmetrically.

When its peers are pursuing tighter fiscal policies that support aggregate stability in the zone, a country may be inclined to do the same and ‘cooperate’, as to do otherwise may have reputational costs and go against notions of regional solidarity. However, in line with the incentives described

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<sup>125</sup> Angrist (2014) warns that, without adequate covariates and in the presence of weak instruments, using a ‘leave-out’ group mean as the peer effect variable may capture a “generic intraclass correlation coefficient” rather than any existing peer effect.

<sup>126</sup> Where the country is itself the largest in its peer group, the second largest economy is used as the reference. For example, as Cameroon is the biggest economy in CEMAC, Gabon is used as its peer, both for the one- and two-country cases.

in Section 2.2, and played out in Section 2.3, it may also ‘defect’, knowing that certain (present and future) costs of its actions will be borne by other countries. In the reverse situation, when peers are loosening their fiscal policy, it would seem that the incentives are more obviously stacked in one direction. If peers are also growing deficits, then a country knows it will bear some of the costs of this behaviour, and so will have greater incentive to loosen policy itself, as the relative payoff will be greater than if it were to run a surplus in order to alleviate the debt burden on the region. Moreover, the reputational costs of running a deficit are low if ‘everybody else is doing it’ – there is less chance of being singled out. This demonstrates the potential for asymmetry in how countries’ respond to peer behaviour. It is also helpful to remember that the pooling of foreign exchange reserves will also encourage this free-riding behaviour, given the link between foreign reserves and fiscal deficits.<sup>127</sup>

To capture this in the empirical model, I introduce a dummy variable, *Peer Worse*, that equals 1 when the peer fiscal balance has deteriorated in the current period relative to the prior period, and 0 otherwise. This dummy variable is interacted with *peerfb* to create an interaction term that captures the peer effect only in situations when (the GDP-weighted average of) peers are loosening their fiscal stance. The result is shown in column (6) of Table 2.1. The *peerfb* coefficient is similar to the core result in column (4), but the interaction term and the standalone *Peer Worse* dummy have positive signs. The effect is ambiguous, as the interaction term appears to suggest the peer effect is stronger when peers are loosening policy – in line with expectations – but the standalone dummy implies a tightening of policy not captured by the interaction term. Nevertheless, these two effects suffer from lack of statistical significance, and it is not possible to reject the null hypothesis that the peer effect is symmetric. It was also tested whether it mattered if the peer fiscal balance was in surplus or deficit, but this produced similarly inconclusive results, and was seen as a weaker approach due to the peer fiscal balance being in deficit for the majority of the sample.

A further test of this peer effect result is pursued in the next subsection, where I look at non-CFA Sub-Saharan African countries, as a non-result there would strengthen the argument that it is factors and incentives specific to the CFA arrangement driving the peer effect result, rather than simply common factors between neighbouring countries.

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<sup>127</sup> Using the notion that fiscal deficits are funded by: 1) central bank financing; 2) foreign reserve decumulation; 3) domestic borrowing; 4) foreign borrowing. Given limits on central bank financing, reserve decumulation is the easiest of these forms of financing to mobilise, particularly given the nature of the external guarantee with France, as discussed in Section 2.2.

**Table 2.1 – Baseline findings:** CFA countries only, 2004-2017

Dependent variable: government fiscal balance as a percentage of GDP.

	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Balance (t-1)	0.691*** (0.06)	0.570*** (0.20)	0.583*** (0.20)	0.488** (0.22)	0.552** (0.22)	0.482** (0.22)
Govt Debt/GDP (t-1)	-0.005 (0.02)	-0.029** (0.01)	-0.030** (0.01)	-0.046** (0.02)	-0.041** (0.02)	-0.047** (0.02)
Change in log(CTOT)	0.377*** (0.09)	0.319** (0.13)	0.317** (0.13)	0.314** (0.13)	0.310** (0.13)	0.321** (0.16)
Peer Fiscal Balance		0.452** (0.20)	0.400* (0.22)	0.454** (0.21)	0.415** (0.20)	0.443** (0.21)
Government Spending shock		-0.042* (0.02)	-0.039 (0.03)	-0.042* (0.02)	-0.041* (0.02)	-0.044 (0.03)
Output Gap	-0.042 (0.05)	-0.026 (0.05)	-0.033 (0.04)	-0.021 (0.05)	-0.022 (0.05)	-0.016 (0.06)
HIPC relief (t-1)		-0.014 (0.06)	-0.018 (0.06)	-0.005 (0.05)	-0.010 (0.06)	-0.007 (0.06)
Inflation shock		-0.090 (0.21)	-0.131 (0.22)	-0.066 (0.21)	-0.043 (0.21)	-0.080 (0.25)
Eurozone inflation			0.211 (0.73)			
Post-HIPC				-0.025 (0.02)	-0.022 (0.02)	-0.026 (0.02)
Global Real GDP growth					0.280 (0.29)	
Peer Fiscal Balance * Peer Worse						0.053 (0.26)
Peer Worse						0.005 (0.02)
Constant	-0.002 (0.01)	0.014 (0.01)	0.011 (0.02)	0.033* (0.02)	0.021 (0.03)	0.032* (0.02)
A-B test for AR(1)	-1.99***	-2.03***	-2.02***	-1.92***	-1.83***	-1.92***
A-B test for AR(2)	1.61	1.38	1.43	1.24	1.19	1.26
Sargan test	2.44	7.81	7.74	8.14	7.37	8.08
Hansen test	6.98	5.03	4.99	4.57	4.07	3.70
Observations	192	190	190	190	190	190
Number of groups	14	14	14	14	14	14

Notes: The estimator used for all specifications is the system GMM. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

### 2.5.3 A comparison with non-CFA peers

In order to draw stronger conclusions from the peer effects results, it is necessary to look at whether these effects are present in Sub-Saharan African countries outside of the CFA zone. If this is the case then the result would appear to be related to geographic proximity rather than a direct result of the CFA institutional structure. As a result, I run the same specification as column (4) in Table 2.1, but for the 21 non-CFA countries in Sub-Saharan Africa for which there are adequate data. The sample used excludes the small island countries<sup>128</sup> due to their size, as well as the Common Monetary Area (CMA) in Southern Africa.<sup>129</sup> While the CMA is not a full monetary union – there is no regional central bank, no common pooling of reserves and no convergence pacts – it may still experience some of the effects and incentive structures described in previous sections. Given the focus is to contrast the CFA franc zone with a counterfactual of countries outside of regional currency arrangements, the omission of the CMA countries gives a cleaner comparison. Moreover, the member countries are small with the exception of South Africa, whose economic profile is atypical of the region.

The main challenge is to define the peer groups of countries outside the CFA zone, and there is no perfect way of doing this. The approach used is to create 3 groups: countries in the Southern African Development Community (SADC), countries in the East African Community (EAC), and non-CFA countries in the Economic Community of West African States (ECOWAS). For the latter group the peers include the CFA countries in ECOWAS<sup>130</sup>.

While the median fiscal balance over the sample period for this group is -2.9 percent, slightly worse than the -2.3 percent for the CFA countries, the focus is identifying what drives the fiscal response. The results are shown in the first column of Table 2.2. While the positive coefficient suggests some inter-country relationship in fiscal behaviour, the magnitude is much smaller than for the CFA zone and is not statistically significant. This supports the argument that there are forces unique to the CFA structure (or currency zones more generally) that increase the likelihood of fiscal co-movement between member countries.

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<sup>128</sup> Cabo Verde, Comoros, Mauritius, São Tomé & Príncipe, Seychelles.

<sup>129</sup> This consists of South Africa, Namibia, Lesotho and Eswatini.

<sup>130</sup> In cases where countries did not fit, the closest regional group was chosen. This put Ethiopia and Eritrea in the EAC, Madagascar in the SADC, and Tanzania was included in the EAC despite also being a member of SADC.

It is also worth noting that the coefficient on the debt variable is virtually zero, which implies a more stable debt path than in the CFA example. The relationship between the fiscal balance and commodity prices is of a similar magnitude than with the CFA countries, but not with the same statistical significance.

#### **2.5.4 Robustness checks**

A number of robustness checks with alternative specifications are carried out to support the results described above. Column (8) in Table 2.2 shows the same results as the headline specification in column (4) of Table 2.1, but the Hodrick-Prescott filter has been used instead of the Hamilton filter. This shows a negligible change on the size of key coefficients, with only a small impact on the degree of statistical significance.

There is a risk that changes to the commodity terms of trade have a multi-year impact on the fiscal balance, and so a lagged commodity terms of trade variable is added to the specification to try and account for this, and as an extra effort to account for common shocks. This is shown in column (9) of Table 2.2, where there is a positive effect from the lagged CTOT variable, but its size is much smaller than for the contemporaneous change and it is not statistically significant, with any lagged impact likely already captured in the lagged dependent variable.

The output in (10) shows the main specification of column (4) in Table 2.1, but with the commodity terms of trade changes split into positive and negative. The results show that positive terms of trade developments seem to be driving the main result, and that negative commodity price shocks have a smaller, but still meaningful, role in determining the fiscal balance. While it is not possible to reject the null hypothesis of equality of these two regression coefficients, this is still an interesting result. It is perhaps even contrary to expectations, as the risk is that governments choose to spend resource revenue windfalls while not reining in spending on the downside when revenues dry up. The evidence implies that governments are instead acting with prudence when managing resource inflows.

Lastly, to cover concerns that one particular country may be driving these results, I test to see whether the exclusion of any one country meaningfully changes the results. Although the slightly reduced sample size weakens the power of the system GMM estimation, Appendix F indicates that the results are broadly robust to the removal of any one of the 14 CFA countries.

**Table 2.2 – Alternative specifications: 2004-2017**

Dependent variable: government fiscal balance as a percentage of GDP.

	Non-CFA			
	SSA	CFA	CFA	CFA
	(7)	(8)	(9)	(10)
Fiscal Balance (t-1)	0.633*** (0.09)	0.476** (0.20)	0.517** (0.26)	0.498* (0.26)
Govt Debt/GDP (t-1)	-0.000 (0.01)	-0.021 (0.01)	-0.030** (0.01)	-0.015 (0.02)
Change in log(CTOT)	0.173** (0.07)	0.287** (0.14)	0.364*** (0.14)	
Peer Fiscal Balance	0.171 (0.24)	0.399* (0.22)	0.307 (0.19)	0.413* (0.22)
Government Spending shock	0.004 (0.01)		-0.059 (0.05)	-0.067** (0.03)
Output Gap	0.011 (0.09)		0.021 (0.09)	0.012 (0.08)
HIPC relief (t-1)	-0.010 (0.05)	-0.003 (0.05)	-0.052 (0.05)	-0.003 (0.05)
Inflation shock	-0.004 (0.01)	0.016 (0.02)	0.007 (0.01)	0.016 (0.02)
Post-HIPC	0.017 (0.03)			0.009 (0.02)
Government Spending shock (H-P)		-0.070** (0.03)		
Output Gap (H-P)		0.024 (0.05)		
Change in log(CTOT) (t-1)			0.154 (0.13)	
Positive change in log(CTOT)				0.351** (0.14)
Negative change in log(CTOT)				0.255 (0.21)
Constant	-0.016 (0.01)	0.007 (0.01)	0.013* (0.01)	-0.002 (0.02)
A-B test for AR(1)	-2.33***	-1.99***	-2.05***	-1.99***
A-B test for AR(2)	1.30	1.32	1.15	1.36
Sargan test	15.12	9.44	7.00	9.06
Hansen test	11.01	6.61	5.57	6.70
Observations	286	196	196	196
Number of groups	21	14	14	14

Notes: The estimator used for all specifications is the system GMM. (H-P) denotes the use of the Hodrick-Prescott filter. Robust standard errors are reported in parenthesis. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

### 2.5.5 Model specification checks

As the strength of the system GMM estimator is heavily influenced by the validity of the instrument set, it is important that the estimations are consistent with this. Table 2.1 reports the specification tests. The Sargan and Hansen tests suggest the set of instruments are valid, but being wary that the power of the Hansen tests weakens considerably as instrument size increases relative to group size.<sup>131</sup> A p-value of 1.00 would be an alarm bell here, but this is not the case for any of the specifications, and the Sargan test supports the validity. Moreover, the difference-in-Hansen statistics defend the inclusion of the additional levels instruments, supporting the use of system GMM over difference GMM.

The system GMM estimator imposes an additional assumption that needs to be tested, specifically that the first differences of the endogenous variables are not correlated with fixed effects. The Arellano-Bond test for an AR(1) process in first differences is expected to show serial correlation due to the inclusion of the lagged dependent variable, but the test should not exhibit second-order serial correlation in disturbances. The test statistics are consistent with this, with no rejection of the null of no second-order serial correlation.

Although the Sargan and Hansen specification tests suggest that the instrument set is valid, I test to see whether the results hold in a more parsimonious model that limits the instrument lags – and thus the total number of instruments – in the GMM estimation. Additionally, to increase parsimony further, it would be helpful to drop some of the control variables. However, removing too many variables risks weakening the identification strategy. Inflation is removed given the weak results in the baseline specification and also owing to the discussion in Section 2.5.8. The first column in Table 2.4 in Appendix E shows the results of this more parsimonious specification, which are broadly in line with the main findings of Section 2.1.

### 2.5.6 Robustness tests using alternate estimators

In Table 2.3, I present alternate estimation techniques. Firstly, column (11) presents a simple OLS fixed effects estimator, while columns (12) and (13) use the IV fixed effects (IV FE) estimator. As alluded to earlier, this creates issues with respect to the Nickell bias, as  $T$  is equal to 14 and ideally would be greater than 20, or even 30. It does however create more flexibility with respect to the

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<sup>131</sup> At its greatest, the number of instruments equals 21, relative to 14 groups.

instruments used, in particular the lag depth. The OLS fixed effects estimator is clearly flawed due to the endogeneity problem, but its output can nonetheless be informative. Column (11) shows results that are not too dissimilar to the system GMM output, and with an R-squared of 0.48. Given the relatively small sample size, this gives greater confidence in the GMM results, as the concern would be that while GMM estimator produces consistent estimates, there are concerns about bias in smaller samples. As has been discussed, there are clear reasons to suspect that some variables are endogenous, and so the following robustness tests use instrumental variable approaches.

For the IV FE estimator, using 2 lags and just the levels of the endogenous variables as instruments supports the earlier results, but the Kleibergen-Paap rk LM statistic does not reject the null, which implies a weak set of instruments. To address this, (12) extends the instrument set to allow for 3 lags and uses differences as well as levels of the endogenous variables to make up the instrument set. This time underidentification is rejected, while the Hansen J test statistic implies that the instrument set is appropriate. Column (13) shows the same method as (12), but uses the limited information maximum likelihood (LIML) estimator, which can have better small sample properties in the presence of weak instruments.<sup>132</sup>

As further alternatives, Column (14) estimates a fixed effects regression using Driscoll-Kraay standard errors. The Driscoll-Kraay method mitigates problems arising from cross-sectional correlations. Additionally, as in Checherita-Westphal et al. (2017), panel-corrected standard errors are employed in (15) as another approach to addressing cross-sectional dependence. Although these results are informative, it should be noted that they perform best in ‘small N, large T’ panel datasets. Moreover, using the test provided by Pesaran (2015), I do not reject the null hypothesis of weak cross-sectional dependence of the error terms (where the alternative hypothesis is strong cross sectional dependence).

Across these alternate approaches, the coefficient sizes are marginally lower for the fiscal balance persistence, peer effects and commodity terms of trade impact, but the sign and statistical significance remain, and as such the conclusions to be drawn are consistent. The main difference is seen on the impact of lagged debt. The negative sign remains, but the statistical significance is lost, and the post-HIPC dummy becomes more interesting. This coefficient captures the fact that the post-HIPC years have seen a large increase in the fiscal deficit compared to the years prior.

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<sup>132</sup> Blomquist and Dahlberg (1999).

**Table 2.3 – Alternative estimators: CFA countries, 2004-2017**

Dependent variable: government fiscal balance as a percentage of GDP.

	OLS (11)	IV FE (12)	LIML (13)	D-K SE (14)	PCSE (15)
Fiscal Balance (t-1)	0.338** (0.14)	0.262*** (0.10)	0.241** (0.10)	0.328** (0.15)	0.333*** (0.09)
Govt Debt/GDP (t-1)	-0.020 (0.02)	-0.016 (0.02)	-0.016 (0.02)	-0.016 (0.01)	-0.007 (0.01)
Change in log(CTOT)	0.311*** (0.05)	0.284*** (0.07)	0.265*** (0.08)	0.323*** (0.03)	0.295*** (0.05)
Peer Fiscal Balance	0.350*** (0.10)	0.435** (0.17)	0.510** (0.25)	0.327*** (0.10)	0.369*** (0.09)
Government Spending shock	-0.048*** (0.02)	0.022 (0.03)	0.029 (0.04)	-0.010 (0.02)	-0.032 (0.02)
Output Gap	0.094** (0.04)	0.004 (0.08)	-0.021 (0.10)	0.062** (0.02)	0.072* (0.04)
HIPC relief (t-1)	-0.028 (0.02)	-0.016 (0.02)	-0.014 (0.02)	-0.024 (0.02)	-0.007 (0.01)
Inflation shock	0.061 (0.09)	0.005 (0.08)	0.004 (0.08)	0.019 (0.09)	-0.001 (0.10)
Post-HIPC	-0.039* (0.02)	-0.046** (0.02)	-0.044* (0.02)	-0.044** (0.02)	-0.029*** (0.01)
Constant	0.026 (0.02)			0.026 (0.02)	0.019** (0.01)
Observations	190	187	187	190	190
R-squared	0.478	0.455	0.442		0.463
Number of groups	14	14	14	14	14

Notes: Robust standard errors are reported in parenthesis where the estimation allows. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels. The Driscoll-Kraay estimator does not produce an R-Squared value.

Across the HIPC countries in the CFA sample, the average fiscal balance was -1 percent prior to HIPC and -3.1 percent after.<sup>133</sup> As such, there are two effects at play: the first is an unsustainable fiscal policy characterised by the association between weakening fiscal positions and a high (lagged) debt stock; while the second is a looser fiscal policy in the aftermath of a debt relief initiative, possibly resulting from a moral hazard created by the expectation of future debt forgiveness. An additional explanation for this post-debt relief effect is that it is a manifestation of the ‘tragedy of the commons’ argument, an effect not explained by the regressors. This describes a tendency towards fiscal deficits that has potentially been strengthened in the post-HIPC world as there is more fiscal space with which to work and reduced concern about rising national debt levels.

### 2.5.7 Summary of findings

These results, supported by robustness tests, show some key findings. The most original of these is the observation that there are peer effects between UEMOA and CEMAC member countries such that, when controlling for confounding factors, there is a degree of co-movement between fiscal balances. Crucially, this is not seen in countries outside of the CFA zones. This result is consistent with the theory laid out in equation (10) of Section 2.3, where the objective function-maximising national fiscal balance is an increasing function of the average of other CFA member countries’ fiscal balances. Likewise, for non-member countries, where  $n=1$ , this effect is not present.

As the nature and characteristics of the CFA zone may diminish the role of inflation as a driver of policy, there may also be other channels and factors contributing to this co-movement. Indeed, just as in the eurozone, or any other currency union, there are further forms of the ‘tragedy of the commons’ that could produce incentives different from those faced by a standalone country. This is because, in theory, the potential costs of imprudent economic management can be pushed onto other members of the union in a number of ways. The channels for this to happen can be through the management of public debt, or of the external balance through pooled reserves, or through the inflation channel.

In addition, there is evidence that the fiscal policy being pursued by member countries is not following a sustainable path, as rising debt levels do not appear to impose discipline on the fiscal stance. A member country’s fiscal authority may be less concerned about debt accumulation if it

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<sup>133</sup> This includes Gabon and Equatorial Guinea who didn’t require HIPC.

feels that the burden of high debt and potential bailout will in part be shared by other countries. Beyond a country's CFA peers, the costs of an unsustainable debt stock are also borne by France, through its guaranteed unlimited convertibility of CFA francs to euros at a fixed rate. A non-CFA country would be concerned by potential exchange rate volatility and depreciation, and may face rising debt costs as a result, ultimately imposing discipline (or accelerating crises). The situation is ostensibly different within the CFA zone, where in reality individual countries are less likely to be held to account in the short-term due to the price and exchange rate stability, and so imbalances are able to accumulate and weak fundamentals sustained for longer. This general effect can be seen directly in equation (13) in Section 2.3, where a lower  $\rho$  – the weight the fiscal authority places on debt in the objective function – results in a larger fiscal deficit.

Certain *quid pro quo* requirements are in place regarding foreign reserve holdings that seek to maintain external account stability, but the evidence does not suggest this common arrangement has imposed adequate discipline.<sup>134</sup> Lastly, it could simply be that countries' perceptions of policy appropriateness are conditioned by what the countries around them are doing. A fiscal authority is likely to be less worried about growing deficits if its peers are doing the same.

As with the fiscal model in Section 2.3, it is reasonable to ask why CFA member countries are not acting with greater fiscal irresponsibility. If France has hitherto committed to its role as guarantor and *de facto* lender of last resort, then why don't the CFA countries go further in their budgetary indiscipline, knowing that their external position is secured by the French backstop? The first possible explanation is that the countries' authorities may not actually believe that France's support is unwavering and so they cannot abandon all caution. The political economy of France's potential response to ill-disciplined fiscal policy is discussed in Section 2.6.

Another possibility, as highlighted previously, is that notions of reputation and credibility instil some prudence into policymaking. Countries may want to be seen to be running sustainable and sound long-term economic programmes to signal their readiness to be integrated into the global economy and that they are ready to move beyond low-income status. More broadly, there may be a desire to show that the economy can operate on a standalone basis and is not dependent on the buffer provided by the former colonial power. Beyond these more abstract notions, there may be a sense that countries wish to prepare for an environment where the monetary cord with France

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<sup>134</sup> The CFA regional central banks have to pool at least 50 percent of their foreign reserves in an Operations Account at the French Treasury, on which they earn interest. Under this common pooling arrangement, Chad and Equatorial Guinea ran down their foreign reserves to almost zero in 2017.

no longer exists.<sup>135</sup> The fiscal framework in place in the CFA zones is designed to create convergence between member countries, in order to underpin the common currency and potentially prepare it for operating as a monetary union without French support.

Lastly, it is possible that countries do not pursue even more expansionary fiscal policies because they are put under pressure by external bodies. This may firstly be from France, through an implicit threat to withdraw support for the CFA franc – even if the credibility of this threat can be questioned – or through more indirect means of influence, be it military support, business interests or personal ties between African leaders and the French government. Secondly, multilateral institutions, in particular the IMF, often insist that fiscal reforms are undertaken in order for countries to receive IMF support. Note that in 2020, all CFA member countries except for Equatorial Guinea were receiving some form of assistance and/or debt relief from the IMF. While targets set by the IMF are not always met, the country receiving support must have to show some form of willing. A combination of these factors may explain why member countries are not pursuing extreme levels of fiscal ill-discipline.

#### **2.5.8 A comment on the role of inflation**

The empirical analysis establishes a clear link in the CFA franc zones between fiscal balances across time, through the persistence of surpluses and deficits, and also across countries. It is unsurprising to find that commodity price movements play an important role in driving fiscal behaviour, given the importance of commodity exports in the region. This is especially germane in the wake of the decline in commodity prices from 2012 onwards and the associated economic difficulties this has created for a number of member countries.

However, while the empirical section of this chapter supports certain aspects of the theory, the empirical evidence does not support the role of inflation and supply-side shocks in affecting fiscal policy in the region. Regardless of the specification or the measure used, the empirical analysis finds no apparent direct link between domestic inflation shocks, or indeed imported inflation, and the fiscal balance of the CFA zone countries. The theory predicts that the national fiscal authorities would respond to inflation shocks with expansionary fiscal policy, as they anticipate a tightening of the central bank's monetary stance and so set out to offset the downward pressure on demand resulting from the monetary tightening.

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<sup>135</sup> Chapter 3 explores in some detail the obstacles to severing this link to France.

So why does this effect fail to materialise empirically? Two explanations are given here. Firstly, consider the nature of monetary policy and its role in the CFA franc zones. The reality facing policymakers in these zones is very different from what is encountered in the eurozone. In the CFA franc zones, the central banks face obstacles from, amongst other things, the low degree of monetisation; a lack of financial intermediation and competition;<sup>136</sup> excess liquidity;<sup>137</sup> and incomplete and unreliable information about the state of the economy.<sup>138</sup>

The significant uncertainty relating to the appropriateness and impact of central bank actions is likely to encourage less active monetary policies, echoing the Brainard uncertainty principle.<sup>139</sup> This states that policymakers should act conservatively if there is uncertainty about the effects of their actions, given that substantial deviations from current policy may produce unforeseen, undesirable outcomes. In addition, policy is also restricted by the need to define a common monetary policy for all members, which would reduce the likelihood of large policy changes. In the CFA zone, it is even debatable whether the average cycle is targeted, given the observed passive nature of regional monetary policy. *Prima facie*, the evidence supports this: changes in policy rates have been infrequent, and much less frequent than at other central banks in sub-Saharan Africa. For example, from 2002 to 2018, the BCEAO changed its policy rate just 9 times, compared to 40 times in Ghana and 32 times in Kenya (since it introduced an official target rate in 2006).

In addition, consider that inflation is simply much less volatile in the CFA zones. This price stability has an outstanding track record by developing economies' standards, highlighted well by the experience of Guinea-Bissau. Before joining UEMOA and adopting the CFA franc in 1997, the country regularly experienced inflation rates of up to and above 50 percent. But in the past two decades, inflation has barely crept above 5 percent. This price stability is owed largely to the external guarantee from France and the imported credibility and exchange rate stability. As a result, the regional central banks are able to play a more passive role, and unlike non-CFA central banks in the region, do not have to worry about exchange rate volatility. As such, the link from inflation to fiscal policymaking may not exist in the same way it does elsewhere. From an empirical perspective, the lack of variation makes it harder to identify such a relationship in the data. The small deviations mean that it is difficult to separate the true effect from noise in the data,

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<sup>136</sup> Mishra & Montiel (2012).

<sup>137</sup> Saxegaard (2006).

<sup>138</sup> Berg et al., (2015).

<sup>139</sup> Brainard (1967).

particularly when time series filtering methods are sensitive to such noise.<sup>140</sup> This shows, in effect, how powerful the inflation-stabilising effect of the peg is.

## 2.6 Fiscal rules in the CFA zones

*“For a monetary union to work effectively its constitution must take account not only of the fact that member states’ governments are likely to be pursuing conflicting goals, but also of the asymmetries that arise when large and economically powerful countries share financial institutions with smaller, weaker neighbours. The UEMOA has been unsuccessful in mitigating the welfare losses that arise from these asymmetries; it is unlikely to do so in the future without more extensive control of individual governments’ economic policy.”* Fielding (2002)<sup>141</sup>

### 2.6.1 The role of political economy in imposing fiscal rules

The prior empirical section suggests that there are important spillovers and strategic interactions within the CFA zones, even once confounding factors such as commodity price movements and the output gap are controlled for. It is argued that the dynamics of the CFA arrangement produces incentives that can deliver adverse outcomes, as countries act in their own best interests and exploit the potential to push present and future costs onto other member countries. The role of political economy is central to understanding how certain incentives are able to persist.

Many of these ‘unintentional consequences’ were not unforeseen, and frameworks such as the Stability and Growth Pact in Europe were designed to rein in these effects. Much has been written on the lack of credible punishment for countries who violated the Stability and Growth Pact. In a prophetic piece, Sims (1999) predicted that the eurozone would be likely to face crises given the institutional gaps, notably related to fiscal coordination. Corsetti (2015) describes the incompleteness and inefficiency of eurozone institutions that meant the ‘no bail-out’ clause was not credible and that the lack of a common policy framework meant that nothing was in place to ensure the appropriate cyclical fiscal stance. Feld et al (2015) echo this view, saying that there are not the credible mechanisms to rein in moral hazard problems and provide market discipline (this latter concept described by Sims as “naïve”). De Grauwe (2010) writes that the issues with imposing sanctions is that the eurozone lacks the democratic legitimacy to sanction national parliaments, such that automatic penalties “have no place”.

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<sup>140</sup> See Hamilton (2018).

<sup>141</sup> Fielding (2002), p.81.

But, beyond the institutional and legal complications, there are significant moral obstacles to the imposition of penalties. Section 2.2 touches upon the role of TARGET2 balances in the eurozone, and the contingent credit line provided by the French Treasury to the CFA zones. The consequences of these in-built burden sharing mechanisms carry serious political elements. The heterogeneity of economies and political structures means that imbalances are ineluctable. This is almost always manifested by a situation where strong countries are supporting weaker countries. Once this arrangement has been established, reducing or withdrawing the degree of support is very challenging from a political perspective. Sims (1999) argues that sanctions are unlikely to be enforced when a country is in a time of hardship.

This has been evident with the core-periphery dynamic in Europe,<sup>142</sup> where Greece consistently violated the rules of the Stability and Growth Pact, and even underreported levels of fiscal deficits and government debt, but also suffered extreme economic pain.<sup>143</sup> It received multiple bailouts – in 2010, 2012 and 2015 – from the IMF, Eurogroup and the European Central Bank, as well as negotiating a 50 percent write-down (‘haircut’) on the value of its debt owed to private banks. Dammann (2016) discusses the legal possibility of expelling a member from the eurozone, finding that while it should be possible, the right to do so has to remain an “ultima ratio” and that the experience of Greece “does not even come close to satisfying its conditions”. The experience of Greece speaks to the challenges of sanctioning members or even the threat of expelling them. But importance of political economy considerations is even more stark with France and the CFA zone countries, the majority of which are former French colonies.

The idea of France expelling a CFA franc member due to large and persistent balance of payments deficits is almost unthinkable, given the negative perception it would convey on the world stage. Given the disparity in economic standards between France and the region, there is already the altruistic motive for providing a form of aid to the region, but the nature of post-colonial responsibilities between former colonial powers and African states greatly hampers the capacity for the French authorities to impose discipline. As the Operations Account at the French Treasury has only seen transitory deficits, it is unknown how things would play out if there was a large and prolonged deficit accumulated. In this scenario, certain countries in the region are likely to be facing fragile economic (and possibly political and social) circumstances. Pursuing disciplinary

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<sup>142</sup> See ‘Germany’s Moral Obligation to Greece’ by Daniel Altman in Foreign Policy <https://foreignpolicy.com/2015/07/16/germanys-moral-obligation-to-greece-eurozone/>.

<sup>143</sup> Higgins and Klitgaard (2011)

measures in this situation would be perceived as contrary to what is politically judicious and morally incumbent.

Could it be possible that France temporarily expels a country from the zone, in order to send a message? Beyond the political economy arguments already mentioned, it is difficult to see how this would be carried out, as presumably the expelled country would have to temporarily issue its own currency, or adopt the euro or the dollar. It is unclear how France could stop it using the CFA franc, or pause monetary support to one country only, as it supports the regional currency rather than each individual country's currency separately. As well as the logistical challenges this poses, the associated economic volatility for an already-weak economy could be catastrophic and would reflect unfavourably on France for aforementioned reasons. In addition, some commentators believe that the arrangement benefits France from a purely economic perspective, further reducing the likelihood of punishing those who violate the fiscal pacts.

Tying all this together, if France would be reluctant to follow through on imposing severe penalties on CFA countries, the countries themselves are unlikely to see the threat as credible, and will be less disinclined to pursue expansionary fiscal policy. It is possible that France has attempted to use their leverage within international institutions, notably the World Bank and the IMF, to encourage debt relief in CFA member countries in order to reduce the burden on itself. If France's role as guarantor means that they have to ultimately have to bear the cost of debt crises in the CFA franc zones, then they will have the incentive to push this burden onto multilateral institutions. However, while France may have been able to use its influence to encourage such burden sharing to some extent, when looking at the debt relief afforded to low-income countries through HIPC and MDRI, there is no indication that CFA member countries have benefitted more than other low-income countries.

### **2.6.2 What challenges do fiscal rules need to address?**

This analysis indicates that some sort of formal fiscal framework is necessary to blunt or internalise incentives for actions that devalue the common good. Ideally, the markets themselves would impose discipline on fiscal authorities, but the evidence of this is not convincing in the eurozone<sup>144</sup> and even weaker in the CFA zones. Hitaj and Onder (2013) show that the responsiveness of sovereign bond rates to government fiscal behaviour is limited in UEMOA, so there isn't the

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<sup>144</sup> See Feld et al. (2015).

expected market disciplining effect on governments. They conclude that the enforcement mechanism is weaker than in the eurozone, while the lack of sanctions is highlighted by persistent violation of the fiscal pacts introduced at the turn of the century. In addition to these political economy problems, there are additional distortions that are present in the CFA zones that may serve to encourage further deviation of national fiscal policy away from a sustainable path.

### **Pressure to spend windfalls**

Talvi and Vegh (2005) observe the pervasiveness of procyclical fiscal policy, and note the difficulty in running large budget surpluses in good times due to political pressures. In particular, their model shows that when tax revenue volatility is high – as it often is in developing economies – the optimal fiscal policy becomes more procyclical. The result is driven by the political cost of running budget surpluses in good times and so transferring the surplus to the private sector through lower taxes. They comment that unstable policies result not from the policymakers' inability to set sustainable policies, but from the political economy of fiscal policy. The recommended solution to this problem is to design fiscal arrangements that make saving for a rainy day more palatable to the public, such as fiscal stabilisation funds or independent fiscal councils as in Chile. However, even these schemes would not be immune to political pressure, and there needs to be a clear and credible *ex ante* set of rules in order to deliver the desired result *ex post*. Heuty and Aristi (2009) caution that fiscal rules or resource funds have often been disregarded due to disconnects between the country's needs and available policy space.

### **Tax revenue volatility**

That simple fiscal rules tend to lead to pro-cyclical fiscal policy has been heavily discussed, with respect to both the eurozone<sup>145</sup> and in the CFA franc zone.<sup>146</sup> Guillaumont Jeanneney and Tapsoba (2011) find public expenditure to be more pro-cyclical in UEMOA than in non-CFA African countries, although the empirical results in this study are not supportive of this. The need for more sophisticated approaches is reflected in the recent changes in the CEMAC fiscal rules. The CFA member countries' high commodity export dependence means any fiscal rule must acknowledge and cater for the inherent commodity price volatility, and its knock-on effect on fiscal revenues. As noted, this is particularly pertinent in CEMAC.

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<sup>145</sup> See De Grauwe and Foresti (2015); Wyplosz (2015); Feld et al. (2016).

<sup>146</sup> Bikai (2015); Diaw and Diop (2015).

## **Government spending persistence**

Planning a sustainable fiscal path must account for the potential obstinacy of the path of government expenditure. Arezki et al. (2013) build on political economy models of public expenditure, notably Alesina and Perotti (1994), in looking at asymmetries in government spending behaviour for oil-rich countries. Through testing a Dutch disease model, they find that current spending increases in boom times, but is much less sensitive to oil price busts. Moreover, there is limited evidence that fiscal rules help temper expansionary spending programmes during booms. The rules do however appear to lead to reduced public expenditure during oil price busts. The explanation for this is that current spending tends to contain a larger domestic element – notably public sector wages and subsidies – and so is more politically sensitive than capital spending, which not only has a higher import content but is less likely to provoke immediate political backlash due to its long-term nature.

These results are related to the habit formation literature, where consumers become accustomed to the level of consumption enjoyed in prior periods. The relevance here is that government may not be able to reduce government expenditure beyond a certain threshold, without risking domestic unrest. Higher spending one period increases the public's expectation of spending in the next. Velculescu (2004) details how, in the presence of intertemporal habit formation, a competent government must take this into account when setting fiscal policy. The lesson to be taken is that if, in response to a positive commodity price shock, the fiscal authority rapidly increases public expenditure then there may be significant negative welfare consequences if it is forced to rein in spending once the price movement reverses.

## **Exhaustibility of non-renewable resource revenues**

This is much more relevant for CEMAC countries, where oil revenues predominate the fiscal budget. From as early as the turn of the millennium, observers have written about the unsustainable fiscal path that many CEMAC countries find themselves on. As has been discussed, the commodity revenue uncertainty necessitates some caution itself, but crucial is the exhaustibility of oil reserves in the region. Leigh and Olters (2006) show how the magnitude of Gabon's non-oil deficit was not sustainable and that a large surplus would be optimal for the years until oil reserves are exhausted. In the intervening years, the fiscal authorities have not made the required efforts to get closer to a sustainable path.<sup>147</sup> IMF reports on the zone have also highlighted the

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<sup>147</sup> The non-oil primary balance as a percentage of non-oil GDP was -9 percent, -11 percent, -9.7 percent in 2015-2017 (IMF), compared to the authors' estimated -5.5 percent sustainable deficit.

need for fiscal sustainability to address resource exhaustibility issues.<sup>148</sup> Wiegand (2004) looks more broadly at CEMAC, and gives a pessimistic verdict that is even more conspicuous today:

*“As regards long-term sustainability, the picture is bleak. Governments of the mature oil economies Cameroon, Congo, and Gabon failed to save a sufficient amount of petroleum receipts in every year of observation.”*

### **2.6.3 What does the CFA fiscal framework look like today?**

Fiscal rules played a central role in the reforms that followed the 1994 CFA franc devaluation, as described in Section 2.2. This was also a response to the pro-cyclicality of fiscal policy observed in the region during this period.<sup>149</sup> These rules largely mimicked the Stability and Growth Pact, which entered into force in the European Union in 1998. Introduced at the turn of the century, the first order criteria of the convergence framework in the UEMOA state that overall fiscal balance should be less or equal to 3 percent of GDP; that inflation shouldn't exceed 3 percent; and that overall debt-to-GDP should remain below 70 percent. For CEMAC, the target had been a zero-floor on the basic fiscal balance, as well as a non-accumulation of internal or external arrears, in addition to the same debt and inflation rules.

Compliance to these criteria has been relatively poor, in particular the enforcement of fiscal balance rules. In CEMAC, the budget deficit was greater than zero in 55 percent of cases over 2004-2017, while for UEMOA countries the percentage of cases where the deficit was greater than 3 percent was 45 percent over the same period. Adherence to debt limits has been aided to a considerable extent by debt relief, but the stock has still exceeded 70 percent of GDP in 17 percent and 13 percent of cases over 2004-2017 for UEMOA and CEMAC respectively.

The CEMAC rules have recently been finetuned, acknowledging the weakness of the zero-floor fiscal rule that allowed countries to spend the entirety of oil windfalls, rather than pursuing a more sustainable approach, which encouraged pro-cyclical fiscal policy. The revised CEMAC rule, effective as of 2017, put a floor on the 'reference fiscal balance' at minus 1.5 percent. This is calculated as the overall budget balance minus 20 percent of oil revenue and minus 80 percent of the gap between current oil revenue-to-GDP and the average of the prior three years. This aims to reduce procyclicality by being disconnected from the current year's oil revenue, and gives a three-year period to adjust to permanent falls in oil revenues. In the future, it may therefore be

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<sup>148</sup> For example, IMF Country Report No. 17/393.

<sup>149</sup> For reference see Mpatswe et al. (2011); Adedeji and Williams (2008); Iossifov (2010).

worthwhile to empirically look at the behaviour of the non-oil fiscal balance in CEMAC, given this is the new reference point for fiscal policymakers.

#### **2.6.4 A trade-off of rules, flexibility, and feasibility**

It is a near-Herculean task to create a fiscal framework that concurrently addresses the misaligned incentives of a currency union, the associated political economy issues, as well as the issues raised in Section 2.6.2. The aim should be to create a framework that is realistic and is suited to the specific concerns faced by the CFA franc zones, rather than simply adopt what has been implemented in other regions. The recent changes in CEMAC, that acknowledge the dominance of commodity revenues, are a conscious effort towards a more tailored approach.

Within the zones there is a trade-off between tighter rules and greater flexibility. Tighter rules – such as debt ceilings, budget rules, expenditure growth limits – help to curtail the opportunistic behaviours described, but they also narrow the fiscal space available to effect changes in the national economy. This latter concern is critical given the fragile and crucial stage of economic development in the region. Indeed, an argument against strict region-spanning rules is that the countries within the CFA, particularly UEMOA, tend to be heterogeneous and experience asymmetric shocks; in which case a wider policy space is desirable in order for fiscal policy to be more flexible and proactive. The asymmetries between countries do not exist solely on an economic level, as government preferences will differ too. As a consequence, the optimal trade-off between stringent rules and the flexibility to manage national-level shocks will vary by country.

As discussed in Section 2.2, Allsopp and Vines (2008) provides a thorough analysis of the problems with the Stability and Growth Pact in the European Monetary Union. Their central concern is that governments would be required to cut their spending in downturns in response to a fall in tax revenues, so as not to violate the deficit and debt limits imposed by the pact, encouraging a procyclical fiscal policy which amplifies cycles and produces unstable equilibria. They recommend a fiscal framework that has “only very gradual feedback from the level of debt to the fiscal position”, combined with a more active policy that responds to disinflation and crucially a fiscal policy that looks to target the real exchange rate over the longer term. They also stress the importance of remaining on a sustainable fiscal path, and as such call for a regime of “constrained discretion”.

The mechanism design of a fiscal framework faces a number of challenges imposed by the CFA franc structure. I have discussed issues relating to the tragedy of the commons, to the Walters critique, as well as moral hazard. This is in addition to challenges facing most Sub-Saharan African countries, regardless of whether or not they use the CFA franc, which are highlighted in Section 2.6.3. At best, fiscal rules are a second-best solution to the problems described in this chapter, and it is therefore easy to be dismissive, but it is not clear whether a radically different approach would fare any better. Crucially, on top of the trade-off between a flexible and rules-based approach, there is the overriding imperative that any framework has to be feasible, as if it cannot be realistically implemented and adhered to, then it falls at the first hurdle.

### **2.6.5 Possible future developments**

The preferred approach going forward may be to make the framework more flexible to economic and commodity cycles, as shown by the recent move towards targeting non-oil balances in CEMAC. This could be complemented by other proposals. For example, Heuty and Aristi (2009) argue that fiscal institutions for developing resource-rich economies should focus on spending resource revenue on investment rather than recurrent spending, such that only non-resource revenue is used for current spending.

It is not sufficient to try and mimic the resource management practices that have had some success in more economically developed resource-rich countries. It goes without saying that the objectives that motivate Norway's management of its natural resource wealth are bound to be very different to those in countries where levels of poverty are very high. In Chile, where copper is the main source of commodity wealth, the Economic and Social Stabilization Fund (formerly Copper Stabilization Fund) has shown the need to develop alternative approaches to resource management. An external committee periodically decides on the long-term copper price and copper production capacity, which helps guide a sustainable budget by decoupling fiscal policy from short-term deviations in commodity prices.

However, from a political economy perspective, saving a high proportion of windfalls for the future may not be viable when current income levels are so low, as there will be some expectation from the public that the funds be re-invested into the economy. In addition, Chile is classified as an upper-middle-income country,<sup>150</sup> and the optimal policy will be different in countries where the

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<sup>150</sup> According to World Bank classifications.

level of economic development is sufficiently low that the prospective rate of return on domestic investment today is very high. As a consequence, even though the Chilean experience is broadly seen as a success story,<sup>151</sup> it may not be optimal from an economic perspective given the high levels of poverty and scarcity of productive capacity in a large proportion of CFA zone countries.

## 2.7 Conclusion

The CFA franc zone is a truly unique exchange rate and monetary structure, especially when one takes into account the political and historical associations. It is not possible to envisage how such an arrangement would emerge organically. As a result, there are limitations to simply transplanting the policies or frameworks of the eurozone, or indeed any other monetary union. Several factors set the CFA zone apart from would-be comparators, including the multi-layered role of France in the arrangement; the degree of monetary stability despite low levels of economic and financial development; the high vulnerability of member countries to terms of trade shocks; and the low levels of institutional development.

Yet, several of the issues discussed in this chapter could be faced by any currency unions, such as reduced monetary policy autonomy; asymmetric business cycles; tragedy of the commons problems; and the difficulty of sanctioning non-compliant members. These issues remain as germane as ever, but it is necessary to recognise the additional characteristics that are unique to the CFA franc arrangement in order to properly understand the policy dynamics.

This chapter has considered the implications for fiscal policy in this environment. Central to the matter is the interaction between a fiscal policy that is determined by national authorities, a monetary policy decided by regional central banks, and an exchange rate path that is determined by the fortunes of the eurozone and whose guarantee is externally provided by the former colonial power. This environment has the potential to create perverse incentives through issues of moral hazard and a tragedy of the commons, whereby countries are less motivated to exercise fiscal prudence than would otherwise have been the case. In order to test these theories, this chapter has carried out an empirical analysis of the fiscal behaviour of the CFA franc zone countries using a system GMM estimator for 2004-2017.

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<sup>151</sup> See Frankel (2011).

The empirical results do not support the idea of monetary union as an agency of fiscal restraint, as fiscal policy does not appear to be following a sustainable path in the CFA franc zones. It is not possible to separate out the individual effects, but fiscal profligacy could be encouraged by a number of factors. These include countries' ability to dilute costs through the union, as highlighted in the theoretical model in Section 2.3; the expectation of bailout or debt forgiveness, either from multilateral organisations such as the IMF, from the zone's guarantor France, or even implicitly from other member countries; and the (effectively) unconditional stability of the exchange rate and inflation, which means that deteriorating economic fundamentals or unsustainable policy behaviour are not reflected in prices, and so the market less easily imposes discipline on governments.

The response to this phenomenon has been a formal fiscal framework that is similar in spirit to the Stability and Growth Pact in the European Union, designed to drive fiscal discipline and regional integration. However, these rules have been persistently violated, and the empirical analysis of this chapter shows that, in general, the zones are not pursuing sustainable fiscal paths. Crucially, fresh ideas are needed, beyond mimicking approaches employed elsewhere, such as in Europe or in Chile. A more flexible framework could be the best way forward, better suited to the economic characteristics of the region and recognising the perverse incentives the CFA arrangement may produce.

## 2.8 Appendix A: Data sources

**Real GDP:** in constant 2010 US \$ (World Bank's World Development Indicators (WDI))

**Government debt:** General government gross debt (IMF World Economic Outlook database (WEO))

**Government fiscal balance:** General government net lending/borrowing (WEO)

**Government expenditure:** General government expenditure (WEO)

**Inflation:** Inflation, end of period consumer prices (WEO)

## Appendix B: Commodity terms of trade index

The commodity terms of trade index used is taken directly from Gruss and Kebhaj (2019). It captures the country-specific impact of commodity price movements, weighting the global prices of 45 individual commodities by country-specific net exports.

The following commodities are included in the index: aluminium, bananas, barley, beef, coal, cobalt, cocoa, coconut oil, coffee, copper, corn, cotton, crude oil, diamond, fish, fish meal, gold, groundnuts, hard logs, hides, iron ore, lamb, lead, natural gas, nickel, olive oil, oranges, palm oil, platinum, poultry, rapeseed oil, rice, rubber, sawn hardwood, sawn softwood, shrimp, soft logs, soybean meal, soybean, soybean oil, sugar, sunflower oil, swine, tea, tin, titanium, uranium, wheat, wool, zinc.

The annual change in country  $i$ 's commodity terms of trade in year  $t$  is given by:

$$\Delta \log CTOT_{i,t} = \sum_{j=1}^J \Delta P_{j,t} \tau_{i,j,t}$$

$$\text{with } \tau_{i,j,t} = \frac{1}{3} * \sum_{s=1}^3 \frac{x_{i,j,t-s} - m_{i,j,t-s}}{GDP_{i,t-s}}$$

Where  $P_{j,t}$  is the natural logarithm of the price of commodity  $j$  at time  $t$ ;  $\Delta$  represents first differences;  $GDP_{i,t-s}$  denotes the nominal GDP of country  $i$  at time  $t$ . The weight  $\tau_{i,j,t}$  varies according to the country and its net export share of each commodity. It varies over time, in order

to capture changes in countries' resource wealth (typically due to resource discoveries). Gruss and Kebbaj (2019) provides the source of price data.

### **Appendix C: Debt relief**

The years used for debt relief are taken from the World Bank and IMF's joint Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI) Statistical Update. HIPC was initiated in 1996, while MDRI was implemented in 2006. The delivery date in Table AIII7.A is used, as well as Table AIII7B.

Debt relief was given for the following countries, by year:

2002: Mali, Mozambique

2005: Rwanda, Zambia

2006: Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, Zambia

2007: The Gambia, Guinea, Liberia

2008: Liberia

2009: Burundi, Central African Republic, Liberia

2010: Democratic Republic of the Congo, Republic of Congo, Liberia, Togo

2011: Guinea-Bissau

2012: Côte d'Ivoire, Guinea

## Appendix D: Summary statistics

Figure 2.3

	Observations	Mean	Median	Standard deviation	Maximum	Minimum
<b>CFA countries</b>						
Δ Real GDP (log)	192	0.04	0.04	0.06	0.29	-0.46
Government fiscal balance (% of GDP)	194	-0.01	-0.02	0.08	0.40	-0.25
Government debt (% of GDP)	193	0.47	0.38	0.38	2.22	0.00
Commodity terms of trade index (log)	196	4.58	4.61	0.11	4.72	4.14
Δ CTOT index (log)	196	0.00	0.00	0.07	0.21	-0.34
Δ CTOT index (log) - positive only	196	0.02	0.00	0.04	0.21	0.00
Δ CTOT index (log) - negative only	196	-0.02	0.00	0.05	0.00	-0.34
Δ General government expenditure (log)	181	0.08	0.09	0.17	0.64	-0.56
Output gap (Hamilton filter)	192	0.01	0.01	0.08	0.32	-0.34
Output gap (H-P filter)	192	0.01	0.01	0.14	0.73	-0.79
Government expenditure gap (Hamilton)	195	0.05	0.04	0.23	0.79	-0.83
Government expenditure gap (H-P filter)	195	0.01	0.01	0.23	0.87	-1.10
Inflation (Δ log CPI index)	180	0.02	0.02	0.03	0.17	-0.07
Inflation gap	194	-0.02	-0.01	0.06	0.11	-0.29
<b>Non-CFA countries*</b>						
Δ Real GDP (log)	300	0.05	0.05	0.07	0.26	-0.74
Government fiscal balance (% of GDP)	299	-0.03	-0.03	0.05	0.20	-0.22
Government debt (% of GDP)	298	0.56	0.41	0.53	4.66	0.06
Commodity terms of trade index (log)	294	4.61	4.61	0.06	4.69	4.18
Δ CTOT index (log)	294	0.00	0.00	0.04	0.16	-0.30
Δ CTOT index (log) - positive only	294	0.01	0.00	0.02	0.16	0.00
Δ CTOT index (log) - negative only	536	-0.01	0.00	0.02	0.00	-0.30
Δ General government expenditure (log)	277	0.16	0.15	0.23	1.47	-0.72
Output gap	301	0.01	0.01	0.09	0.30	-0.40
Government expenditure gap	299	0.00	0.00	0.34	1.22	-1.41
Inflation (Δ log CPI index)	263	0.10	0.09	0.07	0.44	-0.08
Inflation gap	284	-0.07	-0.03	0.50	2.74	-2.46

**Co-movement of individual country compared to GDP-weighted peer average (as defined in the text)**

<u>CEMAC</u>		<u>CMA</u>		<u>ECOWAS (non-CFA)</u>	
Cameroon	0.66	Eswatini	0.62	Cabo Verde	0.43
CAR	0.53	Lesotho	0.81	The Gambia	0.53
Chad	0.56	Namibia	0.82	Ghana	0.39
Rep. Congo	0.68	South Africa	0.82	Guinea	0.46
Eq. Guinea	0.84			Liberia	0.61
Gabon	0.70	<u>SADC</u>		Nigeria	0.55
		Angola	0.45	São Tomé & Pr.	0.43
<u>UEMOA</u>		Botswana	0.57	Sierra Leone	0.45
Benin	0.41	Comoros	0.00		
Burkina Faso	0.82	DR Congo	0.30	<u>EAC</u>	
Côte d'Ivoire	0.31	Madagascar	0.36	Burundi	-0.57
Guinea-Bissau	-0.25	Malawi	0.62	Eritrea	-0.30
Mali	0.57	Mauritius	-0.10	Ethiopia	-0.70
Niger	0.94	Mozambique	0.27	Kenya	0.59
Senegal	-0.02	Seychelles	-0.33	Rwanda	-0.42
Togo	0.31	Zambia	0.87	South Sudan	0.66
		Zimbabwe	0.26	Tanzania	0.13
				Uganda	0.18
<b>CFA average</b>	<b>0.50</b>	<b>Non-CFA average</b>	<b>0.31</b>		
		<b>Non-CFA ex. CMA</b>	<b>0.25</b>		

**Appendix E: Table 2.4**, reduced instruments and peer effect robustness checks, 2004-2017

Dependent variable: government fiscal balance as a percentage of GDP.

	1 LAG (16)	CFA (17)	CFA (18)	Non- CFA (19)	Non- CFA (20)	CFA (21)
Fiscal Balance (t-1)	0.587*** (0.16)	0.464** (0.19)	0.439** (0.22)	0.509*** (0.06)	0.519*** (0.06)	0.621*** (0.19)
Govt Debt/GDP (t-1)	-0.036** (0.02)	-0.039** (0.02)	-0.040** (0.02)	-0.009 (0.01)	-0.009 (0.01)	-0.042** (0.02)
Change in log(CTOT)	0.328** (0.14)	0.358*** (0.11)	0.351*** (0.12)	0.185*** (0.06)	0.173*** (0.06)	0.404*** (0.11)
Peer Fiscal Balance	0.412* (0.23)					
Government Spending shock	-0.060* (0.03)	-0.054** (0.03)	-0.053** (0.03)	-0.005 (0.01)	-0.003 (0.01)	-0.046* (0.03)
Output Gap	0.030 (0.06)	0.027 (0.06)	0.034 (0.06)	0.009 (0.06)	-0.012 (0.07)	-0.012 (0.04)
HIPC relief (t-1)	-0.046 (0.05)	-0.018 (0.05)	0.003 (0.06)	0.000 (0.05)	0.007 (0.03)	-0.020 (0.05)
Inflation shock		-0.007 (0.22)	0.020 (0.20)	-0.003 (0.01)	-0.003 (0.01)	-0.118 (0.16)
Post-HIPC	-0.008 (0.02)	-0.013 (0.02)	-0.003 (0.02)	0.011 (0.03)	0.012 (0.02)	-0.027 (0.02)
Peer effect (largest)		0.599*** (0.18)		0.252 (0.26)		
Peer effect (two largest)			0.747*** (0.28)		0.301 (0.24)	
Peer Fiscal Balance (t-1)						0.171 (0.14)
Constant	0.023 (0.02)	0.027 (0.02)	0.019 (0.02)	-0.009 (0.01)	-0.008 (0.01)	0.032 (0.02)
A-B test for AR(1)	-2.13**	-1.97**	-1.89*	-2.25**	-2.37**	-1.96**
A-B test for AR(2)	1.42	1.12	1.30	1.44	1.49	1.52
Sargan test	0.29	6.56	6.51	14.33	13.69	7.78
Hansen test	0.69	6.63	7.52	12.03	12.19	6.28
Observations	191	190	190	292	292	190
Number of groups	14	14	14	21	21	14

Notes: The estimator used for all specifications is the system GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

The first column shows the results if only one lag (the second lag of the endogenous variables) is used for the instrument set. Columns 17-20 show the results if the alternative peer variables described in Section 2.5.2 are used, with 17 and 19 using the largest peer as the reference for the peer effect, in CFA and non-CFA countries respectively, and 18 and 20 showing this if the two largest peers are used. The final column shows the results if the lag of the original peer fiscal balance variable is used in the baseline regression, rather than its contemporaneous value.

## Appendix F: Main regression with individual countries omitted

Excluded country in parenthesis; dependent variable: government fiscal balance as a percentage of GDP.

**Table 2.5: UEMOA countries**

	(Benin)	(G-B)	(C. Iv)	(Mali)	(Niger)	(Senegal)	(Togo)	(Burkina)
Fiscal Balance (t-1)	0.509** (0.21)	0.432* (0.26)	0.495** (0.24)	0.485** (0.21)	0.523*** (0.16)	0.476** (0.22)	0.548*** (0.21)	0.554*** (0.20)
Govt Debt/GDP (t-1)	- 0.046** (0.02)	- -0.054 (0.04)	- 0.042** (0.02)	- 0.039** (0.02)	- 0.047*** (0.02)	- 0.049*** (0.02)	- -0.039** (0.02)	- -0.035** (0.02)
Change in log(CTOT)	0.320** (0.13)	0.324** (0.13)	0.322** (0.13)	0.316** (0.13)	0.332*** (0.11)	0.314** (0.14)	0.329** (0.13)	0.319*** (0.12)
Peer Fiscal Balance	0.434** (0.22)	0.426** (0.21)	0.419* (0.22)	0.416* (0.22)	0.352** (0.16)	0.462** (0.23)	0.397** (0.20)	0.415** (0.19)
Government Spending shock	-0.041* (0.02)	0.055** (0.03)	-0.046* (0.02)	0.037** (0.02)	-0.037* (0.02)	-0.043** (0.02)	-0.036 (0.02)	-0.044* (0.02)
Output Gap	-0.022 (0.05)	-0.015 (0.05)	-0.015 (0.05)	0.007 (0.04)	-0.044 (0.05)	-0.021 (0.05)	-0.024 (0.05)	-0.029 (0.05)
HIPC relief (t-1)	-0.013 (0.05)	0.033 (0.05)	0.012 (0.05)	-0.003 (0.06)	0.003 (0.04)	0.004 (0.05)	-0.037 (0.07)	0.014 (0.05)
Inflation shock	-0.088 (0.20)	0.107 (0.27)	-0.030 (0.22)	-0.076 (0.19)	-0.123 (0.24)	-0.057 (0.22)	-0.112 (0.23)	-0.105 (0.21)
Post-HIPC	-0.025 (0.02)	-0.042 (0.03)	-0.024 (0.02)	-0.031* (0.02)	-0.028 (0.02)	-0.029 (0.02)	-0.017 (0.02)	-0.010 (0.02)
Constant	0.035 (0.02)	0.039 (0.03)	0.029 (0.02)	0.031* (0.02)	0.034* (0.02)	0.036* (0.02)	0.028 (0.02)	0.021 (0.02)
A-B test for AR(1)	- 1.93***	- 1.97***	- 1.90***	- 1.74***	- -1.94***	- -1.92***	- -1.91***	- -1.78***
A-B test for AR(2)	1.24	1.49	1.33	1.06	0.97	1.29	1.14	1.30
Sargan test	7.86	8.5	7.75	10.04	8.61	7.61	7.96	6.62
Hansen test	4.73	3.66	5.46	6.38	4.29	5.68	4.33	0.76
Observations	176	176	177	177	177	176	177	176
Number of groups	13	13	13	13	13	13	13	13

Notes: The estimator used for all specifications is the System GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*

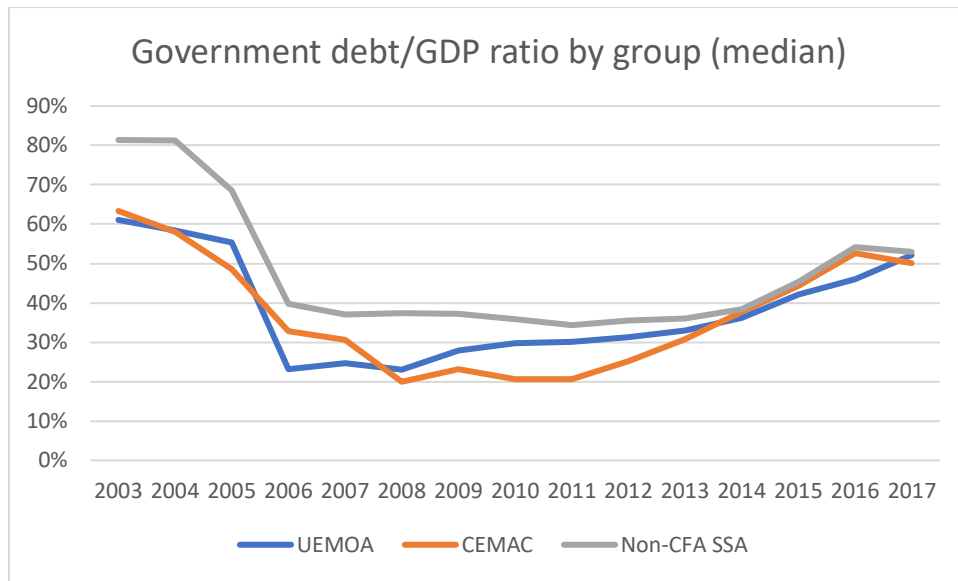
\*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

**Table 2.6: CEMAC countries**

	(Cam)	(CAR)	(Chad)	(RoC)	(Eq. G)	(Gabon)
Fiscal Balance (t-1)	0.516** (0.21)	0.632*** (0.16)	0.401* (0.23)	0.165 (0.23)	0.666*** (0.22)	0.515** (0.21)
Govt Debt/GDP (t-1)	-0.046** (0.02)	-0.036** (0.01)	-0.054* (0.03)	-0.057** (0.02)	-0.037*** (0.01)	-0.041** (0.02)
Change in log(CTOT)	0.319** (0.13)	0.331** (0.14)	0.276* (0.14)	0.155* (0.08)	0.343* (0.19)	0.397*** (0.11)
Peer Fiscal Balance	0.444** (0.21)	0.442* (0.26)	0.707** (0.29)	0.605*** (0.23)	0.393** (0.19)	0.377* (0.22)
Government Spending shock	-0.042* (0.02)	-0.046* (0.03)	-0.039 (0.03)	-0.035* (0.02)	-0.037 (0.04)	-0.040 (0.03)
Output Gap	-0.003 (0.05)	-0.025 (0.06)	-0.020 (0.06)	-0.005 (0.06)	-0.081 (0.09)	-0.028 (0.05)
HIPC relief (t-1)	-0.021 (0.05)	-0.038 (0.06)	-0.016 (0.05)	0.036 (0.04)	-0.028 (0.07)	0.009 (0.04)
Inflation shock	-0.089 (0.21)	-0.081 (0.18)	-0.069 (0.18)	0.139 (0.15)	-0.215 (0.16)	-0.034 (0.20)
Post-HIPC	-0.026 (0.02)	-0.018 (0.02)	-0.028 (0.03)	-0.033 (0.02)	-0.008 (0.02)	-0.020 (0.02)
Constant	0.035* (0.02)	0.028* (0.02)	0.043 (0.03)	0.034* (0.02)	0.025* (0.01)	0.026 (0.02)
A-B test for AR(1)	-1.80***	-2.06***	-1.87***	-1.68***	-1.81***	-1.93***
A-B test for AR(2)	1.27	1.32	0.91	0.64	1.10	1.50
Sargan test	9.25	5.91	0.15	7.32	5.23	7.20
Hansen test	4.46	4.08	2.91	4.67	5.23	3.96
Observations	176	178	176	176	176	176
Number of groups	13	13	13	13	13	13

Notes: The estimator used for all specifications is the System GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

## Appendix G: Government debt ratios over time



## Appendix H: Primary fiscal balance as dependent variable

**Table 2.1a – Baseline findings: CFA countries only, 2004-2017**

Dependent variable: government primary fiscal balance as a percentage of GDP.

	(1a)	(2a)	(3a)	(4a)	(5a)	(6a)
Fiscal Balance (t-1)	0.657*** (0.05)	0.570*** (0.20)	0.582*** (0.18)	0.468*** (0.18)	0.568*** (0.20)	0.320 (0.21)
Govt Debt/GDP (t-1)	-0.002 (0.02)	-0.023 (0.01)	-0.022 (0.02)	-0.042** (0.02)	-0.037* (0.02)	-0.047* (0.03)
Change in log(CTOT)	0.377*** (0.10)	0.326** (0.14)	0.328** (0.14)	0.312** (0.14)	0.313** (0.14)	0.330** (0.15)
Peer Fiscal Balance		0.439* (0.26)	0.385 (0.24)	0.456* (0.28)	0.374 (0.26)	0.477 (0.30)
Government Spending shock		-0.044 (0.03)	-0.042 (0.04)	-0.034 (0.03)	-0.031 (0.03)	-0.045 (0.04)
Output Gap	-0.043 (0.05)	-0.025 (0.05)	-0.029 (0.04)	-0.036 (0.05)	-0.040 (0.05)	0.013 (0.07)
HIPC relief (t-1)		-0.024 (0.05)	-0.027 (0.05)	-0.015 (0.05)	-0.027 (0.06)	-0.012 (0.05)
Inflation shock		-0.015 (0.16)	-0.031 (0.17)	-0.145 (0.23)	-0.157 (0.21)	-0.212 (0.29)
Eurozone inflation			0.180 (0.66)			
Post-HIPC				-0.037* (0.02)	-0.031 (0.02)	-0.040 (0.03)
Global Real GDP growth					0.354 (0.31)	
Peer Fiscal Balance * Peer Worse						0.392 (0.44)
Peer Worse						0.030* (0.02)
Constant	-0.001 (0.01)	0.010 (0.01)	0.006 (0.02)	0.034 (0.02)	0.019 (0.03)	0.024 (0.02)
A-B test for AR(1)	-2.00***	-2.12***	-2.11***	2.01***	-1.87***	-2.11***
A-B test for AR(2)	1.6	1.43	1.46	1.27	1.18	1.43
Sargan test	2.31	7.64	7.57	7.97	6.79	6.94
Hansen test	8.38	6.38	5.87	4.58	1.61	2.89
Observations	190	188	188	188	188	188
Number of groups	14	14	14	14	14	14

Notes: The estimator used for all specifications is the System GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*

\*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

**Table 2.2a – Alternative specifications: 2004-2017**

Dependent variable: government primary fiscal balance as a percentage of GDP.

	Non-CFA SSA (7a)	CFA (8a)	CFA (9a)	CFA (10a)
Fiscal Balance (t-1)	0.659*** (0.08)	0.523** (0.22)	0.476 (0.30)	0.477* (0.27)
Govt Debt/GDP (t-1)	0.009 (0.01)	-0.011 (0.01)	-0.030** (0.02)	-0.006 (0.01)
Change in log(CTOT)	0.163** (0.07)	0.308** (0.15)	0.358** (0.15)	
Peer Fiscal Balance	0.189 (0.30)	0.373 (0.23)	0.378 (0.25)	0.470* (0.28)
Government Spending shock	-0.002 (0.03)		-0.047 (0.05)	-0.045 (0.03)
Output Gap	0.061 (0.11)		-0.025 (0.09)	0.003 (0.06)
HIPC relief (t-1)	-0.041 (0.04)	-0.034 (0.06)	-0.055 (0.07)	-0.015 (0.06)
Inflation shock	0.011 (0.02)	-0.043 (0.23)	-0.000 (0.23)	0.013 (0.29)
Post-HIPC	0.036 (0.03)			0.011 (0.03)
Government Spending shock (H-P)		-0.045 (0.04)		
Output Gap (H-P)		0.007 (0.06)		
Change in log(CTOT) (t-1)			0.151 (0.13)	
Positive change in log(CTOT)				0.482** (0.20)
Negative change in log(CTOT)				0.187 (0.28)
Constant	-0.029 (0.02)	0.003 (0.01)	0.015 (0.01)	-0.011 (0.02)
A-B test for AR(1)	-2.28***	-2.13***	-2.07***	-2.25***
A-B test for AR(2)	1.19	1.30	0.89	1.41
Sargan test	14.11	10.16	6.06	9.86
Hansen test	8.96	4.38	4.45	4.16
Observations	278	192	192	192
Number of groups	21	14	14	14

Notes: The estimator used for all specifications is the System GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*,

\*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

**Table 2.3a – Alternative estimators: CFA countries, 2004-2017**

Dependent variable: government primary fiscal balance as a percentage of GDP.

	OLS (11a)	IV FE (12a)	LIML (13a)	D-K SE (14a)	PCSE (15a)
Fiscal Balance (t-1)	0.335** (0.14)	0.275*** (0.10)	0.258** (0.10)	0.335** (0.14)	0.345*** (0.08)
Govt Debt/GDP (t-1)	-0.009 (0.02)	-0.011 (0.02)	-0.011 (0.02)	-0.009 (0.01)	0.005 (0.01)
Change in log(CTOT)	0.325*** (0.05)	0.288*** (0.07)	0.272*** (0.08)	0.325*** (0.02)	0.301*** (0.05)
Peer Fiscal Balance	0.329** (0.12)	0.451*** (0.16)	0.520** (0.22)	0.329*** (0.11)	0.366*** (0.09)
Government Spending shock	-0.013 (0.02)	0.012 (0.03)	0.016 (0.04)	-0.013 (0.01)	-0.033* (0.02)
Output Gap	0.057 (0.04)	-0.006 (0.08)	-0.032 (0.10)	0.057** (0.03)	0.073* (0.04)
HIPC relief (t-1)	-0.029 (0.03)	-0.021 (0.02)	-0.019 (0.02)	-0.029 (0.03)	-0.010 (0.02)
Inflation shock	0.035 (0.11)	0.017 (0.10)	0.019 (0.11)	0.035 (0.07)	0.071 (0.08)
Post-HIPC	-0.043* (0.02)	-0.046** (0.02)	-0.044* (0.02)	-0.043** (0.02)	-0.029*** (0.01)
Constant	0.026 (0.02)			0.026 (0.02)	0.017* (0.01)
Observations	188	182	182	188	188
R-squared	0.478	0.473	0.461		0.489
Number of groups	14	14	14	14	14

Notes: Robust standard errors are reported in parenthesis where the estimation allows. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

**Table 2.4a: Reduced instruments and peer effect robustness checks, 2004-2017**

Dependent variable: government primary fiscal balance as a percentage of GDP.

	1 LAG (16a)	CFA (17a)	CFA (18a)	Non- CFA (19a)	Non- CFA (20a)	CFA (21a)
Fiscal Balance (t-1)	0.611*** (0.14)	0.491*** (0.12)	0.512*** (0.16)	0.531*** (0.09)	0.512*** (0.09)	0.655*** (0.17)
Govt Debt/GDP (t-1)	-0.031** (0.01)	-0.033** (0.02)	-0.033* (0.02)	-0.000 (0.01)	-0.005 (0.01)	-0.034* (0.02)
Change in log(CTOT)	0.333** (0.15)	0.363*** (0.11)	0.360*** (0.12)	0.176*** (0.06)	0.165*** (0.06)	0.403*** (0.11)
Peer Fiscal Balance	0.392 (0.26)					
Government Spending shock	-0.061* (0.03)	-0.052 (0.03)	-0.044 (0.03)	-0.008 (0.03)	-0.015 (0.03)	-0.038 (0.03)
Output Gap	0.017 (0.06)	0.012 (0.05)	0.004 (0.06)	0.041 (0.10)	0.027 (0.11)	-0.033 (0.05)
HIPC relief (t-1)	-0.038 (0.05)	-0.029 (0.05)	-0.011 (0.05)	-0.027 (0.04)	-0.012 (0.02)	-0.028 (0.05)
Inflation shock		-0.039 (0.21)	-0.059 (0.22)	0.009 (0.02)	0.013 (0.02)	-0.121 (0.18)
Post-HIPC	0.001 (0.02)	-0.010 (0.02)	-0.007 (0.03)	0.027 (0.03)	0.019 (0.02)	-0.036* (0.02)
Peer effect (largest)		0.551*** (0.17)		0.277 (0.31)		
Peer effect (two largest)			0.580* (0.33)		0.376 (0.27)	
Peer Fiscal Balance (t-1)						0.061 (0.18)
Constant	0.016 (0.02)	0.019 (0.02)	0.013 (0.02)	-0.020 (0.01)	-0.013 (0.02)	0.032 (0.02)
A-B test for AR(1)	-2.20**	-2.00**	-1.91*	-2.29**	-2.33**	-1.95*
A-B test for AR(2)	1.69	1.11	1.36	1.44	1.57	1.54
Sargan test	0.53	6.46	6.71	14.77	14.02	7.21
Hansen test	1.9	6.19	6.79	10.78	11.79	4.86
Observations	189	188	188	284	284	188
Number of groups	14	14	14	21	21	14

Notes: The estimator used for all specifications is the System GMM. Robust standard errors are reported in parenthesis where the estimation allows. \*, \*\* and \*\*\* respectively indicate statistical significance at the 10 percent, 5 percent and 1 percent levels.

## Chapter Three

# Losing Currency: The Shifting Political Economy of the CFA Franc

### 3.1 Introduction

On December 21<sup>st</sup> 2019, the presidents of Côte d'Ivoire and France announced three reforms to the West African CFA franc: the currency would be renamed the 'eco'; there would no longer be a French representative on the board of the regional central bank (BCEAO); and there would no longer be a requirement to hold at least half of the member states' total foreign exchange reserves at the French Treasury. This is the most explicit signal since 1945 – when the currency was created for use in the French colonies – that the 8 member countries in West Africa are looking to move beyond this post-colonial monetary link to France. For the 6 countries who use the Central African CFA franc, until now operating under almost identical terms to its West African counterpart, no changes have yet been announced.

The two CFA francs have always operated with a fixed parity to the French currency, firstly the French franc and now the Euro. Since 1948, this relative value has changed just once, in 1994, when the value of both CFA francs was halved relative to the French franc. This exchange rate stability was made possible through France's commitment to guarantee the value of the CFA franc under all circumstances, effectively providing an unlimited credit line from the French Treasury to the regional central banks in case of a shortfall of foreign reserves. This assurance from France that it will always support the exchange rate is by far the fundamental feature of the CFA franc regime.

Given its explicit links to the colonial era – CFA initially stood for *Colonies Françaises d'Afrique* - the arrangement has courted controversy. Its advocates point to the monetary stability that the structure has delivered, in sharp contrast to the history of turbulent monetary experiences in non-CFA Sub-Saharan Africa. However, in general, real economic growth rates have not outstripped regional peers. Its detractors label the CFA franc institution as a neo-colonial tool that enables France to maintain a sphere of influence in West and Central Africa. Despite the inevitable back

and forth on the subject, the CFA franc arrangement has remained in place since 1945, with only minor reforms and just one devaluation. From this perspective, the reforms announced in December 2019 are striking, and represent a culmination of growing scrutiny on the currency arrangement.

With these developments in mind, this chapter examines the economic and political rationales that have been employed to justify the continuation of the CFA franc arrangement over such a long time period, and asks how the power of these arguments have changed over time. Such analysis is timely given the heightened scrutiny of the arrangement in recent years, and an increasingly visible and vocal opposition, both locally and internationally.

In order to frame the modern-day debate, the chapter begins by looking at the forces that led to the creation of the CFA franc. Particular focus is given to the monetary divergence in post-independence Sub-Saharan Africa, where most countries severed the link to the balance sheet of the former colonial power – largely the non-Francophone countries – while, on the other hand, a number of former French colonies remained as members of the CFA franc zone. I also describe the operation of the CFA franc zone, specifically how its various features have consistently produced low and stable inflation, but in doing so have sacrificed a degree of policy flexibility.

This chapter presents four principal areas in which the CFA franc debate is framed. The first two of these relate to the implications of the exchange rate mechanism. The benefits of a stable monetary environment are most easily seen by looking at the monetary experiences in non-CFA economies, and so in Section 3.4 I describe how the performance of independent national currencies has improved over time, as measured by a number of metrics. While some notable exceptions stand out, I contest that the argument against independent currencies has weakened in line with this improved performance. In the following section, I look at the restrictions that the arrangement imposes on monetary and exchange rate policy, arguing that these constraints have not receded in importance, if anything having become more of an impediment to development over time. Additionally, the data support the argument that the arrangement facilitates capital flight from the region.

The next two arguments focus on factors associated with the CFA institution more broadly and the relations between France and the CFA member countries. These sections contend that the mutual benefits from this bilateral arrangement have receded for both sides. Bilateral trade has

reduced substantially in importance for both sides, while for France its business interests have migrated to other parts of the continent, and multilateral institutions have replaced France as the main providers of development assistance to Western and Central Africa. Lastly, Section 3.7 describes how the political will to preserve the arrangement has weakened over time. Upon independence, coercive measures by France as well as strong ties between Paris and the leaders of CFA member countries held the arrangement in place, but the French rhetoric has softened over time as a new generation of politicians have come through. In the past decade, vocal opposition to the CFA institution has mounted from local groups and politicians, as well as within the broader political community.

When all these elements are considered, it is perhaps not surprising that reforms have been announced. But, despite the rhetoric, these reforms have not cut the cord with France. The fixed exchange rate to the euro is to be maintained and the balance sheet of France, the former colonial power, will continue to underwrite the value of the currency. The final section therefore argues that the 2019 UEMOA reforms, in their current form, are more symbolic than transformative. They are a reaction to the rising opposition described in this chapter, and help to rid the arrangement of some of its most overt colonial symbolism. The name change removes the CFA acronym, while the other reforms put an end to two explicit examples of French guardianship over monetary matters in its former colonies. While this may represent some wresting back of UEMOA's monetary *identity*, its continued reliance on a French guarantee means it cannot yet claim monetary *sovereignty*.

In the conclusion to this thesis, the possibility of more radical reforms in the future is briefly considered, but the analysis concludes that the central feature of the long-existing arrangement – the French guarantee of the fixed exchange rate – may persist for longer than expected, due to a conflict between what is politically desired and what is actually practicable, combined with a bias towards the status quo. Somewhat problematically, this status quo directly clashes with the vision for an ECOWAS common currency<sup>152</sup> and this conflict will undoubtedly be the key debate over the next decade.

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<sup>152</sup> ECOWAS is the Economic Community of West African States, and includes all UEMOA countries. The common currency initiative is detailed in the final part of this thesis.

## 3.2 Monetary divergence in post-independence Sub-Saharan Africa

“Monetary phenomena are *always* and *everywhere* political.” Kirshner (2003)

In contrast to a currency backed by gold or some other commodity, fiat money has no inherent worth: its value derives from the belief that it can be exchanged for goods and services that do have value. This trust is underpinned by the balance sheet and credibility of the government and monetary authorities. Fiat currencies that are tied to the currency of another state effectively ‘import’ that country’s currency credibility. But for currencies that are independent, if there are perceived weaknesses in central institutions such that their reputation is impaired, the value of the local currency may be undermined. This is then reflected in the loss of internal and external purchasing power of a unit of currency, reflected in high inflation and exchange rate depreciation, the consequences of which can be far-reaching.

This intrinsic instability has played out in the monetary history of Africa throughout the post-colonial period. In the years following independence, the majority of African countries moved away from using the balance sheet of the former colonial power to support the national currency. Central to this chapter is the differing trajectories taken by those that relinquished the backing of the colonial power’s balance sheet, and those that didn’t. These different paths have shaped the present-day monetary geography of the region. As the following analysis shows, these choices were as much, if not more, driven by politics as they were by economics.

### 3.2.1 The Anglophone experience – severing monetary ties

The monetary activities of former British colonies (and protectorates<sup>153</sup>) in Africa had largely been overseen by three major currency boards – the West African Currency Board, the Southern Rhodesia Currency Board, and the East African Currency Board. Upon independence, there was resistance from Britain to end the currency board arrangements, for geopolitical reasons and to maintain its position as an international financial centre.<sup>154</sup> Crucially, as currency boards ensured high demand for sterling foreign exchange reserves, these currency boards supported the British balance of payments position, which had become increasingly fragile post-war. If the former

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<sup>153</sup> While British-controlled territories in Africa consisted of colonies and protectorates, with non-trivial distinctions between the two, “colonies” is henceforth used as a catchall term for the sake of brevity.

<sup>154</sup> Helleiner (2003), p.69-72.

colonies were to abandon their currency boards at the same time, the selling pressure of sterling reserves could lead to a call on Bank of England reserves. This was a key factor in limiting the powers of the first national central banks in the region, which were seen by some as just re-labelled currency boards, as noted in a 1956-57 Gold Coast (Ghana) government assembly debate:

*“If we are going to have a Central Bank we must have a Central Bank with “teeth” and not a Central Bank which is only a channel for controlling the financial assets of their country by a foreign power.”*<sup>155</sup>

However, after Nigeria and Ghana abandoned the West African Currency Board in 1958, the sterling area currency boards were soon dissolved. While there was a period of exchange rate pegs and exchange controls that prolonged the external monetary link, countries started to move away from the previous regime. Despite the managed reduction of the sterling area, in 1967 the pressures on British reserves became too much, and sterling was devalued against the dollar. This marked the beginning of the end of the sterling area.<sup>156</sup> The final independent African country to give up the peg to sterling was The Gambia, in 1971.<sup>157</sup>

To a large extent, the experiences of former Belgian, Spanish and Portuguese colonies echo those of the British, in that formal colonial monetary arrangements were largely abandoned. While in many cases certain links remained, such as adjustable peg regimes, the monetary ties to former colonial powers had significantly weakened. Certain regional currency arrangements were attempted – notably between the large East African states, but also the Ruanda-Urundi franc that circulated in Rwanda and Burundi for two years following independence – but they quickly disintegrated. Importantly, the common factor for all these non-CFA countries was that they no longer had the balance sheet of the colonial power to support their fledgling national currencies.

In the first few decades following independence, the majority of countries encountered some degree of monetary turbulence. An example of the post-colonial transition from colonial currency board to independent national currency is Ghana where, upon independence in 1958, the British West African pound was replaced by the Ghanaian pound. This was then replaced by the Ghanaian

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<sup>155</sup> Government of the Gold Coast Legislative Assembly Debates, cited in Helleiner (2003), p.71.

<sup>156</sup> This event was followed by the three large East African states – Kenya, Tanzania, Uganda – abandoning the fixed peg to sterling.

<sup>157</sup> Honohan and Lane (2000). This doesn't include the Rhodesian dollar, which was pegged to sterling until Zimbabwean independence in 1980, when it was replaced by the Zimbabwean dollar.

cedi in 1965 as the country progressed with its divorce from the colonial monetary system.<sup>158</sup> Similar processes occurred across the continent, as Zambia moved from the Rhodesia and Nyasaland pound to the Zambian pound and finally to the Zambian kwacha.

In both instances the external monetary support was sacrificed. The cedi and the kwacha subsequently experienced turbulence in the 1970s, 1980s and 1990s, with spells of high inflation leading to periods of significant currency depreciation.<sup>159</sup> This has led to rebirths of the currencies, with the ‘third cedi’ being introduced in 2007, worth 10,000 times more than the ‘second cedi’ (effectively cutting four zeros off the old currency), while the ‘New kwacha’ replaced the previous kwacha in 2012, with three zeros removed in this case. While the degree of inflation and volatility was generally most acute last century, leading to such highly denominated currencies, these recent currency redenominations show that the spectre of monetary instability has persisted into this century.

In stark contrast is the experience of the former French colonies. Of the 12 countries that were part of French West Africa and French Equatorial Africa, in addition to Togo and Cameroon, 12 still use the CFA franc, and have done so continually since independence (with the exception of Mali). By not severing the ties to the French balance sheet, these countries realised remarkable levels of monetary stability.

### **3.2.2 The Francophone experience – maintaining a formal monetary link**

*“Far from marking the end of the “colonial pact”, the birth of the CFA franc allowed France to re-establish very advantageous commercial relationships.”* Pigeaud and Sylla (2018)<sup>160</sup>

The introduction of the CFA franc to the French colonies in the immediate aftermath of the Second World War was said to be driven by the strong devaluation of the French franc as part of the Bretton Woods agreement. René Pléven, who at the time was the French finance minister (before later becoming Prime Minister), explained the creation of the currency:

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<sup>158</sup> The cedi was pegged to sterling until the 1967 devaluation, when it switched its peg to the US dollar, until eventually floating in 1978.

<sup>159</sup> The level of CPI inflation in Ghana exceeded 100 percent in three separate episodes from 1975-1990. From 1985-1995 its value relative to the dollar fell by 95 percent.

<sup>160</sup> Original “Loin de marquer la fin du “pacte colonial”, la naissance du franc CFA permet donc de rétablir des relations commerciales très avantageuses pour la France.” Pigeaud and Sylla (2018), p.25.

*“Showing her generosity and selflessness, metropolitan France, not wanting to impose on her faraway daughters the consequences of her own poverty, is setting different exchange rates for their currency.”*<sup>161</sup>

The decision to issue currency in the colonies was also presented as a way to address the divergent macroeconomic developments between the region and France (Coquet and Daniel, 1992); as well as to avoid transporting cash to the territories (Gulde, 2008); while Stasavage (2003b) cites the lower inflation in Francophone Africa than in France, which meant that the colonies should not have to endure the same devaluation as the metropole. Alternatively, Bourmaud (1995) states that Pléven set up the franc zone out of fear that the ascendancy of the US dollar “would forever eliminate France from a significant financial role in international affairs”,<sup>162</sup> while other explanations include the facilitation of exports to metropolitan France to aid the post-war economic reconstruction,<sup>163</sup> and a way for France to maintain its control over natural resources in the region.<sup>164</sup>

As a wave of newly independent countries emerged, the French, like the British, had to decide how to approach its post-colonial monetary relations. Wishing to consolidate these links, France reformed the currency arrangement, going much further than the British had – for example, creating two regional central banks. A 1960 report by an official commission looking at the future of the zones stated that reforms should “allow for the maximum expansion of economic activity in these countries, but nevertheless in such a way as to maintain their allegiance”.<sup>165</sup>

Strictly, two separate CFA francs were created – the West African CFA franc and the Central African CFA franc – which are not directly convertible with each other. The French Treasury has always guaranteed the convertibility of the CFA franc into the French currency – initially the French franc and now the euro – at a fixed rate.<sup>166</sup> This is achieved through what is effectively a credit line to the zones in case of foreign reserves shortages. Certain requirements are asked of the CFA zones (detailed further in Section 3.3), but by underwriting this convertibility, the French offer their balance sheet to provide monetary stability to CFA countries. While there have been

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<sup>161</sup> Original “...montrant sa générosité, son désintéressement, ne voulant pas imposer à ses filles lointaines les conséquences de sa propre pauvreté, fixe des cours différents pour leur monnaie.” Pigeaud and Sylla (2018), p.24.

<sup>162</sup> Bourmaud (1995), p.60.

<sup>163</sup> Lombard and Carayannis (2005), p.10.

<sup>164</sup> Charbonneau (2008), p.282.

<sup>165</sup> BOE archives 1960, cited Helleiner 2003, p.73.

<sup>166</sup> From independence until 1994, this was at a rate of 50 CFA francs to 1 French franc until 1994, when a 50 percent devaluation of the CFA franc increased this ratio to 100:1. With the French adoption of the euro in 1999, the parity remained equivalent but 656 CFA francs became worth 1 euro.

small changes to the arrangement, such as the level of reserves to be held at the French Treasury, the fundamental structure has persisted, largely unchanged, for over half a century.

Two small non-Francophone countries joined to expand the combined zones to 14 members. Firstly, the former Spanish colony Equatorial Guinea joined in 1985 (arguably the high point of the CFA arrangement from an economic perspective, in terms of the praise it was receiving in academic papers of the time<sup>167</sup>). President Obiang sought to achieve closer ties with France, being attracted by its economic and military backing. The country was facing severe economic hardship<sup>168</sup> following the ruinous reign of Macías Nguema, and the newfound relationship with a more involved France appeared preferable to that with the “equivocal and vacillating Spain”.<sup>169</sup> Former Portuguese colony Guinea-Bissau became the most recent member to join in 1997. In a striking example of the ability of the CFA arrangement to produce low inflation, despite frequent bouts of inflation above 50 percent in the years prior, the inflation rate in Guinea-Bissau settled to below 5 percent per annum within a few years. This came even as the country was afflicted by civil war in 1998-99, which had lasting effects on the economic infrastructure.<sup>170</sup>

Masson and Pattillo (2004) give three factors to explain the endurance of the CFA franc arrangement. Firstly, the CFA framework is multilateral, linking member countries together, as well as to France, whereas the non-French colonial monetary arrangements were bilateral, with weaker institutional structures. Secondly, they stress the greater efforts made by France to preserve the franc zones. Lastly, the French had established stronger cultural and political ties with francophone African countries. These political considerations are developed in Section 3.7.

### 3.2.3 A history of perspectives on the CFA franc

The most well-known early critiques of the CFA franc arrangement include Amin (1969), and notably, Tchundjang Pouémi - in his 1980 book *Monnaie, Servitude et Liberté: la répression monétaire de l'Afrique* – who argued that the system was designed so as to maintain French influence over the region's resources and politics. However, from the viewpoint of a number of economic commentators, the monetary path followed by the CFA countries was initially seen as favourable to that of former non-French colonies in SSA. Consider this extract from Engberg (1973), noting

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<sup>167</sup> For example, see Devarajan and Melo (1986).

<sup>168</sup> Equatorial Guinea's modern-day oil wealth was not discovered until the mid-1990s.

<sup>169</sup> Decalo (1989), p.71.

<sup>170</sup> IMF (2002).

the superior ability of CFA countries to pursue domestic policy agendas, relative to the former British colonies who were constrained by their need to deal with external sector fluctuations:

*“Thus, the former French colonies, individually, achieved at least some degree of flexibility by continuing their monetary dependence on France, while the former British colonies, breaking their colonial monetary ties in order to gain greater flexibility, ended up with less.”*

Engberg did warn of the political dimensions of the relationship however, notably “the political costs of continuing to subject themselves to French economic dominance”. Through empirical analysis, Devarajan and Melo (1986) found the performance of CFA countries through the turbulent global macroeconomic environment 1973-1982 to be “particularly strong for comparison with other Sub-Saharan countries”, despite fears the rigid exchange rate would be a hindrance. This is supported by Guillaumont et al. (1988), who also note that individual countries showed a “substantial degree of autonomy” in their economic policies.<sup>171</sup>

However, the next decade saw significant underperformance and growing economic imbalances, culminating in a 50 percent devaluation of the CFA franc in 1994 – attributed to a strong French franc, a decline in the prices of key commodity exports, and weak management of public finances.<sup>172</sup> That the devaluation took so long to come is analysed by Stasavage (2003b), who attributes it to an ideological preference for deflationary measures over devaluation.<sup>173</sup> The aversion to external devaluation was reminiscent of the French stabilisation policy following the First World War, as it stubbornly looked to restore the French franc’s pre-war parity despite a dramatic deterioration in macroeconomic fundamentals. The Bank of France preferred an internal deflation to a devaluation, despite contemporaries such as Keynes warning that returning currencies to par would create “endless trouble” and postpone stabilisation indefinitely.<sup>174</sup>

Today, the CFA franc remains a divisive institution. The Bank of France refers to it as “a rare example of close institutionalised co-operation between countries from two continents that share a common language and history”,<sup>175</sup> while Guillaumont Jeanneney and Guillaumont (2017) describe it as “an effective mode of international co-operation”. By stark contrast, its critics have

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<sup>171</sup> This is argued through the diversity of fiscal policies across member countries, and that monetary policy is not applied identically in each country. p.569.

<sup>172</sup> Abdih and Tsangarides (2006).

<sup>173</sup> An extensive analysis of the events leading up to the devaluation is given in Stasavage (2003b), p.139-159.

<sup>174</sup> See Mouré (2002), p.50-69.

<sup>175</sup> Bank of France, annual report on CFA zone 2015.

referred to it as “a politico-economic tool of French neo-colonial policy in Africa”,<sup>176</sup> arguing that the “French government’s main interest in the arrangement is geopolitical, as it allows France to keep its former colonies within its sphere of influence”,<sup>177</sup><sup>178</sup> while Nubukpo et al. (2016) see the arrangement as beneficial only to the ruling elite. Regarding its monetary stability, Guillaumont and Guillaumont Jeanneney praise this as “favourable for development, but not sufficient by itself”<sup>179</sup>, whereas others condemn the obsession with inflation at the expense of growth concerns, and even argue that such low inflation is “anti-development”.<sup>180</sup>

Empirical studies have also reached a range of conclusions. Devarajan and Rodrik (1991) find that the “output costs of maintaining a fixed exchange rate have outweighed the benefits of lower inflation”, while Fielding and Shields (2000) state that with the correct policy, these costs are unlikely to be large. Couharde et al. (2013) find that the strong wage and price rigidity can create persistent real exchange rate misalignments. Azam (1996) writes about the difficulty of real exchange rate adjustment in the decade leading up to the 1994 devaluation, describing how internal devaluation strategies – as the alternative to nominal exchange rate depreciation – were not effectively implemented. Political factors restricted attempted reforms, for example the difficult of lowering public sector wages.

It is broadly accepted that the zones are some way from being optimal currency areas, per the traditional criteria,<sup>181</sup> but Yehoue (2007) argues that despite this, the zone has outperformed non-CFA peers on price stability and fiscal discipline, and that the arrangement is “more than just an aid substitute, and have real macroeconomic value for the zone”.

### **3.2.4 Better off in or out? A missing counterfactual**

The prior section prompts the inevitable question of whether a country would have been better off inside or outside the zone. The first obstacle to answering this is defining what ‘better off’ means, as this goes beyond purely measurable economic factors. But even if this definitional

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<sup>176</sup> Taylor (2019), p.1065.

<sup>177</sup> Tinel (2016). Original: “Le principal intérêt du gouvernement français dans ce système relève de la géopolitique internationale, car il lui permet de conserver ses anciennes colonies dans sa sphère d’influence.”

<sup>178</sup> Agbohohou (2000) goes even further, referring to the arrangement as “monetary Nazism”.

<sup>179</sup> Original: “La stabilité monétaire à laquelle ont conduit les accords monétaires est certainement favorable au développement, mais elle n’est pas suffisante pour le promouvoir.” Guillaumont Jeanneney and Guillaumont (2017), p.13.

<sup>180</sup> For example, Dembélé (2011); Pigeaud (2016).

<sup>181</sup> See Mundell (1961) and McKinnon (1963) work on optimal currency areas, while Debrun et al., (2005) and Loureiro et al. (2011) both show that the CFA zones have failed to meet most criteria.

challenge can be surmounted, the answer must consider the counterfactual scenario. This is the scenario where, say, Côte d'Ivoire takes the Guinean route and abandons the CFA franc on independence, or conversely where Guinea acquiesces to French policy in 1960.<sup>182</sup> If things were so simple, Guinea would be the obvious counterfactual given, like many CFA countries, it was part of French West Africa.

But the idiosyncrasies of individual countries mean that simple economic comparisons are often futile and taken at face value can produce disingenuous conclusions. Even within French West Africa, there is a good degree of pre-existing heterogeneity between modern-day countries. Given the present-day borders of these countries are not organic but negotiated at the turn of the twentieth century by colonial powers,<sup>183</sup> there is significant ethnic, linguistic, cultural and religious fractionalisation, to varying degrees among countries. Additional pre-existing characteristics drive the heterogeneity between countries, such as: natural resource endowment (both quantity and type); climate; terrain; access to sea; population size and density; and pre-colonial history.<sup>184</sup> A comparison would also have to assume that the economic and political infrastructure established by the colonial power prior to independence was equivalent across the region, which was not the case.

If one group of countries had experienced considerably greater progress across the key dimensions of human and economic development then there may be a case to draw some robust conclusions, but this has clearly not been the case. The bottom half of the 2017 UN Human Development Index (HDI) for Sub-Saharan Africa (with small island nations excluded<sup>185</sup>) includes 8 CFA franc countries, with the remaining 6 in the top half. Guinea sits above CFA neighbours Mali and Guinea-Bissau but below Senegal and Côte d'Ivoire. Comparing averages across groups of countries may have more merit, but there are obvious caveats here too. Besides, the real GDP growth over time has in fact been fairly similar between CFA and non-CFA countries.

All this is to say that there is no easy metric to show which post-colonial path has served the economies of Sub-Saharan African best. Further, it is clear that, given the acknowledged

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<sup>182</sup> See Section 3.7.

<sup>183</sup> French Guinea's borders were drawn as part of negotiations by France that also established the boundaries of Sierra Leone as a British colony, Portuguese Guinea (now Guinea-Bissau), and Liberia.

<sup>184</sup> For example, parts of the present-day Guinea had long belonged to a series of empires, including the Ghana Empire, the Mali Empire, and the Songhai Empire. While participation in the transatlantic slave trade was greater in the coastal areas than the interior.

<sup>185</sup> Seychelles, Mauritius, Comoros, Cape Verde, São Tomé and Príncipe.

heterogeneity across the region, the CFA arrangement will benefit and hinder different countries in different ways. No empirical analyses have provided comprehensive evidence that the CFA franc zone's extreme price stability has served it well or not.<sup>186</sup> This is hardly surprising given the confounding factors that have been alluded to, which make broad conclusions difficult to draw. Besides, it could be asked what degree of growth outperformance would be seen as sufficient to justify the sacrifice of monetary sovereignty, and the broader neo-colonial associations of the CFA arrangement?

Instead, a more productive exercise is to consider the economic and political rationales that have been employed to justify of the continuation of the CFA franc zone. These relate both to the direct consequences of such an exchange rate regime – such as the impact on economic policy and outcomes – as well as how the institution itself has implications for bilateral economic and political relations between France and its former colonies.

The next section describes how the French guarantee produces a highly credible low inflation environment. The sections 3.4 to 3.7 that follow are the heart of the analysis, as they look at various factors that have supported (or otherwise) the continuation of the CFA franc arrangement, in spite of it appearing increasingly anachronistic to many of its detractors. In particular, I analyse how the significance and strength of these arguments have changed over time.

### **3.3 A credible monetary anchor**

The most obvious distinction of the CFA franc arrangement is the exceptional level of price stability experienced by its members. This is in stark contrast to a significant portion of non-currency union countries in Sub-Saharan Africa, who have experienced varying degrees of monetary instability. In most cases this is not due to outright collapse, but rather a persistent instability. Guyer (1995) describes this phenomenon: “Africa exemplifies the possibility of a different condition of monetary existence that falls somewhere between florescence and collapse.”<sup>187</sup>

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<sup>186</sup> Adam et al. (2001) find that the CFA franc structure has led to poorer fiscal revenue performance for its members, but this is only one indicator and is not enough to draw wide-ranging conclusions from. Similarly, Devarajan and Melo (1986) argued the CFA franc's corner for the period 1973-1982, but then Devarajan and Rodrik (1991) take the other side after economic performance deteriorated in the late 1980s. In general, conclusions of empirical analyses are sensitive to the time period and indicators chosen.

<sup>187</sup> Guyer (1995), p.5.

This section describes how the credible long-standing commitment by France to guarantee convertibility between CFA francs and the French currency at a fixed exchange rate has enabled this monetary stability. I outline the way in which the arrangement with France works. France is effectively a lender of last resort for foreign exchange reserves, and its commitment to this role facilitates a stable external position for the CFA zones. Crucially, the French guarantee allows greater flexibility than a conventional currency board. Additionally, by looking at the sharp decline in oil prices in the 2010, it is shown that monetary indicators remained stable even in the face of extreme negative shocks in CEMAC.

### **3.3.1 A hard peg, but not a straitjacket**

*“The two monetary unions that make up the CFA Franc Zone in continental Africa represent an alternative way of achieving a “hard” currency peg that embodies somewhat more flexibility than a currency board.”* Fielding and Shields (2000)

A central component of any fixed exchange regime is the management of foreign currency reserves. In more conventional pegged regimes, the central bank uses its pool of foreign reserves to buy and sell its currency at a fixed price in the foreign exchange markets in order to maintain the pegged value. Its ability to perform this task is dependent on the size of its foreign currency reserves. Fixed exchange rate regimes that are ‘successful’ – in the sense that the peg is sustained – tend to have high, stable levels of foreign exchange reserves, open swap lines, and a central authority that has consistently managed the peg in a predictable and logical way.

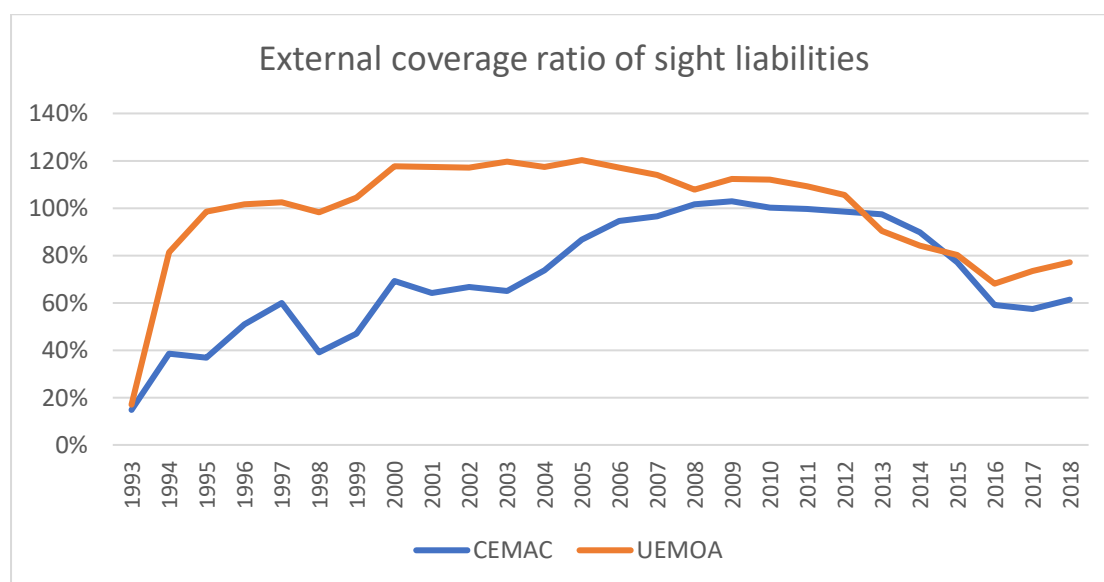
In a currency board, this stability is achieved through the holding of foreign currency reserves equal to at least 100 percent of the monetary base – usually countries have a small buffer of 5 to 10 percent<sup>188</sup> – such that the authorities can credibly maintain unlimited convertibility between the domestic currency and the anchor foreign currency. There is no external commitment from the country or countries that issue the anchor currency. However, with a true currency board, there is no capacity for any direct discretion over the money supply, it is determined solely by changes in net foreign assets (NFA).

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<sup>188</sup> Hanke (2002), p.91.

By contrast, the CFA arrangement draws its credibility from the external commitment of the anchor country. As part of the agreement with France, there is a commitment to holding a certain level of foreign currency reserves, but this is just 20 percent of the monetary base rather than 100 percent. In reality, the two zones should look to hold a buffer well in excess of 20 percent, given the low reserves-to-import coverage that would represent. However, the external coverage of liabilities is still typically below 100 percent, with this being equal to 77 percent in UEMOA and 61 percent in CEMAC in 2018. Figure 3.1 shows how, for CEMAC, this external coverage ratio has rarely been above 100 percent, while the UEMOA ratio has been below 100 percent since 2012. The ability to operate with lower international reserves is a distinguishing feature of the CFA franc arrangement.

**Figure 3.1**



Veyrune (2007) argues that the contingent credit line from the Operations Account at the French Treasury, as well as a degree of *de facto* capital controls due to the limited financial development, allows the authorities to effectively circumvent the Mundell-Fleming trilemma, which states that countries cannot simultaneously target: an independent monetary policy; a fixed exchange rate; and maintain an open capital account. In particular, the line to the Operations Account allows countries to operate with significantly lower levels of international reserves than would otherwise be the case. For a currency board there is a direct, unforgiving link between capital flows and the reserve-backing of the domestic currency, but the guarantee loosens this bind for the CFA zone. While Section 3.5 speaks to some of the policy restrictions imposed by the CFA arrangement, it does not straitjacket policymakers to the extent that a currency board or dollarised regime does.

This speaks to the potential extra flexibility afforded to the zone, as described by Fielding and Shields above.

In addition, the commitment to the peg is perceived to be high in the CFA zone given its track record – only one devaluation in 75 years – but, crucially, because the political and logistical hurdles that must be overcome in order to effect a change in the exchange rate are not trivial. A devaluation (or revaluation) can only be achieved by mutual consent of all member countries. Equally, while a single country leaving the zone would not be unprecedented – the last departure was Mauritania in 1973, since when the zone has become more formally integrated<sup>189</sup> – it would be unexpected, and would likely be very painful in the short term. Moreover, unilateral action by one country goes against the broader political and economic integration project in the region.<sup>190</sup> The presentation of the 2019 reforms to UEMOA stressed the vision to continue with, and even expand, regional monetary integration. In addition, Section 3.7 describes how the negative connotations of France unilaterally withdrawing support – given their role as the rich, former colonial power – suggest that it will be reluctant to do so. It remains unclear how much the reserve situation could deteriorate before action is taken – possibly through a devaluation, or a withdrawal of support – but the threshold would appear to be high.

### **3.3.2 Reserve pooling**

Complementing the guarantee is the pooling of foreign exchange reserves at the respective central banks – the BCEAO for UEMOA and the BEAC for CEMAC. The advantage to this approach is that the regional central bank can allocate liquidity within the zone and cover any shortfalls when a single country (or subset of countries) faces an adverse balance of payments shock. By pooling the risk, countries won't need to hold as high a level of reserves than if they were independent. However, if economic shocks are highly correlated, then the reserve pooling offers very limited benefits.<sup>191</sup> There is a certain irony here, as the lack of business cycle convergence in UEMOA is generally seen as a flaw. For reserve pooling purposes however, its economic heterogeneity is advantageous: while its economies are predominantly commodity exporters, these commodities

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<sup>189</sup> For example, the 1994 treaty establishing UEMOA and CEMAC, with the primary goal of deepening economic integration within the region.

<sup>190</sup> For UEMOA, this is seen in the context of ECOWAS, established in 1975 and within which UEMOA countries form a subset. ECOWAS looks to promote closer economic links between member countries, but also has a growing political mandate, as shown by the ECOWAS military intervention in Gambia in 2017. The national self-interest of a departing country would have to trump regional solidarity.

<sup>191</sup> Zamaróczy et al. (2018); Deléchat and Martijn (2008).

differ across countries. For the CEMAC region, the benefits appear to be more limited given the shared exposure to oil prices.

### 3.3 The external guarantee in action: 2010s oil price shock

In recent years, the starkest demonstration of the robustness of the CFA franc came with the oil price decline in the mid-2010s. The dependence on oil export revenues for CEMAC countries meant that reserve levels fell simultaneously. While reserves are pooled at the regional central bank, they are still attributed on a national level, which means we can observe the different country experiences. Peak-to-trough declines in reserve levels were over 90 percent in Republic of Congo, Chad, and Equatorial Guinea, while Gabon's reserves fell 65 percent. Cameroon's reserves fared a little better, owing to the more diversified economy, but they still fell 35 percent.<sup>192</sup>

In this scenario, had most of these countries been operating with their own sovereign currency and with no support from France, it is hard to imagine that a severe currency crisis would not have been precipitated. The adverse economic impact on the zone of lower oil prices has nonetheless been dramatic, and all six members have either adopted IMF-supported programmes or awaiting approval.<sup>193</sup> Throughout this the currency has remained stable with relatively little speculation, given the magnitude of the oil price shock.<sup>194</sup>

The central bank, BEAC, did respond however, increasing the main policy interest rate by 105 basis points and tightening commercial banks' net foreign exchange limits in order that they would surrender these to the BEAC. This suggests that some pressure was placed upon BEAC to respond to falling reserve levels and improve the external balance, and that they cannot solely rely on France's exchange rate guarantee and unlimited drawing from the Operations Account. Nevertheless, given the extreme degree of the oil price shock, this was a moderate policy rate response by regional standards.<sup>195</sup>

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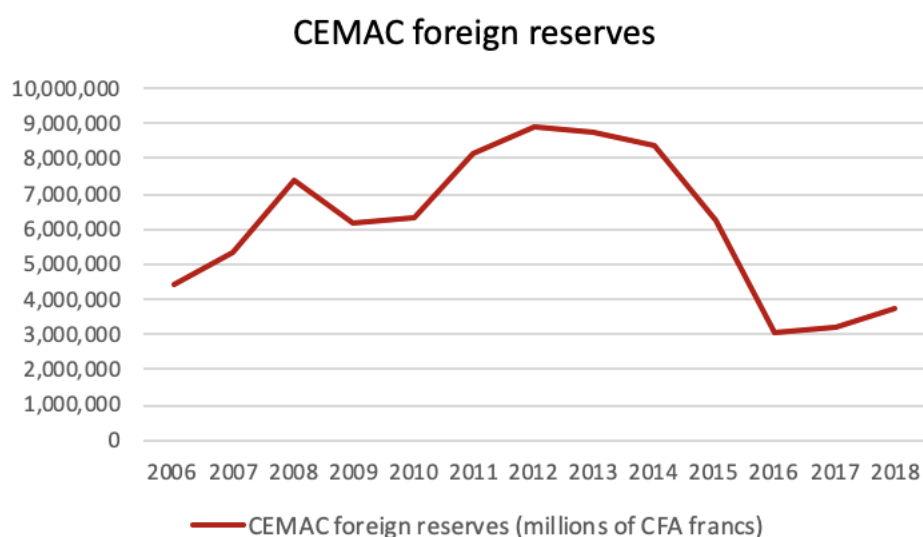
<sup>192</sup> In addition, the government's allocation to the Fund for Future Generations/Sovereign Wealth Fund – first designed in 1998 across CEMAC, and held at the central bank – fell from CFAF150bn at end-2016 to just CFAF11bn in June 2018, a decline of 93 percent. Even in 2017, IMF projections still had this growing to CFAF229bn by 2018 and CFAF833bn by 2022. (IMF Country Report No. 17/408)

<sup>193</sup> As of 2019, it was expected that Republic of Congo and Equatorial Guinea would adopt programmes in 2020. (IMF Country Report No.19/1)

<sup>194</sup> There was some speculation of a CEMAC devaluation in 2016 and, to a lesser extent, in 2020, but these claims were refuted by the BEAC and France.

<sup>195</sup> It is noteworthy that the BEAC didn't lower rates in this situation in response to the weak domestic economic environment. This speaks to the question of autonomy and priorities of monetary policy, discussed further in Section 3.5.2.

Figure 3.2



By way of comparison, consider another oil exporter Angola, which experienced a 60 percent fall in its international reserves from end-2013 to end-2018<sup>196</sup>. On two occasions, September 2014 and (after re-pegging in April 2016) January 2018, the exchange rate peg against the US dollar was abandoned by the central bank, citing macroeconomic fundamentals and decreasing international reserves.<sup>197</sup> The currency subsequently depreciated by more than 70 percent against the US dollar over the next four years. Even though Angola had a relatively high international reserve buffer – at 10 months of imports in 2015 – the central bank policy rate rose from 9 percent at end-2014 to 18 percent in 2017. The standard deviation of the real interest rate over 2013-2017 was 7 percent in Angola, compared to an average of less than 2 percent for the five oil-exporting CEMAC countries.<sup>198 199</sup>

While the French credit line remains the ultimate backstop, the relative resilience of Cameroon's foreign reserves helped keep the *regional* external position in CEMAC at a more adequate level, even when certain *national* external balances came under severe pressure. However, it is important to stress that this monetary anchor did not prevent the real economy from suffering as a result of

<sup>196</sup> IMF Country Report No.19/170: Angola Staff Report, p.19.

<sup>197</sup> [https://www.bna.ao/Conteudos/Artigos/detalhe\\_artigo.aspx?idc=175&idl=1&idi=15799](https://www.bna.ao/Conteudos/Artigos/detalhe_artigo.aspx?idc=175&idl=1&idi=15799).

<sup>198</sup> Using the central bank policy rate and log changes in the consumer price index. The result is largely driven by the spike in Angolan inflation in 2016.

<sup>199</sup> Empirical studies suggest that lower international reserves tend to increase the increase the likelihood of currency crashes (see Frankel and Rose, 1996). In Zimbabwe between 1996 and 2001, when foreign reserve levels fell by 90 percent, as the nominal effective exchange rate fell nearly 80 percent. The monetary instability helped catalyse the severe downturn in the real economy, and the hyperinflation episode that followed in the 2000s. Similarly, in the DRC (then Zaire) from 1990 to 1993, international reserves fell by 80 percent, as the domestic currency depreciated by virtually 100 percent.

the negative terms of trade shocks. The CEMAC oil producers fared no better in real GDP terms than other SSA oil exporters. Member countries have experienced widening fiscal and current account deficits, a sharp rise in public debt and increased vulnerability in the financial sector.<sup>200</sup> Crucially, despite superior price stability, there was still a meaningful contraction in the monetary base.<sup>201</sup> The link between foreign reserves and the money supply<sup>202</sup> means that these terms of trade shocks can propagate through to the real economy by restricting credit provision.

### **3.3.4 Monetary stability has remained a constant, but what has changed?**

This section has described how the CFA arrangement produces a stable monetary environment. By sharing its balance sheet through the guarantee, France acts as a lender of last resort for foreign reserves. The exchange rate stability and relatively passive monetary policy has produced a stable environment for domestic prices, with inflation considerably less volatile than in neighbouring non-CFA countries. Through the formal arrangement with France, the CFA zones effectively import price stability. This is supported by the data: once the one-off devaluation episode is excluded, the correlation coefficient between inflation in France and Côte d'Ivoire from 1970-2018 is 0.72 and between France and Cameroon is 0.81.<sup>203</sup> There is reason to expect that this low price volatility will persist for as long as the guarantee stays in place and the Eurozone monetary environment remains settled.

But monetary stability is not the only factor to consider. Section 3.5 looks at how the arrangement restricts policy flexibility and financial sector development, while the complex socio-political implications of a monetary arrangement that is so closely associated with the colonial era are touched upon in Section 3.7.

As highlighted earlier, this chapter aims to look at how the factors that have shaped the debate surrounding the CFA franc arrangement since the advent of the post-colonial era. The following sections look at four key areas: 1) the poor track record of independent currencies in low-income countries; 2) the policy restrictions imposed by the CFA structure; 3) the bilateral economic

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<sup>200</sup> IMF Country Report No.17/389.

<sup>201</sup> By way of illustration, Gabon's monetary base shrunk by 27 percent in 2016, Republic of Congo's by 31 percent, and Equatorial Guinea's by 43 percent. (IMF International Financial Statistics)

<sup>202</sup> This can be seen in the central bank balance sheet identity where reserve money is equal to net foreign assets plus net domestic assets.

<sup>203</sup> This excludes 1994 and 1995. Once these years are included the coefficient falls to 0.56 and 0.54 respectively.

relations between CFA zone members and France; 4) the political will for the arrangement to endure.

### **3.4 The argument against independent currencies – monetary instability in Sub-Saharan Africa**

*“Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency...while the process impoverishes many, it actually enriches some. The sight of this arbitrary rearrangement of riches strikes not only at security, but at confidence in the equity of the existing distribution of wealth.”* (Keynes, 1919)<sup>204</sup>

A century on, this quote from Keynes continues to carry resonance. It is a warning of the dangers that can emerge when the public trust in money is eroded. The process of causality often runs in the opposite direction too, with currency crises stemming from an “overturned society” rather than being the trigger for the latter. In reality, the relationship between the two will be reflexive and self-reinforcing.

This portrays the precariousness of operating an independent national currency. When a currency has no inherent worth, when it is not linked to a physical commodity or some credible external anchor, its value is derived from its ability to be converted into goods and services that do have intrinsic worth. As it is the central authorities that issue the currency and ultimately underpin its value, the value of the currency can be undermined if the public perceives these authorities to be weak or untrustworthy. In such an instance, inflation may sharply accelerate and the exchange rate weaken, as the reduced faith in the value of the currency reduces its purchasing power both domestically and abroad. This can trigger the phenomenon of dollarisation, where local private agents reject the local currency and instead use foreign currency.<sup>205</sup>

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<sup>204</sup> p.149 of *The Economic Consequences of the Peace* (1919).

<sup>205</sup> In Mecagni et al. (2015), they find high levels of dollarisation in SSA to be associated with low GDP per capita, high inflation, low openness, and weak financial depth. Corrales et al. (2015) also find all these factors to be positively associated with a higher level of dollarisation, and add higher external debt levels and political instability to the list.

### **3.4.1 A rejection of the local currency – high inflation, depreciation and dollarisation**

In these circumstances, foreign currency may be used to fulfil the main functions of money, replacing the domestic currency as a medium of exchange (currency substitution) and as a store of value (asset substitution). Currency substitution often emerges in the aftermath of high inflation episodes when the value of banknotes has declined to such an extent that transactions in domestic currency become costly, combined with a general erosion of trust in the currency that leads to an increased acceptance and preference for foreign currency. Asset substitution reflects a concern about the return on domestic assets, with foreign currency assets providing some insurance against domestic economic and political risk as agents look to protect the purchasing power of their savings.

Dollarisation can pose a number of challenges for economic policy. In this environment, the scope for an independent and effective monetary policy is severely compromised. Depending on the degree to which foreign currency dominates the money supply, the central bank will have only a fraction of the money supply under its control. Unless it introduces drastic measures, it can only do so much to influence the circulation of foreign currency, and money supply becomes partly endogenous, determined by the behaviour of agents who hold a portfolio of domestic and foreign currency assets. The control over money supply will be further undermined if centralised institutions are weak, as is frequently the case in dollarised environments in SSA, and also if financial intermediation is limited. High levels of dollarisation will also constrain the ability of the central bank to act as a lender of last resort, which can contribute further uncertainty to the banking sector and increase the likelihood of liquidity crises.<sup>206</sup>

Another consequence of partial dollarisation is if there are currency mismatches between assets and liabilities across the economy – in the government, corporate, household and banking sectors. This is very common and so movements in the exchange rate can cause substantial financial stress. For example, governments in low-income countries often have a high share of debt denominated in foreign currency, and a depreciation in the local currency can inflate debt obligations. In response to this, Ize and Yeyati note that the central authorities are more likely to try and peg the currency due to concerns about the adverse balance sheet effects that would be caused by exchange rate depreciation.

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<sup>206</sup> Sachs and Larrain (1999).

This creates a scenario in which the exchange rate is tightly maintained about a peg by authorities, but with a long positive tail that captures the small probability of a large depreciation. Given this asymmetry of outcomes and inherent macroeconomic vulnerabilities, this is rarely a stable equilibrium. If these pegs are heavily managed and sustained through restrictions placed on foreign exchange, the parallel currency markets that can emerge can create significant distortions, particularly when only a limited few have access to the official (overvalued) exchange rate. Kiguel and O’Connell (1995) describe how this environment invites rent-seeking behaviour that will further destabilise the already-fragile monetary, economic and political environment.

### **3.4.2 Improved performance of independent currencies**

*“Economic policy making in many African countries has evolved over recent decades toward greater exchange rate flexibility, lessening of fiscal dominance and some strengthening of central bank independence. Macroeconomic policy reforms have been widely adopted, and fiscal policies, though still under stress, are generally more sustainable. These changes have improved the viability of independent currencies.”* Masson et al. (2015)<sup>207</sup>

While a not insignificant degree of vulnerability still remains for national currencies, particularly in countries where institutional capacity is weak, a number of indicators suggest that some of these threats have receded in the last two decades.

#### **Currency crises are less frequent**

The international monetary and financial landscape looks very different compared to the 1960s, when the Bretton Woods system was still in full operation. This system pursued economic stability through fixed (but adjustable) exchange rates designed to reduce volatility and prevent competitive devaluations, lasting until 1971 when it was abruptly brought to an end. The subsequent combination of a shift towards more flexible exchange rates, increased trade and capital mobility, and greater cross-border financial integration led to a proliferation in currency crises, particularly in developing economies. However, the last two decades have seen greater resilience and stability in national currencies.

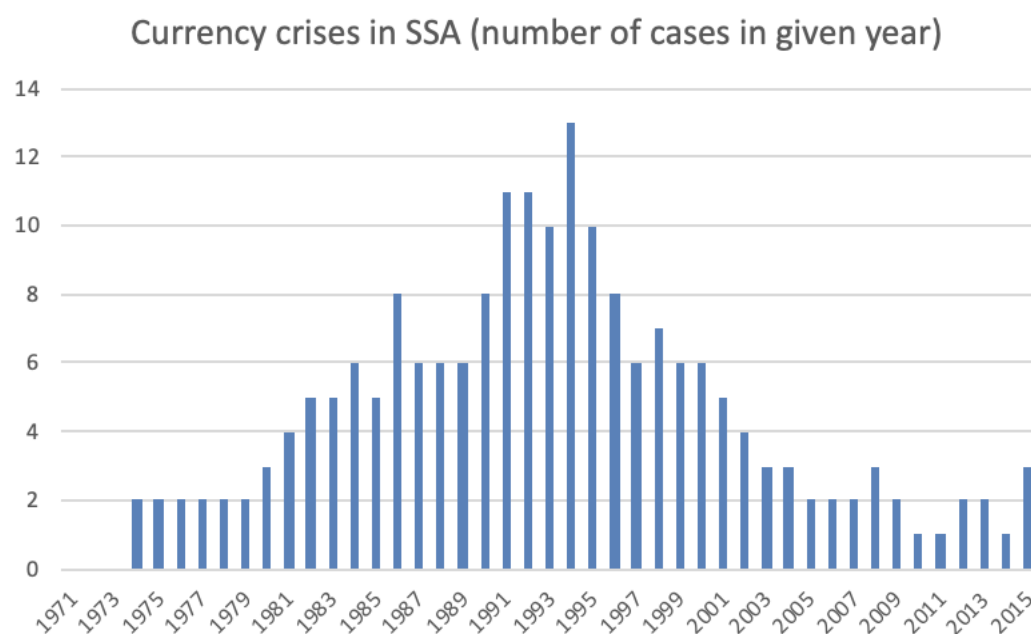
Using Ilzetzki, Reinhart and Rogoff (2017) *de facto* exchange rate classifications, the rise and fall in the frequency of currency crises (as defined in Section 3.3) since the end of the Bretton Woods system can be seen. From 1971-1985, there was an average of 11 countries experiencing freely

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<sup>207</sup> Masson et al. (2015), p.89.

falling episodes each year, which increased to 25 for 1986-2000, but in the period since, 2001-2015, this has fallen to just 4.<sup>208</sup> Restricting the sample to Sub-Saharan Africa, the averages are 3, 8 and 2 for the respective periods. Figure 3.3 shows the trend over the whole time period. The picture is not as simple as it seems however, as there has been an increase in the use of *de facto* exchange rate pegs compared to the 1980s, reflecting a retrenchment from floating regimes, characterised as the ‘fear of floating’.<sup>209</sup> This is not necessarily a bad thing for independent currencies, so long as the exchange rate regime offers a stable environment for economic development. Even if running a *de facto* peg, the monetary authority retains its optionality. However, some highly dollarised economies are classified as having stable regimes, but may not necessarily have desirable monetary configurations.

**Figure 3.3**



**Inflation has come down (and may have come down too much in the CFA zones)**

The fall in the number of high-inflation episodes is unsurprisingly correlated with a fall in median inflation rates over time. In early literature, the relationship between inflation and economic growth had been regarded with some ambiguity. It was either seen as positive – through the Tobin

<sup>208</sup> This includes interpolation of some missing data points for Somalia, as the conditions described in Section 3.4 make it clear that it has suffered from continuous monetary instability for the purpose of this paper.

<sup>209</sup> As detailed in Calvo and Reinhart (2002).

effect;<sup>210</sup> neutral – where money is “super-neutral”;<sup>211</sup> or negative, with high inflation seen to reduce the level of productivity, efficiency and investment. These were seen as linear effects. The view that inflation is harmful to economic growth became the predominant stance from the 1980s, notably in Fischer (1983). Following this, however, there was a growing view that the relationship is more likely to be non-linear, given that the extremes of deflation and excessively high inflation are both seen as deleterious to economic growth. If so, then there may be a rate of inflation that acts as a threshold level, such that above this threshold higher inflation is detrimental to growth, and below the threshold accelerating inflation either has no impact or is actually positively associated with growth.

The empirical studies on the topic find that inflation has a negative effect on economic growth beyond a certain level, but studies have provided a wide range of estimates for where this break may lie. Fischer (1993) describes a “moderate range of 15-30 percent” for inflation as sustainable, so long as the government acts to prevent it rising above this range. But Barro (1995) finds a negative relationship only when high-inflation episodes are included, and, even then, the magnitudes are not substantial, results echoed by Bruno and Easterly (1998). Bruno (1995) observes growth rates increasing up to a range of 15-20 percent, and falling beyond 20-25 percent. By contrast, Sarel (1996) finds a threshold effect of inflation beyond 8 percent.

More recent papers have separated out developing countries, or focused on individual country cases. Using large panels, the threshold range for developing countries has varied from 10 to 11 percent<sup>212</sup> to nearly 20 percent.<sup>213</sup> For low-income countries in Africa, Ndoricimpa (2017) estimates a threshold of 9 percent. Country studies aimed at developing economies have tended to find inflation thresholds in the low double-digits.<sup>214</sup>

From 1985-2000 the median inflation rate<sup>215</sup> in non-CFA Sub-Saharan Africa was 12 percent, which fell to 8 percent for 2001-2016. In addition, the number of country-years with inflation above 30 percent was four times greater in the earlier period.<sup>216</sup> Although the standard deviation

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<sup>210</sup> The “Tobin effect” (Tobin, 1965) posits that inflation reduces the real return on money, increasing the relative attractiveness of investment in physical capital. This causes an increase in long-run capital formation.

<sup>211</sup> Sidrauski (1967).

<sup>212</sup> Espinoza et al., (2010); Khan and Senhadji (2001).

<sup>213</sup> Kremer et al. (2013); Ibarra and Trupkin (2016).

<sup>214</sup> Thresholds effects are found at 13 percent in Azerbaijan (Fakri, 2011); 11 percent in Ghana (Frimpong and Oteng-Abayie, 2010); 13 percent in Nigeria (Bawa and Abdullahi, 2012).

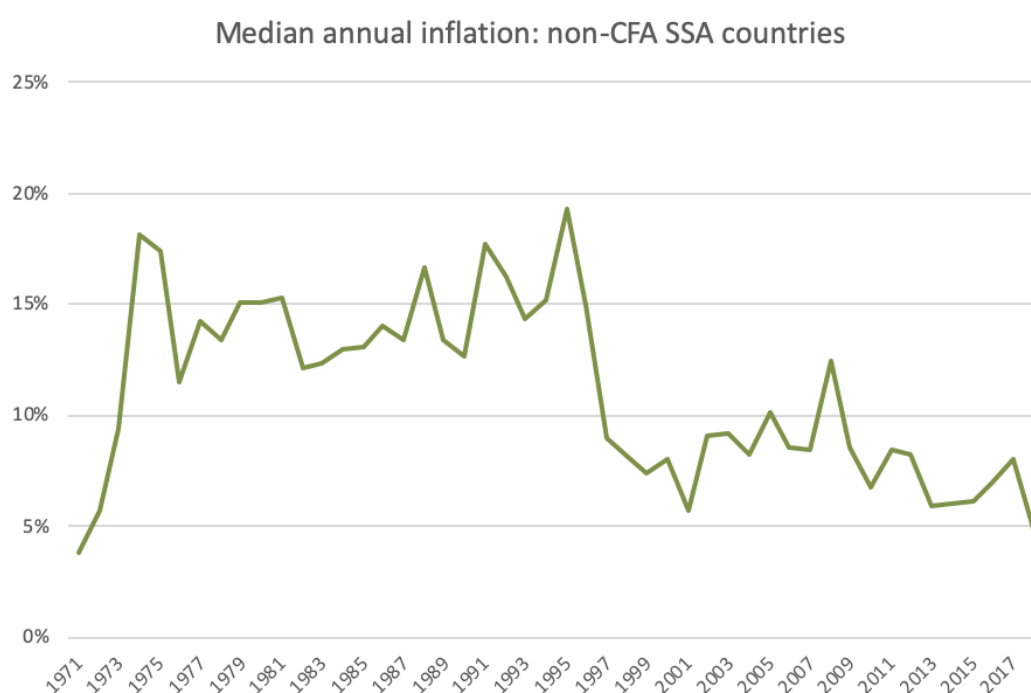
<sup>215</sup> Using the Consumer Price Index data from the World Bank’s World Development Indicators.

<sup>216</sup> From 1985-2000 there were 76 country-years with annual inflation above 30 percent.

has decreased, inflation remains considerably more volatile than in the CFA zones. Nevertheless, the low-inflation argument in favour of the CFA franc looks weaker in this environment. In fact, this high single-digit inflation rate is more in line with the optimal inflation rate literature for developing countries than the prevailing low single-digit rate in the CFA zones. Additionally, CFA countries have experienced an increasing number of deflationary episodes in recent years.<sup>217</sup>

This analysis suggests that the output-inflation trade-off has become less favourable over time. Moreover, in Section 3.5.3 it is argued that, rather than promoting economic growth, the CFA monetary setup is arguably partly responsible for stunting credit expansion and financial sector development. In addition, very low inflation means that reforms to realign real public sector wages are more difficult to implement due to downward nominal wage rigidities.

**Figure 3.4**



### **Fiscal dominance has receded**

Arguably the greatest scourge of independent currencies has been fiscal dominance, namely the central bank financing of government deficits. This is not always a case of reckless and wanton abuse of the printing press in otherwise untroubled economies. It often comes as a desperate

<sup>217</sup> As an example, Mali has recorded a negative rate of inflation for over 40 percent of the five-year period ending in March 2020, using monthly data from the Malian National Statistics Institute (*Institut National de la Statistique du Mali*) database.

measure in response to grave external or internal imbalances, for example a widened fiscal deficit caused by a drop in natural resource revenues. Nevertheless, institutional weaknesses can exacerbate these situations. The case of Zimbabwe described in Appendix B is proof that this is still a live issue in SSA, but the broader evidence suggests the problem has receded considerably. Berg et al. (2015) argue that the problem of fiscal dominance has “largely been resolved” and that while monetary financing still exists, it does so on a small scale that doesn’t prevent the central bank retaining control of its targets. That may be an optimistic take, and there is still scope for this trend to reverse, but overall progress has been made since the turn of the century. Unfortunately for some countries, the consequences of past fiscal dominance – namely, stubbornly high dollarisation – persist decades later.

### **Success stories**

A number of countries – including Ghana, Uganda, Kenya, Zambia, Tanzania – that endured frequent bouts of high inflation in the 1980s and 1990s have experienced successful monetary stabilisation in the last two decades. Along with the likes of Botswana and Ethiopia, who have maintained relatively stable inflation throughout most of the post-colonial era, these countries have established more sophisticated monetary policies. For countries emerging from ‘fragility’, non-discretionary reserve money targeting has been used to anchor inflation expectations, where the central bank seeks to influence the money supply by controlling the path of reserve money, with the money supply acting as a nominal anchor for inflation. After periods of relative price stability, countries such as Uganda have more recently moved towards targeting a policy interest rate, allowing greater flexibility and discretion in policy.

As noted in this chapter, a number of factors are associated with the improved stability of independent currencies in Africa, such as positive developments in governance quality in policymaking institutions, improvement and formalisation of tax systems, and central bank independence. These points strongly feed into the earlier discussion of fiscal dominance, and while this remains a risk and an ongoing problem in some economies, the trends in the data are favourable. For example, Dincer and Eichengreen (2014) finds that central bank transparency had improved (on an index range of 0 to 15) from an average of 2.4 in 1998 to 4.4 in 2010 for 10 countries in East Africa, from 3.8 to 7.0 for 4 Southern African countries, and from 3.7 to 6.7 for Western Africa. In terms of central bank independence, the weighted African average improved from 0.27 to 0.34 in this period. In an index of central bank independence, Garriga (2016) notes

no meaningful improvement in Sub-Saharan Africa from 1970 to the mid-1990s, but a steady improvement in the following two decades, consistent with the narrative of this section.

#### 3.4.4 Cautionary tales

While on the whole, the monetary experiences of non-CFA SSA countries have improved since the last decades of the twentieth century, there are still a number of countries that have very fragile monetary environments. Even once the initial high inflation episode has concluded, the oft-resulting dollarisation can remain for decades, producing the policy challenges described at the beginning of this section. The final part of this section describes the cases of the Democratic Republic of Congo, Somalia, and Liberia. In all instances, the monetary instability has its roots prior to the year 2000, but has persisted to the present day.

The data show that reversing the dollarisation can be very difficult. Reinhart et al. (2014) find that, out of 85 cases of dollarisation over 1980-2001, there were just four cases where countries had managed to bring about a large and lasting reduction in domestic dollarisation.<sup>218</sup> This hysteresis has been attributed to a lack of trust in government policy and an entrenched expectation of local currency volatility.

While there are idiosyncratic characteristics in each case of monetary instability, a unifying feature is that monetary authorities have very limited control over the money supply. The nature of a highly dollarised regime means that the role of the central bank becomes almost endogenous, as its role is reduced to that of firefighter: putting out fires created by the inherent instability of the currency arrangement. The ability of the central bank to perform this task is impaired when it has limited technical capacity, shallow financial markets, poor data availability, and insufficient foreign reserves at its disposal. The recent experience of Zimbabwe shows how a solution – in that instance, full dollarisation – can be just as destabilising as the initial high (partial) dollarisation, and lays bare the difficulty of escaping a highly dollarised regime once it has become established.

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<sup>218</sup> These countries were Israel (1985), Poland (1990), Mexico (1982 – in a forced conversion), and Pakistan (1999). In two of these four cases – Mexico and Pakistan – there were heavy costs in terms of financial disintermediation and capital flight, as authorities introduced strict restrictions on foreign currency deposit holdings. In Israel the successful policy was the introduction of a one-year mandatory holding period for foreign currency deposits, while in Poland very high real interest rates were offered on domestic assets in order to lure domestic agents away from foreign currency holdings. The experiences of Bolivia and Peru in the 1980s highlight the adverse effects of draconian measures, as harsh restrictions on foreign currency holdings precipitated acute macroeconomic volatility. While deposit dollarisation was reduced, the government was forced to reverse its policies and dollarisation quickly returned to prior levels.

Fiscal dominance has often been a cause and a catalyst for currency crises and so it is important that the improved trend here continues. This requires that governments are not able to exert undue control over central banks, who are able to act independently. Various measures of institutional quality suggest there has been an improvement from this perspective, with the Polity IV index, which looks at the level of democracy, having increased from an average -5 in Sub-Saharan Africa in 1970 to -1 in 1993 to 3 in 2016, where -10 represents ‘most autocratic’ and 10 most democratic.<sup>219</sup> Nevertheless, threats to independent currencies are still present and the persistence and near-irreversibility of dollarisation indicates that the cases in Somalia, Democratic Republic of Congo and elsewhere should be taken seriously.

### **Cases of persistent monetary instability in non-CFA SSA**

For the Democratic Republic of Congo, dollarisation was at a low base in the 1970s, before rising sharply in the 1990s as unsustainable central bank financing of the budget deficit precipitated a prolonged period of hyperinflation.<sup>220</sup> Walker (2017) describes how its recent monetary history has shaped the way people understand and perceive money, given the lack of confidence in the state’s ability to guarantee its value. He discusses how Congolese francs have come to not only have a face value, but are also evaluated on the physical condition that they are in. The central bank faces a credibility issue, such that the public lacks faith that it can truly back its own currency. Additionally, as a very low level of the population hold their money in the banking system,<sup>221</sup> there are not sufficient formal institutions to enforce the face value of banknotes. This has led to an atypical situation, where the physical state of the bill has some determination of its value.

In Somalia, where the overthrow of Siad Barre’s government in 1991 triggered an extended period of statelessness, high levels of dollarisation are accompanied by a supply of local currency that has been *de facto* supplied by the private sector. Luther (2015) describes how “high-quality duplicates” produced by foreign printing firms were subsequently imported into the market, circulating alongside the pre-1991 notes. He estimates that from 1991-2001, 401 billion forged Somali

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<sup>219</sup> Data were available for 35 countries. The 1970 average score was -5 for non-CFA countries, -3 for CFA, while the 1993 and 2016 scores were much closer.

<sup>220</sup> IMF estimated the cumulative increase in prices from October 1990 to December 1995 to be 6.3 billion percent. *IMF Country Report No.01/123, July 2001* <https://www.imf.org/external/pubs/ft/scr/2001/cr01123.pdf>. See Beaugrand (1997, 2003) for a comprehensive review of the causes and consequences of the hyperinflation.

<sup>221</sup> In 2014, 1.9 percent of respondents over the age of 15 were found to have an account at formal financial institution. This was the lowest recorded percentage in Sub-Saharan Africa, and a fraction of the regional average of 16.9 percent. (International Monetary Fund’s Global Financial Inclusion database)

shillings were printed. Today, it is estimated that up to 98 percent of outstanding banknotes are forgeries.<sup>222</sup> Interestingly, the value of the currency did not erode to zero, as might be expected when the supply is unregulated, because the issuers of the currency (the forgers) were unwilling to add zeros to denominations as they did not think that the public would accept these notes (Mubarak, 2003). Luther and White (2011) believe new denominations are not generally accepted because they see “historical acceptance” as the main reason why the shilling continues to be in use.

Liberia presents a truly unusual case study, as the economy has effectively been dollarised since independence. The Liberian dollar was first issued in 1847 upon independence and circulated alongside US dollars, but was replaced by the West African pound in 1907. In 1942, the US dollar was adopted as legal tender and in 1944 the Liberian dollar was created (for the second time) at par with the US dollar. However, the only paper money was in US dollars until 1989 when Liberian dollar banknotes were introduced to replace larger denominations of coins, in order to solve “portability” challenges. As the civil war erupted, notes were looted from the central bank and so “Liberty” notes were issued in 1991 to replace the older version. This led to two currency zones: 1991 notes were accepted in government-held areas, and the 1989 editions in non-government areas. They were both replaced by a new series of banknotes in 1999 following the end of the first civil war. The one-to-one exchange rate with the dollar was abandoned, although the US dollar remained legal tender (Siaplay, 2016).

In this backdrop, the Liberian dollar operates alongside the US dollar in a dual currency regime. The entrenched high level of dollarisation means that the exchange rate is the main channel through which monetary imbalances impact on relative prices, hence why the monetary policy framework has prioritised exchange rate stability, as described in Erasmus et al. (2009). Moreover, the capacity for the central bank to shape economic outcomes is limited by the lack of credit intermediation, lack of competition and high excess liquidity in the banking sector. The high levels of dollarisation further constrain the central bank’s effectiveness as it has limited scope to manage the overall money supply. A 2019 IMF report described the central bank as “a passive agent without active monetary policy”. The vulnerability of such a situation becomes evident when shocks hit the economy, such as in the mid-to-late 2010s when it was faced by both the Ebola crisis hit and a decline in export prices. The growing fiscal deficits were partly financed by the central bank, which led to an acceleration in inflation. A fixed exchange rate could not be

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<sup>222</sup> Taken from Bloomberg interview with IMF representative in Somalia, Samba Thiam, <https://www.bloombergquint.com/global-economics/imf-to-help-somalia-print-first-banknotes-in-a-quarter-century>.

maintained in this environment as the inflation-driven appreciation of the real exchange rate hit export price competitiveness, and also due to falling foreign exchange reserves at the central bank. While depreciation helps to correct the misalignment in relative prices, it also causes further inflation, which has a disproportionate effect on the poorer parts of society.

### **3.4.5 A useful counterfactual?**

These cautionary tales show that, while there are a number of success stories in countries that were formerly plagued by monetary instability, there are still several non-CFA countries that remain in precarious monetary circumstances. In a way, there has been a further bifurcation of monetary experiences within the non-CFA set of countries: the aforementioned ‘success stories’ in one group, and in the other group a set of countries whose local currencies have been, to varying degrees, partly replaced by foreign currency alternatives, as described in Section 3.4.1.

No single theory explains the selection into these groups, but a crude assessment would be that the former group has generally seen a more stable political environment, while the latter set of countries has been plagued by various indicators of state fragility, such as political instability, conflict, and general economic vulnerability.

Mapping this admittedly rough logic onto the CFA franc zones, one might expect the counterfactual to show countries like Senegal, Cameroon and Côte d’Ivoire in the ‘successful’ bracket, whereas countries like Niger and Chad would be in the latter group. The shortcomings of this basic approach are evident, as it is easy to contest that Côte d’Ivoire was on the World Bank’s list of fragile states as recently as 2014, while Cameroon faces mounting tensions between its Francophone and Anglophone populations. However, the thought experiment is designed to make an important point, that the CFA franc arrangement will not benefit or hinder its members in the same way. If the union were disbanded and national currencies established, the experiences would vary considerably. It might be that membership of the zone favours the so-called ‘fragile states’ that do not have the state capacity and legitimacy to support a national currency, whereas the more economically and politically stable countries would benefit more from the policy flexibility that is afforded by an independent currency.

## 3.5 Policy constraints

This section describes the policy restrictions that the CFA arrangement imposes, and considers how the impact and significance of these constraints have evolved in recent decades.

### 3.5.1 An inflexible and exogenous exchange rate path

The principle virtue of a flexible exchange rate is its ability to facilitate adjustment to external shocks, for example variations in the terms of trade brought about by commodity price shocks. Movements in the nominal exchange rate can facilitate a realignment in relative prices and restore the real exchange rate to equilibrium. On the other hand, when there is a fixed exchange rate with no option to adjust the peg, as is the case in the CFA zones, the economy is forced to achieve this realignment of relative prices through internal adjustment. This can be a painful and prolonged process, due to nominal price and wage rigidities. As these rigidities are often asymmetric – such that it is harder to lower prices and wages than to raise them – this is more likely to lead to prolonged real exchange rate overvaluations rather than undervaluations.

The relative benefit of fixed and floating exchange rates is an enormous topic in the economic literature, and is not explored here,<sup>223</sup> but given the high exposure to external shocks in the CFA zones, and the increasing openness of the economies, it suffices to say that this shortcoming of the CFA arrangement has not receded. In the years following independence, France was the main trading partner for the CFA member countries, and so the fixed exchange rate arrangement meant that exports and imports could be processed without having to source US dollars. The picture today is evidently different (see Figures 3.7 and 3.8), and real exchange rate misalignment (typically overvaluation) remains one of the primary threats to the region's economies, as export sectors tend to play an integral role. Couharde et al. (2013) find that movements in the real exchange rate of the euro can produce persistent changes in the level of competitiveness of the CFA franc zone, particularly in periods when the euro is appreciating.

The fixed exchange rate regime in the CFA zones is a particular case too as the peg has only been reset once in the last 70 years, whereas fixed pegs in other developing economies have been devalued (or occasionally revalued) with much greater frequency. Perhaps the most crucial challenge for a fixed exchange rate in this scenario is that there are 14 countries exposed to the

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<sup>223</sup> See Friedman (1953); Ghosh et al. (2013); Chinn and Wei (2013); Drechsel and Tenreyro (2018).

same rate, or 8 or 6 if we consider both zones separately. Setting a suitable exchange rate that is appropriate for all members is virtually impossible, particularly given the heterogeneity of the economies in UEMOA and asymmetric business cycles. Of course, this setting of the rate is taken out of the hands of the CFA franc zones as it directly follows the fortunes of the euro. This at least prevents internal, and likely irresolvable, quarrelling over what exchange rate should be targeted, but means that the exchange rate path of the region is determined entirely by events in another continent, unmoved by the economic reality of the countries it represents.

### **3.5.2 Monetary policy autonomy**

*“For all intents and purposes, there is no such thing as an independent Gabonese monetary policy there is only a French monetary policy for Gabon.” (Spero, 1973)*

As alluded to in Section 3.3, the CFA arrangement does not constrain the conduct of monetary policy to the extent that a conventional currency board arrangement does. Figure 3.1 illustrated this leeway, as the reserve coverage of liabilities has regularly been below 100 percent, particularly in CEMAC. In the face of a negative balance of payments shock that triggers a fall in foreign reserves, such as in the mid-2010s, the regional central banks are not forced to contract the money supply commensurately in order to keep the ratio above 100 percent. In a strict currency board, the endogenous contraction in money supply would cause deflation, which could have seriously destabilising consequences.

However, this extra flexibility does not appear to translate into a particularly active monetary policy. This may be because setting a regional monetary policy requires considering the economic environment in all six or eight member countries. Changes in the policy stance will not necessarily be appropriate for some countries due to the asymmetry of business cycles observed across economies. This can lead to a more passive monetary policy as the response function will be relatively insensitive to idiosyncratic shocks.

The data support this argument. As noted in Chapter 2, from 2002 to 2018 the BCEAO altered the key policy rate on just 9 occasions, compared to 40 times in Ghana and 32 times in Kenya. This may also reflect the relative lack of price volatility in the CFA zones, meaning that policy rate deviations simply aren't required. In effect, the imported monetary credibility from France supersedes domestic monetary policy, as far as price stability is concerned. Over time, national

discretion has been further reduced, as commercial bank reserve requirements are now uniform across all countries, while central bank lending to governments is no longer allowed in UEMOA.

The empirical evidence on monetary autonomy is not conclusive, but there is some evidence that autonomy has reduced over time. Dufrenot (2010) finds statistically significant evidence that, since the 1994 devaluation, the BCEAO nominal discount rate is adjusted in response to French (or latterly, ECB) policy rates, as well as the inflation differentials between the UEMOA and France. This is attributed to a more prudent policy in the aftermath of the devaluation, more closely committing to French/ECB policy. However, Kireyev (2015) also looks at the operation of monetary policy in the UEMOA, finding no evidence of cointegration between ECB and BCEAO policy rates, and concluding that there is a genuinely independent monetary policy. Consistent with Mishra et al. (2012), he also finds that there is a weak reaction of market interest rates and inflation to BCEAO policy actions.

In cases of full dollarisation, or currency boards, the money supply is determined by market forces, with domestic monetary policy being entirely passive. In theory, with an independent monetary policy, changes in the monetary base in the CFA zone should not be endogenously driven by movements in the balance of payments. Looking at the UEMOA, the results of Veyrune (2007) imply some independence for earlier periods, finding that foreign reserves do not appear to determine base money supply in the zone. Crucially, however, this implied autonomy disappears after the 1994 devaluation. This result is echoed by Dufrenot (2010), who augments the analysis by looking at the relationship between domestic credit and foreign reserves. The behaviour since 1994 is found to be akin to that of a conventional currency board, with foreign reserves influencing the level of domestic credits. This is one of the mechanisms through which external shocks, such as commodity export price declines, transmit through to the real economy, as they tighten monetary conditions through the negative impact on foreign reserves.

The empirical evidence suggests that the monetary transmission mechanism in low-income countries is weak and unreliable, as a result of underdeveloped and uncompetitive banking sectors.<sup>224</sup> In addition, when looking at the UEMOA, Sy (2008) notes that there is excess liquidity, lack of appropriate collateral and lack of trust in banks' solvency. While banking and capital markets have developed over the past few decades, they remain thin, and the transmission channels

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<sup>224</sup> Mishra and Montiel (2012).

of monetary policy remain weak. However, if markets continue to develop then the opportunity cost of a sacrificed national monetary policy autonomy should increase over time.

The oil price shock in the 2010s, described in Section 3.3, provides a noteworthy example of the regional central banks' priorities. For CEMAC countries, economic growth declined considerably as oil prices fell. This meant that the external balance was deteriorating, as reserve levels fell sharply, while domestic economic activity suffered concurrently. The regional central bank responded to this by tightening monetary conditions, raising the policy rate by over 100 basis points, which risked exacerbating the domestic economic environment. This suggests that – as in a conventional exchange rate peg – monetary policymakers prioritise external stability over domestic policy goals.

### **3.5.3 Credit restriction**

The result by Dufrénot (2010) is relevant for the discussion of credit extension in the CFA zones, as he finds a statistically significant link between foreign reserves and domestic credit since 1994. In effect, this means that the domestic credit cycle is determined to some extent by the region's foreign reserve accumulation. Firstly, this procyclicality may exacerbate downturns if deterioration of the external balance – as reflected by a decreasing reserve position – is accompanied by a credit contraction domestically. It also means that credit to the economy is not able to decouple from foreign reserves, even if it may be desirable to do so from a policy perspective. Price and Elu (2014) look at the global financial crisis of 2008-09 and find that, among SSA, CFA zone countries were more likely to experience a credit contraction and that growth was more exposed to the global credit shock.

Nubukpo et al (2016) argue that the CFA arrangement produces “endogenous credit rationing”, with expensive credit and curtailed financial development. Given the CFA zones are forecast to run current account deficits in the coming years, this low credit growth is likely to persist under the current CFA arrangement, as reserve accumulation should remain subdued. Moreover, being pegged strictly to the euro itself looks increasingly inappropriate, and not only because of the decreasing share of CFA zone trade conducted with Europe. Despite hopes for the euro to rival the dollar as a global trade and reserve currency,<sup>225</sup> it is increasingly plagued by its chronic trade

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<sup>225</sup> Comments by European Commission President Jean-Claude Juncker in 2018 State of the Union speech. [https://ec.europa.eu/commission/sites/beta-political/files/soteu2018-speech\\_en\\_0.pdf](https://ec.europa.eu/commission/sites/beta-political/files/soteu2018-speech_en_0.pdf).

surpluses, in a reverse case of the Triffin Paradox.<sup>226</sup> While the Euro Area’s high current account surpluses<sup>227</sup> poses significant internal problems, it also contrasts with the persistent deficits in UEMOA and, since 2012, CEMAC.<sup>228</sup> With these contrasting external balances expected to persist in the medium term, one might reasonably expect the respective currencies to take divergent paths – the surplus currency appreciating, and the deficit currency depreciating – but the euro-CFA franc peg means that the latter will follow the former, regardless of the economic reality.

### 3.5.4 Loss of discretionary seigniorage

In developing economies characterised by weak state capacity and low levels of governance, where the functioning of monetary policy is often limited and non-discretionary, the role of fiscal policy comes to the fore. Seigniorage revenues<sup>229</sup> generated by the state through printing money can perform a valuable role in plugging short-term funding gaps given the volatility of certain fiscal revenues, notably natural resource royalties, and the weakness of formal tax systems. It is also a way of extracting revenue from the (often large) informal sector. However, the link between the central bank and fiscal policy can create conflicts between price stability and fiscal activism. Given the poor tax revenue mobilisation<sup>230</sup> in low-income countries and thin capital markets, governments may be tempted to look to the central bank to finance its spending. This can have dramatic consequences if the monetary authority is weak and becomes “institutionally subservient to the finance ministry”.<sup>231</sup>

The historical evidence shows that ‘fiscally dominant’ regimes have been prevalent in fragile Sub-Saharan African states, in which the monetary authorities are beholden to the actions of the fiscal authorities and can quickly lose control of inflation, sometimes leading to significant currency depreciation. Guillaume and Stasavage (2000) describe how, after the collapse of the East African Currency Board (EACB) in 1966, its member countries saw a dramatic increase in central bank

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<sup>226</sup> The Triffin Paradox (or Triffin Dilemma) states that a country who wishes its currency to be a global reserve currency must run a trade deficit in order to supply enough of its currency in order to meet the international demand. (Triffin, 1960).

<sup>227</sup> The IMF forecast these current account surpluses to remain above 2 percent until at least 2024.

<sup>228</sup> In CEMAC, current account balances are highly dependent on oil prices, with a looming drag coming from the exhaustibility of oil reserves. The IMF forecasts a 2022 current account deficit of 4 percent.

<sup>229</sup> Buiter (2007) describes in detail the different measures of the revenue appropriated by the state through money printing.

<sup>230</sup> Besley and Persson (2014) observe that low-income countries tend to collect tax revenue between 10 to 20 percent of GDP, compared to closer to 40 percent in developed countries, with greater dependence on natural resource revenues and foreign aid receipts. They also conjecture that resource wealth and aid inflows reduce the incentive to generate taxation domestically.

<sup>231</sup> Ha et al. (2019), p.5.

claims on government, from an EACB average of 0.1 percent of GDP in 1961-66 to 2.8 percent in 1967-73. The rules limiting such behaviour were much less effective than under the currency board arrangement, and easily circumvented by governments. This was reflected across Sub-Saharan Africa, excluding the CFA and Rand zones, with the average central bank claims on government rising from 0.9 percent of GDP to 3.5 percent over the same periods.

To briefly outline the mechanism, consider the simple coordination game presented in Sargent and Wallace (1981). First, consider a monetary-dominant regime where the monetary authority, targeting price stability, moves first – in effect the Stackelberg leader – and determines the amount of seigniorage revenue available to the fiscal authority. Given a limit on the demand for bond issuance, the budget is constrained by bond sales and the seigniorage revenue that has been determined by the monetary authority. In this scenario, the monetary authority can theoretically dictate the path for base money.

By contrast, in the fiscally-dominant scenario, the fiscal authority moves first and chooses its deficit. The monetary authority must then respond to the required deficit financing, while trying to maintain a control over base money growth. Given the potential limit to which it can finance this through bonds and the wish to avoid explosive debt paths, over time there will eventually be a recourse to increased levels of seigniorage if budget deficits persist. This accelerated money creation will be reflected in higher inflation expectations, bidding up the price level, the “unpleasant monetarist arithmetic” described by Sargent and Wallace.

Where central institutions are weak this can quickly spiral out of control. This can emerge when governments have short-term objective functions and are able to exert control over the central bank; when low financial development and poor creditworthiness limits the space for bond issuance; and when tax revenue mobilization is poor. At least some of these characteristics are observed in the countries under study in this paper. The catalyst in the case of resource-dependent economies, as so many SSA countries are, is often a negative terms-of-trade shock that hits economic output and government revenues. The downward rigidity of government spending means that deficits emerge and, given the pro-cyclical nature of access to debt markets, debt financing becomes more difficult when it is most needed.

For a fully dollarized regime, the central bank is effectively handcuffed in that it loses its ability to create money. In a sense a fiscally-dominant regime is impossible as there is no monetary authority

per se to be ‘dominated’. By its very construct, the CFA zone is a money-dominant regime, and the countries cannot generate seigniorage revenues at their discretion. There is scope for seigniorage revenue on a regional level, which feeds down to the countries. This is unlike a genuine currency board, where seigniorage is forbidden as all money issuance must be backed by equivalent units of foreign reserves. But there is minimal national-level discretion, and the size of seigniorage is limited by the low money supply growth. Moreover, rules have tightened to prohibit central bank lending to government in UEMOA, while this is also targeted in CEMAC.<sup>232</sup>

While the removal of this potentially harmful policy instrument may prevent countries from entering inflationary spirals, it is one less policy dimension available to national authorities, who have already foregone conventional monetary and exchange rate policy. The level of central bank direct lending to government among non-CFA SSA countries has fallen considerably since the 1980s,<sup>233</sup> although rising fiscal deficits in recent years has seen a slight reversal of this downward trend, and the recent case of Zimbabwe (see Appendix B) shows the risk is still real. Lastly, the improvement in the quality of tax systems has implications for the value of seigniorage as an alternative to taxation, as it reduces the incentives for countries to resort to seigniorage to fund their fiscal expenditures.

### **3.5.5 Capital flight**

Lastly, there is a concern that the credible fixed exchange rate and the freedom of capital movement between the CFA zones and the eurozone facilitates capital flight from the CFA franc zones. The work by Ndikumana and Boyce (2018) provides estimates of capital flight from 30 African countries using the residual of the balance of payments, adjusting for trade misinvoicing, inflation and exchange rate fluctuations.<sup>234</sup> Although the sample is not complete, the most recent estimates show that some of the largest instances of total capital flight from 1970-2015 are found in the CFA franc countries. Compared to an average across all countries of 66 percent of GDP (and 61 percent for oil-rich countries), cumulative real capital flight from 1970-2015 was much higher for the two largest CFA economies: 97 percent for Côte d’Ivoire and 139 percent for

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<sup>232</sup> It has been not been achieved given the fiscal difficulties faced by the region in the aftermath of negative oil price developments. In fact, the BEAC actually ramped up its lending to CEMAC governments from 1.5 percent of nominal GDP in 2014 to 7 percent in 2017. (BEAC annual report, 2018).

<sup>233</sup> From 10 percent in the late 1980s, to less than 4 percent in the 2000s. (Adam, 2008).

<sup>234</sup> Ndikumana and Boyce describe capital flight as a “residual of the Balance of Payments consisting of discrepancies between recorded foreign exchange inflows and recorded use of these inflows. Capital flight represents outflows of financial resources from a country in a given period that are not recorded.”

Cameroon; while for Gabon and Republic of Congo the figures were 172 and 706 percent respectively. By way of comparison, the equivalent figures for Nigeria and Ghana, the two largest non-CFA economies in West Africa, were 69 percent and 80 percent of GDP respectively.

The data are not comprehensive, but suggest that capital flight has been more substantial from the CFA franc zones, a view supported by Ndiaye (2011). This is undoubtedly a worry for the CFA arrangement, with empirical analysis in Ndikumana and Boyce (2011) finding that higher capital flight is associated with lower tax revenues, which has adverse implications for public finances. Moreover, the distributional impact of this capital flight is concerning, particularly if it depresses domestic investment. This speaks to the common criticism that the CFA arrangement benefits the urban elite at the expense of the rest of the population. Lastly, the UNCTAD World Investment Report 2019 shows that cumulative foreign direct investment over 2013-2018 was greater in Ghana than in the whole of UEMOA despite the latter having more than double the nominal GDP of Ghana.<sup>235</sup> This does not support the narrative that the stable currency attracts greater foreign investment into the zones.

### **3.6 Reduced bilateral ties**

The post-colonial economic relations between France and the CFA countries have been larger than a gravity model of trade or otherwise would suggest, as colonial-era structures and ties have remained in place. This section describes how these bilateral relations have evolved in the decades since independence.

#### **3.6.1 From the French perspective**

Unsurprisingly, the perception that France – in its role as the rich, former colonial power – materially benefits from the CFA franc arrangement is an area of controversy. It is difficult to gauge the extent to which it gains from its position when a lot of the claims are anecdotal. Stasavage (2003a) argues that a determination to preserve the arrangement has been driven by the power of specific interest groups who gained from the setup, such as French exporters and investors, and

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<sup>235</sup> FDI flows into Ghana were US\$19.5bn over 2013-2018 and nominal GDP was US\$146bn in 2018, compared to US\$16bn and US\$318bn respectively for UEMOA. Additionally, if Ghana and Nigeria are both excluded, the FDI inflow as a share of GDP in the rest of non-CFA ECOWAS is 13 percent, compared to just 4 percent in UEMOA. Sources: UNCTAD World Investment Report 2019, AFDB West Africa Economic Outlook 2019.

African urban consumers and domestic-oriented producers. Yates (2018b) writes that, at times, upper limits were put on certain imports coming from outside the franc zones and that minimum levels were set for imports (of the same goods) being purchased from France. Others, such as Heilbrunner (2005), claim that France's ties with the region allow it valuable access to the natural resources of the region, with particular emphasis on uranium sourced from Niger, given the large nuclear power use in France.

### **The Operations Account canard**

One particular criticism is the extent to which France benefits from the foreign reserves held in the Operations Account at the French Treasury. An extraordinary example was provided by Arikana Chihombori-Quao in 2019, who at the time was the African Union ambassador to the United States, when she claimed that the CFA arrangement is “giving France over 500 billion dollars a year, year in, year out”. This is more than double the entire annual GDP of all CFA franc countries combined, and evidently an absurd claim.<sup>236</sup>

In 2018, the UEMOA foreign currency assets held in the Operations Account stood at 7 billion euros. Taylor (2019), among others, argues that this helps subsidise the French national budget, but this claim wilfully ignores two facts. Firstly, that the reserves are a stock, not a flow, so cannot subsidise government expenditure each year; and secondly, that, even then, the 7 billion euros is only 0.5 percent of the 2018 French government's total expenditure.<sup>237</sup>

The removal of these reserves may require debt issuance by France to replace the lost BCEAO deposits, but the yield on a 10-year French government bond at the end of 2019 was just 0.12 percent, ironically lower than the interest paid at the Operations Account. Of course, French sovereign bond yields may not stay low forever, but these figures show that this particular economic argument presented by Taylor and others is weak, as the sums involved are very small for France. This may be one reason why France agreed to remove this requirement for UEMOA, as the economic loss is negligible relative to the perception that has been created by CFA critics.

Nubukpo et al. (2016) argued that UEMOA holds excess reserves so that political leaders and elites earn interest on the “hoarded” liquidity, and by doing so extract economic rents. They feel that these reserves are returning a fraction of what they would, were they instead being reinjected

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<sup>236</sup> ‘France Takes Billions From Africa Annually - Arikana Chihombori Quao’, 23 October 2019, <https://www.youtube.com/watch?v=PZh9kSk796s>.

<sup>237</sup> 1,318 billion euros (INSEE database).

into the economy to fuel economic growth and development. This argument also appears rather unconvincing however, as even 100 percent coverage of sight liabilities equated to 5.6 months of imports for UEMOA, and 4.7 months for CEMAC. This does not suggest an excess, given that the Sub-Saharan African average was 5.4 months of imports in 2017, and above 7 for oil-exporting countries, per the IMF 2019 Sub-Saharan Africa Regional Economic Outlook.

Similarly, the contingent financial liability for France related to the guarantee is small. As the financial sectors in the CFA zones develop and grow, this contingent liability will grow and may become large enough so as to concern France, but for now it is small given the entire monetary base of both zones is just over 2 percent of French GDP<sup>238</sup> or, perhaps more importantly, nearly 5 percent of France's fiscal revenue.<sup>239</sup>

### **French business interests**

While a number of French companies still operate in the CFA zones, and in some cases dominate industries, the extent of the tangible benefits to France and the French economy may be reducing in importance. Stasavage (2003a) rejects the 'French business lobby' explanation as an explanation for France's continued support, as the region appears to be increasingly less integral to the French economy (and vice versa). He contends that the largest African markets for French firms tend to be non-CFA franc – notably Algeria, Nigeria and Egypt – and that over time the economic importance of the region has diminished for French exporters and construction firms.

OECD data on foreign direct investment (FDI)<sup>240</sup> show emphatically that this trend has continued. In 2003, 61 percent of French FDI into Sub-Saharan Africa was to CFA franc member countries (or 33 percent, including North Africa – see Figure 3.5). By 2012, this had fallen to 32 percent (or 19 percent for all French FDI into Africa). Additionally, in 2017 France was responsible for a higher stock of foreign direct investment (FDI) into Africa than any other country,<sup>241</sup> but, of the 14 African countries who received FDI flows of greater than \$1 billion in 2018, only one – Republic of Congo – was a CFA franc member.<sup>242</sup>

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<sup>238</sup> At end-2018, the monetary base in UEMOA stood at 27.7 trillion CFA francs (42 billion euros), 1.8 percent of French GDP. Using 2017 figures, the equivalent numbers for CEMAC are 10.6 trillion CFA francs (16 billion euros), or 0.5 percent of French GDP.

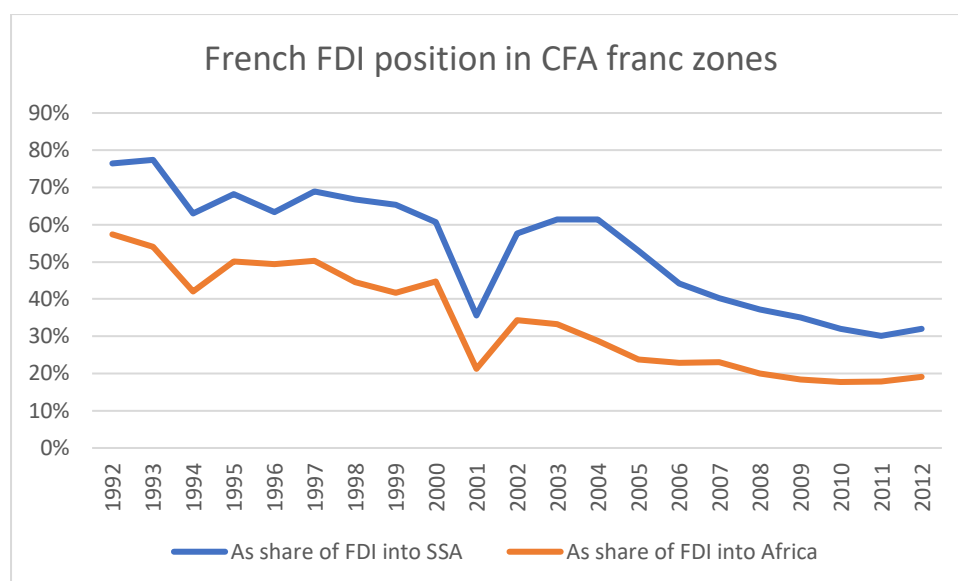
<sup>239</sup> OECD tax database.

<sup>240</sup> OECD International Direct Investment database; FDI positions by partner country.

<sup>241</sup> UNCTAD World Investment Report 2019, p.49. France stock of FDI was \$64 billion.

<sup>242</sup> Ibid.

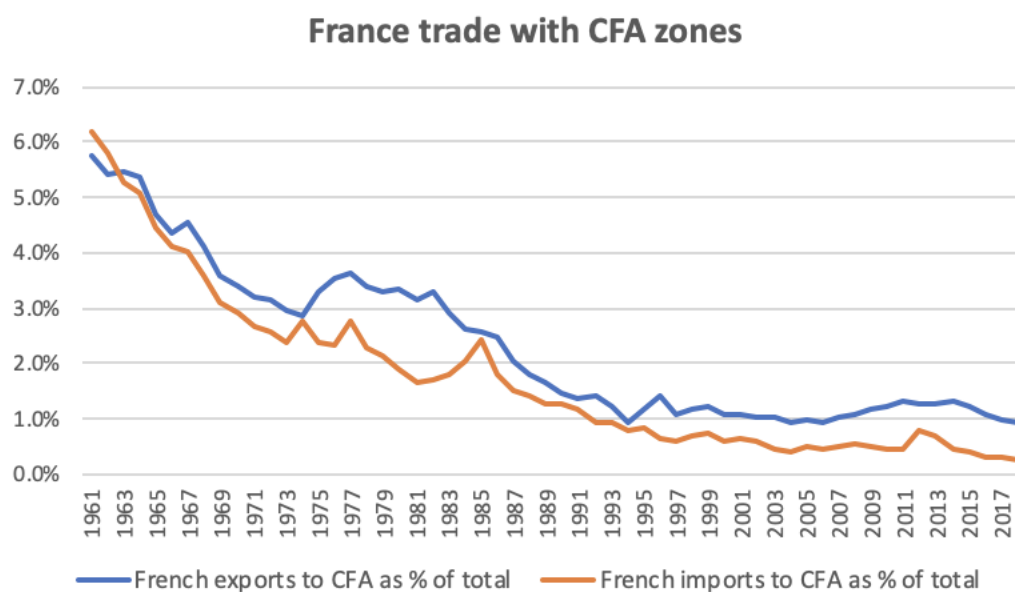
**Figure 3.5**



### **Trade to the CFA zones**

Similarly, the trade relationship between the CFA countries and France is very different from what it was 60 years ago, or even 20 years ago. Using the IMF Direction of Trade Statistics, Figure 3.6 shows that in 1961 France's exports to and imports from the CFA franc zones made up around 6 percent of total trade. By the 1970s, this figure had fallen towards 3 percent, and by the 1990s exports to the region made up just 1 percent of total exports, while imports from the zones are presently just 0.2 percent of all French imports. Although the numbers are much lower than historically, France continues to run a large trade surplus with both zones. In 2018, UEMOA exports to France totalled \$854m whereas its imports from France were \$3,873m. The respective numbers for CEMAC were \$935m and \$1,740m.

Figure 3.6



### 3.6.2 From the CFA members' perspective

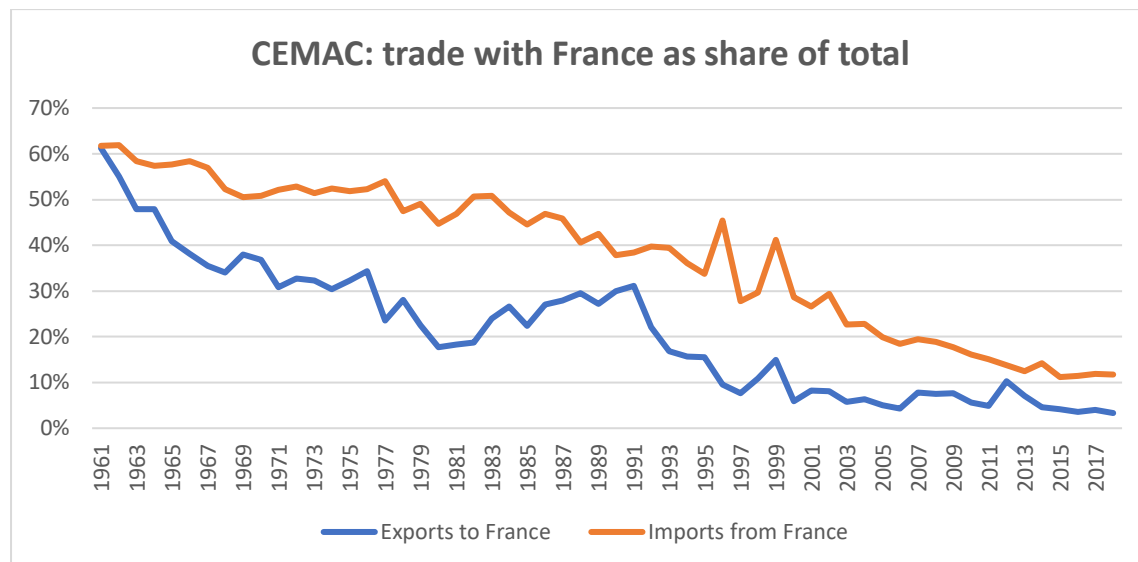
#### A declining trade relationship

As in the previous section, the importance of France as a trading partner to CFA countries has also declined markedly. Figures 3.7 and 3.8 show the dramatic reduction in exports to and imports from France in both currency zones, and also the persistent trade surpluses that France runs with its former colonies. The decline is particularly stark for exports, which today is disproportionately supported by the high level of Nigeran uranium exports to France. This downward trend is reflected by the fact that the CFA share of French imports from Sub-Saharan Africa has reduced considerably over the last few decades. In 1990, the CFA zones accounted for half of French imports from the continent, but by 2018 this had fallen to less than 20 percent. Over the same period, the share of trade flows with the rest of the Euro Area has remained relatively stable, at around 20 percent of total trade. This suggests the trend is specific to France, and that it is slowly converging from being a preferential trading partner due to historical links towards being a less significant trading partner, in line with what a gravity model of trade might suggest.

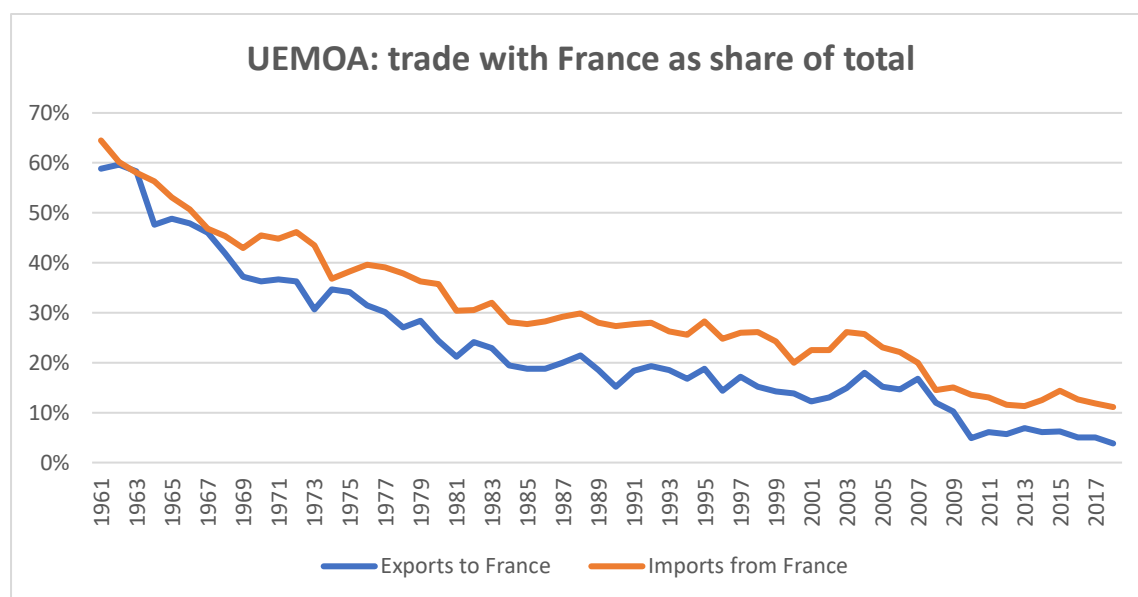
France has been surmounted as the key trade partner for the region by China, which has rapidly grown its importance over the last two decades. In 1998, exports to China were just 4 percent of total CEMAC exports, but in 2018 this figure was 34 percent. For UEMOA, exports to China have seen nothing like the growth in CEMAC, but imports from China have trebled in the last 15

years and now exceed imports from France. This reflects a broader shift in trade flows away from Europe and towards the East and, to a lesser extent, the rest of Sub-Saharan Africa.

**Figure 3.7**



**Figure 3.8**



As for the benefits to trade within monetary unions, the story is mixed. Several studies have found that currency unions in Africa have significant trade-generating effects,<sup>243</sup> although Tsangarides et al. (2009) estimate that some of the effect is attributable to a higher level of trade between Francophone countries than between Anglophone countries. Nevertheless, intra-regional trade is

<sup>243</sup> Qureshi and Tsangarides (2012); Glick and Rose (2016).

still very low. Tchatchouang (2015) describes how this intra-zone trade represents just 9 percent of total trade<sup>244</sup> compared to the Euro Area where 46 percent of total international trade is intra-zone (this grows to 64 percent when looking at the broader European Union).<sup>245</sup> Tchatchouang attributes this to the high concentration of commodity exports, as well as the poor transportation links and small domestic markets. Unless there are structural reasons why penetration of intra-zone trade is to increase markedly over the coming decades, the benefits of favourable trade spillovers will remain marginal. The proposed African Continental Free Trade Agreement may be a game-changer, although it potentially reduces the importance of the CFA institution in fostering regional integration.

### **Aid relationship – a diversification**

As has been described in Section 3.2, upon independence many Sub-Saharan African countries were left still economically dependent upon the former colonial power. The Guinean and Malian experiences (see Section 3.7.2) show the challenges once this support was removed. Given the various channels through which this support was provided, it is difficult to calculate exact figures, but we can see the official foreign aid picture over time.<sup>246</sup> Figure 3.9 shows that the trend is not dissimilar to that of trade. It highlights how the newly independent countries in the CFA franc zones initially received as much as 60 percent of their official net ODA (overseas development assistance) from France. This figure dropped to between 30 to 40 percent from 1970 until the turn of the century. From 2000 onwards, the graph shows how multilateral institutions, such as the IMF and the World Bank, became the key providers of official aid, with only about 10 percent of net ODA to CFA members coming from France directly in the 2010s.

These data show that, as with trade, France has become increasingly less important to the CFA franc zones from an economic perspective. In addition, of net ODA flows from France to developing countries, the share allocated to the CFA zones has reduced since 2000, falling from a level of around 25 to 30 percent for the prior decades to around 15 percent in the 2010s.

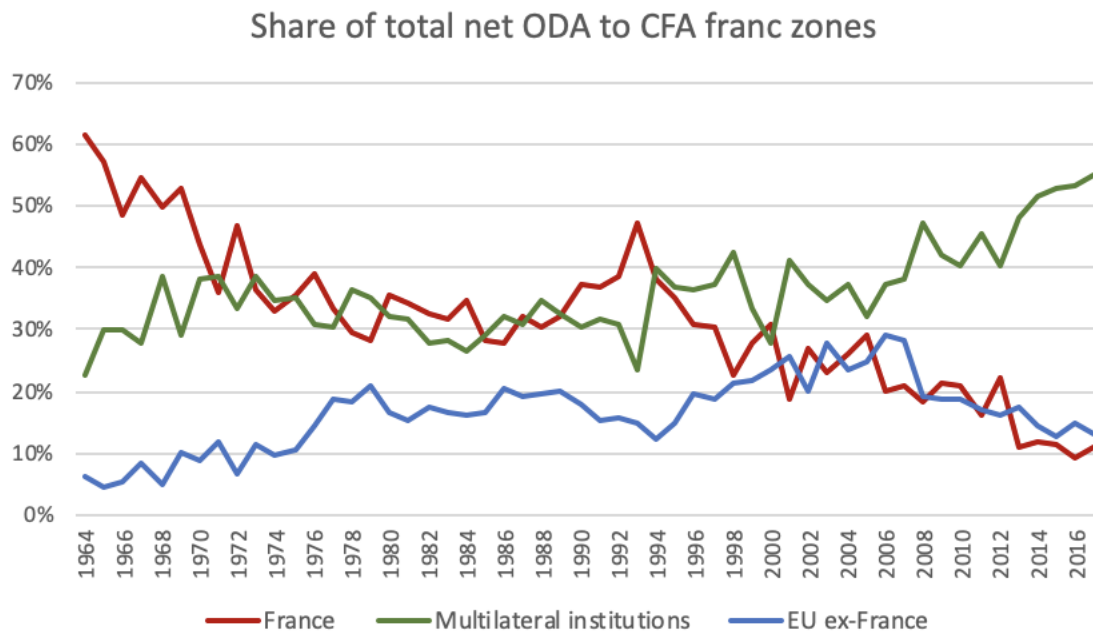
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<sup>244</sup> Figures quote UEMOA and CEMAC annual reports. A combination of 6 percent for CEMAC and 11 percent for UEMOA.

<sup>245</sup> IMF Direction of Trade Statistics, 2018 figures.

<sup>246</sup> Using the OECD GeoBook data on bilateral net ODA flows.

Figure 3.9



### 3.6.3 Soft power and military presence

Some commentators instead focus on the role of soft power. The feeling persists that when independence came to its colonies, France merely re-positioned its former empire into its *pré carré*, an exclusive sphere of influence. In a *Le Monde* article, following criticism of the structure by then-Italian Deputy Prime Minister Luigi Di Maio in January 2019 (see Section 3.7.4), Nubukpo wrote that the CFA arrangement is a key pillar in a broader structure that enables France to maintain “prestige” and influence on the world stage, in particular at a time when they face mounting competition from large emerging market countries like India and China.<sup>247</sup>

The area where France’s continued presence in the region is most visible is its continued military presence. Smith and Glaser (2005)<sup>248</sup> describe the changing complexion of France’s security role in Africa:

*“When Paris intervenes it is denounced for its interventionism if not its neo-colonialism. When Paris abstains it is reproached for its indifference or reminded of its historical responsibilities. France is in the middle of the river: It has*

<sup>247</sup> “La zone franc et le franc CFA méritent un sérieux dépoussiérage”, 26 January 2019.

<sup>248</sup> Cited in Yates (2018b), p.142.

*left one bank, sliding, but has not yet reached the other, firmer side. It is this in-between state which is interesting, this transition between the Françafrique of yesterday and the France-Afrique of tomorrow”.*

The immediate regime of “military co-operation” that was installed by France following independence maintained its command and influence in the region.<sup>249</sup> As the newly independent countries had limited resources, their leaders had little choice but to yield. This allowed the French to preserve military bases in a number of Western and Central African countries, with its paternalism further justified as part of broader Cold War politics.<sup>250</sup> The Rwandan genocide in 1994 is seen as a crucial turning point in curtailing French militarism on the continent,<sup>251</sup> although there have still been interventions in recent years, notably in Côte d’Ivoire in 2011, as well as across the Sahel region. Yates (2018a) argues that France’s recent peacekeeping missions in Mali and Central African Republic have shown signs of “overstretching” and are not sustainable, given a reduced military budget<sup>252</sup> and waning political will. But in the near term, the indications are that military involvement in the region may persist for many years to come.<sup>253</sup> ECOWAS (Economic Community of West African States) has increasingly performed a peacekeeping role in West Africa – including interventions in Guinea-Bissau, Mali and Gambia in the 2010s – but its resources are very small by comparison.

This section has described a decline in the mutual importance of the relationship between France and its former colonies in the CFA franc zones. This reflects several factors, such as the rise of emerging market economies – notably China – offering alternative trading opportunities, or multilateral institutions assuming the role as the main providers of development assistance. Perhaps the most compelling argument that persists is the role of soft power. This is a delicate balancing act for France and President Macron, as it on one hand tries to maintain influence while on the other is under pressure to acknowledge its past failings. In December 2019 Macron said that France is still seen as maintaining a “hegemonic view and the trappings of colonialism, which was a grave mistake and a fault of the Republic”,<sup>254</sup> by far the most explicit admission of any sitting French president. The next section builds on the transformation of the broader political landscape relating to the CFA franc institution over time.

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<sup>249</sup> Charbonneau (2015).

<sup>250</sup> Charbonneau (2015), p.114.

<sup>251</sup> Krosiak (2007).

<sup>252</sup> Yates reports that the military budget reduced from 3 percent of GDP in 1982 to 1.4 percent in 2015.

<sup>253</sup> NY Times article ‘Crisis in the Sahel Becoming France’s Forever War’, 29 March 2020.

<sup>254</sup> France 24 article ‘Macron calls colonialism a ‘grave mistake’ during visit to Ivory Coast’, December 2019.

## 3.7 A fading political will

### 3.7.1 Ties between Franco-African political elites

As noted in Section 3.2, France typically established much stronger cultural and political ties to its colonies than Britain or other countries. For example, consider the close relations of independence leaders like Felix Houphouët-Boigny of Côte d'Ivoire and Léopold Senghor of Senegal with the French elite. In 1957, speaking of his vision for the future, Senghor said:

*“We don't want to leave the French compound. We have grown up in it, and it is good to be alive in it. We simply want to build our own huts.”*<sup>255</sup>

Houphouët-Boigny even co-signed the Constitution of the Fifth Republic in 1958, while serving in Charles de Gaulle's government.<sup>256</sup> In general, African elites in *La Francophonie* were much more incorporated into metropolitan culture than their Anglophone counterparts, something highlighted by the inclusion of African deputies in the French National Assembly from 1946. Seven of these deputies went on to become national presidents in West African countries.<sup>257</sup> The links were established through education too, with a number of future leaders and ministers of CFA countries offered training at the *Institut des Hautes Etudes d'Outre Mer* (previously *Ecole Nationale de la France d'Outre Mer*), situated in Paris.<sup>258</sup>

Stasavage (2003b) argues that it was in the interest of Francophone African leaders to stay close to France in order to stabilise their own political regimes, given the aid and security provided by France. This state of affairs was not accidental. Sensing the impending end of colonial rule in the 1950s, the French acted to influence the post-colonial paths of the region through encouraging the rise of individuals sympathetic to France, such as Senghor, Houphouët-Boigny and Maurice Yaméogo, the first president of Upper Volta (now Burkina Faso). In one example of this, Fanso (2010) claims that President Ahidjo of Cameroon, a post he held from 1960 to 1982, had been hand-picked by the French, who had agreed a secret co-operation pact to fund a large portion of

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<sup>255</sup> Nugent (2004), p.7.

<sup>256</sup> [http://www.senat.fr/evenement/revision/texte\\_originel.html](http://www.senat.fr/evenement/revision/texte_originel.html).

<sup>257</sup> Houphouët-Boigny in Côte d'Ivoire, Touré in Guinea, Keita in Mali, Daddah in Mauritania, Diori in Niger, Senghor in Senegal, Maga in Dahomey (Benin). Notably, the Guinean and Mali leaders served for the shortest periods.

<sup>258</sup> Stasavage (2003b, p.108) observed that even in 1989, 7 of the 24 top posts in Cameroon, Côte d'Ivoire, Gabon and Senegal were held by graduates of the institute. This includes Paul Biya and Abdou Diouf, the second presidents of Cameroon and Senegal respectively.

Cameroon's defence and security costs. Ahidjo was not a leading figure of the independence movement, but instead seen as a moderate and his path to power had been assisted by the French, who had banned the growing "radical", anti-colonial UPC party, forcing its leaders into exile.<sup>259</sup> Helleiner (2003) argues that, as a consequence, the leaders of CFA member countries held less nationalistic ideologies relative to other African states, and approached independence in a less aggressive manner. These close links between political figures helped preserve the CFA franc arrangement following independence. Moreover, those countries that rejected or threatened to reject the post-colonial monetary order pursued by France were made examples of.

### 3.7.2 Coercion in the post-independence period

Upon independence, Guinea opted out of the French community, which included a rejection of the CFA franc. Its avowedly Marxist president Sékou Touré famously informed de Gaulle that "there is no dignity without freedom. We prefer freedom in poverty to opulence in slavery".<sup>260</sup> Touré believed French businesses were exploiting cheap raw materials and foodstuffs, and that Guinea would be better off on its own.<sup>261</sup> De Gaulle responded by withdrawing all financial aid and almost all French expatriates left the country. This removal of external support, replaced only partially by Soviet aid, hit the economy hard. The government changed the currency four times between 1960 and 1972.<sup>262</sup> Having been replaced by the Guinean syli, the Guinean franc was reintroduced in 1985.

The measures taken by France are starkly illustrated in the memoirs of Maurice Robert, who was head of the African division of the External Documentation and Counter-Espionage Service (SDECE) from 1958 to 1968. Following Guinea's decision to break away from France, he described the French response:

*"We had to destabilise Sékou Touré, to make him vulnerable, unpopular and to facilitate the taking of power by the opposition...With the help of Guinean exiles who had taken refuge in Senegal, we also organised opposition fighters in Fouta-Djalou. Supervision was provided by French experts in clandestine operations. We armed and trained these opponents, many of whom were Fulani, to develop a climate of insecurity in Guinea and, if possible, to overthrow Sékou Touré...Among these destabilising actions, I can cite operation "Persil", for example, which*

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<sup>259</sup> Fanso (2010), p.287.

<sup>260</sup> Cited in Hallett (1974).

<sup>261</sup> O'Connor (1972), p. 413.

<sup>262</sup> Kaba (1977), p. 32.

*consisted of introducing a large quantity of counterfeit Guinean banknotes with the goal of destabilising the economy.*<sup>263</sup>

Guinea's socialist neighbour Mali also instituted its own currency in 1962, set at parity with the CFA franc. The French-backed PSP party had lost power at independence and, under Modibo Keita, the new government sought to reduce its aid dependence on France, instead developing ties with the Soviet bloc.<sup>264</sup> Keita had stated that "history teaches us...that monetary power is inseparable from national sovereignty" and that "despite its independence, Mali finds itself in a position of close economic dependence vis-à-vis the former colonial power".<sup>265</sup> However, within five years it had suffered monetary crises due to rising debts and domestic policy mistakes, and resorted to monetary financing of deficits.<sup>266</sup> In 1967, after devaluing the Malian franc by half, it sought readmission to what was then the UMOA (*Union Monétaire Ouest-Africaine*). Although the French Treasury supported the convertibility of the Malian franc to the French franc from 1968 onwards, as well as resuming aid payments, it was not until 1984 that Mali formally readopted the CFA franc.<sup>267</sup>

These were not the only countries to express concerns about pursuing a currency regime so closely linked to France. Pigeaud and Sylla (2018) describe the mooted plans for a Togolese franc under the first president, Sylvanus Olympio, who was considered by France to be "*anti-français*". They note that Olympio agreed for Togo to remain a part of the franc zone, but only with more flexible rules. With France unwilling to compromise, a law was promulgated in December 1962 to establish a central bank and a national currency. But the Togolese franc never materialised, as Olympio was assassinated the following month, and plans were scrapped under his more *pro-français* successor. Even the first Nigeran president, Hamani Diori, who was seen to have close ties with France – France had previously banned all political parties with the exception of Diori's PPN – said in 1962

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<sup>263</sup> Le Monde Diplomatique article "Opération Persil", April-May 2018. Original: "Nous devons déstabiliser Sékou Touré, le rendre vulnérable, impopulaire et faciliter la prise du pouvoir par l'opposition... Avec l'aide d'exilés guinéens réfugiés au Sénégal, nous avons aussi organisé des maquis d'opposition dans le Fouta-Djalon. L'encadrement était assuré par des experts français en opérations clandestines. Nous avons armé et entraîné ces opposants guinéens, dont beaucoup étaient des Peuls, pour qu'ils développent un climat d'insécurité en Guinée et, si possible, qu'ils renversent Sékou Touré... Parmi ces actions de déstabilisation, je peux citer l'opération « Persil », par exemple, qui a consisté à introduire dans le pays une grande quantité de faux billets de banque guinéens dans le but de déséquilibrer l'économie."

<sup>264</sup> Guillaume and Stasavage (2000), p.1402.

<sup>265</sup> Pigeaud and Sylla (2018). Original: "L'histoire nous enseigne... que le pouvoir monétaire est inséparable de la souveraineté nationale" and "Malgré son accession à l'indépendance, le Mali se trouve encore dans une position d'étroite dépendance économique vis-à-vis de l'ex-puissance coloniale."

<sup>266</sup> Yansané (1978), p.445.

<sup>267</sup> Crum (1984) argues the main factors for such a delay were political, notably the coup d'état in late 1968 and the frontier dispute with Burkina Faso over the Oudalan region.

that the franc zone “has succeeded in keeping African countries in a unilateral economic dependency, incompatible with the notion of national sovereignty”.<sup>268</sup>

The context of Guinea and Mali’s exits can be compared with the short-lived ruble zone formed after the break-up of the Soviet Union, a common currency arrangement for the 15 post-Soviet states. Abdelal (2003) argues that nationalism and national identity were the driving factors for countries exiting the ruble zone, leading to its dissolution. He states that only where these political notions were weak and fragmented did countries look to persist with the ruble zone, focusing instead on economic factors such as subsidised energy supplies. At one end of the spectrum, Estonia had aggressively pursued independence and wanted their own currency at practically any cost,<sup>269</sup> backed by a strong unified sense of national identity. For the country, and other Baltic states, the ruble represented continued Russian imperialism (indeed, the banknotes still bore Lenin’s portrait). At the opposite end of the spectrum was a country like Kazakhstan, which had a weaker, more fragmented nationalist movement. It was instead ruled by a pro-Russian government that championed the economic benefits of the zone over notions of sovereignty,<sup>270</sup> and whose eventual forced departure from the zone was reluctant, as Russia effectively pulled the plug on the arrangement in 1993. The difference with the CFA zones is that in the latter there were enough post-independence leaders who chose – if only for the sake of their own political survival – the economic and military security offered by France over full sovereignty, allowing the CFA institution to endure.<sup>271</sup>

### 3.7.3 A changing of the guard

Given the longevity of most influential post-independence presidents in the region – such as Houphouët-Boigny (1960-1993), Senghor (1960-1980), Ahidjo (1960-1982) in the three largest economies – and their close links to France, it was comparatively easy for France to maintain its

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<sup>268</sup> Pigeaud and Sylla (2018), p.10-11. Original: “[La zone franc] a abouti à maintenir les pays africains dans une dépendance économique a caractère unilatéral et par là même incompatible avec la notion de souveraineté nationale.”

<sup>269</sup> “Estonians used to say that they would live off potato peelings if that were the cost of independence.” (Abdelal, 2003, p.101).

<sup>270</sup> President Nazarbayev in 1993 said that countries in the zone would have to “sacrifice some of their sovereignty in this case for the sake of improving the living standards of their peoples and strengthening the ruble”. (Alexandrov (1999), cited in Abdelal (2003), p.122).

<sup>271</sup> In post-independence Sub-Saharan Africa, Helleiner (2003) writes that the “economic nationalism” pursued by nationalist leaders tended to involve more reckless management of public finances, with governments often resorting to central bank financing of development projects, ultimately leading to inflationary crises. If CFA departure was driven to some extent by nationalist governments, then this could be an explanation for why monetary crises were more frequent for non-members. While this has some appeal as a theory, Stasavage (2003a) notes that a number of CFA countries pursued economic nationalism without exiting the currency union.

influence in Francophone Africa. However, by the 1990s, while the CFA franc arrangement continued to play a role as a form of institutional support for bilateral relations, the close personal ties between political elites had reduced considerably. A number of key figures from the independence era had either died, retired from politics or had a much less active political role, such as Jacques Foccart, who had been central in maintaining France's *pre carré* in its former colonies under successive presidents.

Stasavage (2003b) emphasises the Balladur and Jospin governments in France in the 1990s as a turning point for the “Franco-African transnational coalition”. These prime ministers had minimal personal ties to the African continent, as did the officials they appointed, and they closed a door on the Foccart era. On this theme, Martin (2002) describes six events that were symbolic of France's new African policy: “the passing away of Houphouët-Boigny and Foccart; the *La Baule* doctrine; the Abidjan doctrine and the devaluation of the CFA franc; French setbacks in the Great Lakes region; the Zaire/Democratic Republic of the Congo/DRC *débauche*; the Franco-South African *rapprochement*; and French immigration policy”.<sup>272</sup>

### **3.7.4 Present day relations: reduced political will?**

Today, the sensibility towards post-colonial structures is somewhat different from the 1960s, and the CFA arrangement faces greater scrutiny. A stark example of this came in January 2019 when Italian deputy prime minister Luigi Di Maio criticised France's role in the arrangement during a debate over migration into Europe. He argued that France exploits CFA member countries and “prevents development” with this “colonial currency”, arguing that the reserves at the French Treasury are used to finance French public debt. He also claimed:

*“If France didn't have the African colonies, which it is impoverishing, it would be the 15<sup>th</sup> biggest economy in the world and instead it's among the leaders because of what it is doing in Africa.”*<sup>273</sup>

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<sup>272</sup> Martin (2002), p.84.

<sup>273</sup> La Stampa article ‘Di Maio accusa la Francia di colonialismo, ambasciatore d'Italia convocato a Parigi’, 21 January 2019. Original: “Se la Francia non avesse le colonie africane, che sta impoverendo, sarebbe la 15/a forza economica internazionale e invece è tra le prime per quello che sta combinando in Africa.”

This was used to call out the supposed hypocritical moralising of France after it had criticised Italy for refusing to allow rescue boats carrying migrants to dock.<sup>274</sup> This put the CFA franc in the spotlight of Western geopolitics and media, if only briefly. Section 3.6.1 explains why the argument that the CFA arrangement is financing France's public debt is unconvincing, but this misses the point. What is more important is the fact that France was forced to defend itself on a policy that is such an obvious link to its colonial past.

Giorgioni (2018) writes that there are reasons to question the political will of France to continue to support the arrangement. Firstly, the liability to the French Treasury will rise as financial development increases; secondly, the pressure on Eurozone countries' budget deficits has tightened; and lastly, he notes a dwindling French media interest in the CFA franc zones (although this is arguably no longer the case), as well as a gradual fall in development aid to the region from France.

As the CFA franc was originally implemented as part of France's colonial policy, there will always be an inherently political angle to France's role, along with an expectation of responsibility. This may mean that support will remain until a unilateral decision is made by CFA member countries to end the arrangement. Indeed, upon his election in 2017, French president Emmanuel Macron said that the future of the CFA franc should be determined by the African countries.<sup>275</sup> In 2019, French finance minister Bruno Le Maire said that it is "up to the member states of the franc zone to take the initiative".<sup>276</sup> This more explicit change of the French position culminated with the UEMOA reforms announced in December 2019.

As is discussed in the concluding part of this thesis, this political will is likely to be tested further if there is more serious talk of expanding UEMOA to include countries like Ghana and, in particular, Nigeria. This would greatly increase the financial burden and it is highly unlikely that France would agree to continue with its current role as guarantor in this enlarged zone (not to speak of the potential political complications of accepting Anglophone members) or that other Eurozone members would be willing to take on the burden.

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<sup>274</sup> Ibid.

[https://www.repubblica.it/politica/2019/01/21/news/di\\_maio\\_e\\_di\\_battista\\_all\\_attacco\\_della\\_francia\\_sfrutta\\_la\\_frica\\_va\\_sanzionata\\_-217090366/?refresh\\_ce](https://www.repubblica.it/politica/2019/01/21/news/di_maio_e_di_battista_all_attacco_della_francia_sfrutta_la_frica_va_sanzionata_-217090366/?refresh_ce).

<sup>275</sup> France 24 article *Macron's Africa tour: security, business and new French-African ties?*

<sup>276</sup> RFI article, *La France est ouverte à une reform ambitieuse du franc CFA*. Original: "L'initiative doit venir des États membres de la zone franc."

### 3.7.5 Rising local resistance

From the African perspective, Pigeaud and Sylla (2018) describe a growing, and more vocal, resistance to the institution of the CFA franc by the younger generation in West Africa from 2015 onwards. A video of Kémi Séba, a Senegalese activist, burning a 5,000 CFA franc banknote during a public protest in 2017 garnered significant media interest and was not an isolated incident. These protests are made more visible by social media networks.

But it is not just the youth that have been speaking out on the topic. In 2010, the former Senegalese president (2000-2012), Abdoulaye Wade, expressed his feeling that it was time to reassess the CFA franc and consider pursuing a monetary regime similar to non-CFA regional peers:

*“I believe that now, after 50 years of independence, we must look again at the monetary situation. If we recover our monetary power, we will manage better. Ghana has its own money and manages it well; it’s also the case with Mauritania and Gambia, who finance their own economies.”*<sup>277</sup>

In 2016, Carlos Lopes, then-executive secretary of the UN Economic Commission for Africa, described the CFA arrangement as an “outdated mechanism”, saying “there is something wrong with the CFA franc. No country in the world has an unchanged monetary policy for 30 years.”<sup>278</sup>

This changing attitude is not ubiquitous however, as some leaders have continued to support the arrangement. In 2016, referencing the long period of low inflation and a stable external balance, Alassane Ouattara – president of the largest CFA economy, Côte d’Ivoire – asked “what more do we want?”<sup>279</sup>

The political rhetoric towards the CFA franc arrangement has evidently transformed since the independence era described in Section 3.7.1. As has been described, this is true from the perspective of France, the CFA countries, and beyond. There has been a weakening of the Franco-

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<sup>277</sup> Monde Diplomatique article ‘Le franc CFA en sursis’, July 2010. Original: “J’estime que maintenant, après cinquante ans d’indépendance, il faut revoir la gestion monétaire. Si nous récupérons notre pouvoir monétaire, nous gérerons mieux. Le Ghana a sa propre monnaie et la gère bien; c’est le cas aussi de la Mauritanie, de la Gambie qui financent leurs propres économies.”

<sup>278</sup> BBC article ‘Franc CFA: Talon porte-voix de la France?’, November 2019. Original: “Un mécanisme désuet...il y a quelque chose qui cloche avec le franc CFA. Aucun pays au monde ne peut avoir une politique monétaire immuable depuis 30 ans.”

<sup>279</sup> 2016 interview with Le Monde titled ‘ADO à propos du franc CFA.’ Original: “Mais, écoutez, qu’est-ce que nous voulons d’autre?” Pigeaud and Sylla (2018) suggest that little will change while Ouattara remains president, given his amicable relations with France.

African political ties that have helped preserve it and suppress criticism, as a new generation of politicians have emerged who are less compelled by historical ties. If the French political will to preserve the arrangement is fading, it is difficult to gauge what this would mean in the event where it has to effectuate the guarantee, as a lack of data points means that it is not clear how unconditional the guarantee is. Past actions can provide some guidance, such as the Operations Account deficits of the 1980s, but given the changing perception of the CFA franc and France's role and influence with regards to its former colonies, it is likely that the response set has changed over time. Combined with an increasingly vocal resistance within the CFA zones, it is evident that there has been a significant weakening in the broader political buttresses that have enabled the arrangement to persist.

### **3.8 Conclusion**

This chapter has considered how the economic and political motives for the CFA franc arrangement have changed over time. The evidence provided implies that a number of the factors that had justified the continuation of the CFA franc throughout the post-independence era have now receded to varying degrees.

The reliance of CFA member countries on France for aid and trade has considerably reduced, while France's business interests have become increasingly concentrated in other parts of Africa, and beyond. Although its recent military interventions highlight the continued role it plays in regional security, it seems that this aspect of French foreign policy is gradually softening, albeit very slowly. Meanwhile, the sacrifice of monetary and exchange rate policies remains as relevant as ever. As the economies have become more open, external shocks (typically commodity price movements) remain a principal threat to economic stability, and financial sector development is increasing across the continent, albeit slowly. On the other side of the coin, there is ample evidence that national currencies have become more viable over time, even if a number of challenges still remain for so-called 'fragile states'. I argue that the trade-off between price stability and flexibility presented by the CFA arrangement has become less favourable. Lastly, and perhaps most importantly, the political structures that supported the CFA institution have transformed and there are a number of explicit indications that the political will to sustain the arrangement has somewhat faded.

The 2019 UEMOA reforms announced by Macron and Ouattara are a significant development, but it is not clear where the CFA arrangement goes from here. These reforms could mark the beginning of the end for Franco-African monetary co-operation, if this is the first step towards severing the integral link to the French balance sheet. This would firmly put the responsibility of exchange rate management and credibility in the hands of member states, achieving full monetary sovereignty. Alternatively, by making relatively piecemeal concessions, France may have taken pragmatic steps to ensure that this monetary co-operation will endure.

The lack of clarity is compounded by the use of *eco* as the name of the ‘new’ currency. This had been the planned name for a common currency in the West African Monetary Zone – consisting of non-CFA countries – which would then merge with the countries in UEMOA to form a single currency for ECOWAS. Several questions thus emerge: Is this an acknowledgement that the WAMZ project is a non-starter? Is this the first step before other West African countries join the prospective ‘*ecozone*’? How involved in these reforms were non-CFA ECOWAS member states, in particular Nigeria? How does France view its role as guarantor vis-à-vis plans to increase the number of countries in UEMOA? The answers to some of these questions will likely emerge over the coming years, as hopefully will greater clarity over the future monetary configuration of West Africa, as well as that of CEMAC.

The concluding part of this thesis looks at the implications of this chapter, as well as Chapters One and Two, and what they mean for the future direction of the CFA franc zones and the broader region’s monetary geography. Even if it is becoming increasingly difficult to justify the continuation of such an arrangement, an alternative must first be sought. Deciding what this should be is a difficult task – as economic arguments and political visions may not necessarily point to the same solution – while implementing such a radical regime change will be even more challenging.

### 3.9 Appendix A – currency crises in SSA

The Ilzetzki, Reinhart and Rogoff (2017) classification of exchange rate arrangements includes a ‘freely falling’ category, which corresponds to a 12-month inflation rate in excess of 40 percent. From 1971 to 2015, tracking the post-Bretton Woods era, there were 33 separate instances of freely falling exchange rates in Sub-Saharan Africa.<sup>280</sup> I define an episode of monetary instability as ending only when the country experiences three consecutive years of not being classified as freely falling. The average length of these episodes is 6 years, but is driven by a few chronic cases, as the median is much lower at just 2 years.<sup>281</sup> None of these instances involves any of the 14 CFA member countries.

#### Periods of freely falling exchange rate experiences in SSA, 1970-2015

Angola	1991-2004
Democratic Republic of Congo	1975-2002, 2009
Ethiopia	2008
The Gambia	1986
Ghana	1974-83, 1986-87, 1990, 1994-6, 2000
Kenya	1992-3
Liberia	1998
Madagascar	1994-5
Malawi	1994, 1998-9
Nigeria	1983-4, 1991-5, 2015
Rwanda	1994
São Tomé & Príncipe	1988-91, 1994-7
Sierra Leone	1982-91, 1997
Somalia	1980-
Sudan	1991-6, 2012-3
Tanzania	1974, 1984, 1992-3
Uganda	1984-6, 1990-2
Zambia	1985-2001
Zimbabwe	1991-2008

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<sup>280</sup> The number of cases in each year is shown in Figure 3.3 in Section 3.4.3.

<sup>281</sup> This doesn't include incomplete episodes, with Somalia being the standout case, having experienced this monetary instability since 1980.

## Appendix B: Zimbabwe – fiscal dominance and full dollarization

After the extraordinary hyperinflation episode in the 2000s, the Zimbabwean dollar was officially abandoned as the sovereign currency in 2009. Although five foreign currencies<sup>282</sup> were authorised as legal tender to replace it, the US dollar quickly began to predominate as the *de facto* currency of Zimbabwe. The new regime was very successful at first: inflation stabilised almost immediately, settling below 5 percent; the banking sector quickly remonetised as confidence in money was revived; while real GDP soared 60 percent over 2009-2013.

However, after this initial period, growing trade and fiscal deficits started to emerge, which put significant strain on the inflexible dollarized regime. Following a sustained appreciation of the US dollar against the rand, the real exchange rate became significantly overvalued, as approximately 75 percent of exports were going to South Africa.<sup>283</sup> The resulting trade deficit meant a flow of US dollars out of the country. This currency outflow was exacerbated by weak levels of foreign investment, diaspora remittances and foreign aid. This quickly led to a severe cash shortage, symbolised by the long queues of residents outside banks.

With no recourse to seigniorage, the government resorted to financing its deficits through the creation of quasi-currency instruments – electronic money deposited into bank accounts that could not be physically withdrawn – as well as far exceeding its stated borrowing limit from the central bank. This led to a rapid increase in the size of the monetary base. Unsurprisingly, private agents increasingly called into question the credibility of the new unbacked alternative currency. As structural imbalances persisted and the cash situation deteriorated further, the parallel market premium between US dollars and the electronic money started to widen significantly. Inflation spiralled out of control, exceeding 500 percent by the end of 2019. In June 2019, the government abandoned the dollarised regime, adopting a new domestic currency as sole legal tender.

The failed Zimbabwean experience captures the fragile – and arguably transient – stability that full dollarization provides. In exchange for price stabilisation, the monetary and fiscal authorities are effectively straitjacketed. The Zimbabwean government had to commit to maintaining a balanced budget and a stable current account, but this was not practicable under the circumstances. Dollarisation should have prevented fiscal dominance, but the central authorities achieved a

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<sup>282</sup> US dollar, South African rand, Botswanan pula, pound sterling, and the euro.

<sup>283</sup> Mlambo, K. (2018) 'Central Banking in a Dollarised Environment: Insights from Zimbabwe' Distinguished Guest Lecture, Centre for Global Finance, SOAS University of London, 9th October 2018.

monetary financing through the back door via the creation of quasi-currency instruments. While the printing method was different, this fiscal dominance was reminiscent of the country's 2000s hyperinflation episode. Although all crises have their idiosyncrasies, the Zimbabwean experience calls into question the long-term sustainability of such a measure, given the vulnerability to external shocks and lack of available policy response.

## Cutting the Gordian knot: will the CFA arrangement be abandoned?

*“We must have the courage to say that the time has come to cut the cord that is preventing Africa from taking off.”*  
Idriss Déby, President of Chad (2015)<sup>284</sup>

In this final section, I discuss the future of the CFA franc zones. I attempt to shed light on some of the unanswered questions that conclude Chapter Three by evaluating the feasibility and desirability of potential radical reforms to the CFA franc arrangement. In particular, the focus is on those reforms that would remove the monetary dependency on France by severing the formal link to the French balance sheet.

### 2019 reforms

In the history of the CFA franc, the December 2019 announcement of proposed changes to the arrangement was a hugely symbolic moment. It appeared to mark a decisive change in the relationship between France and its former colonies, with the CFA franc arrangement seen by some as the archetypal symbol of neo-colonialism. However, there are reasons to view these proposals with a cynical eye, and to question how much of the link between France and UEMOA is truly being severed.

On the face of it, the changes appear little more than cosmetic: a name change, swapping a French representative on the central bank board for a French-nominated “independent” representative, and effectively relocating foreign exchange reserves from the French Treasury to another developed economy’s central bank. These changes could be seen as low-hanging fruit. For example, the central bank plays a relatively passive role, and so the impact of changing the board composition may be limited. Moreover, France is more likely to be concerned about the total foreign exchange reserves at BCEAO, rather than the amount held in its Treasury. It appears that France will still track the daily level of reserves, which are much easier to monitor than historically, while the benefit it accrues from reserves held at the Operations Account is negligible relative to the size of the French economy and budget, despite claims to the contrary.

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<sup>284</sup> Afrik.com article ‘Idriss Déby appelle les pays africains à se débarrasser du Franc CFA’. Original: “Mais il faudra avoir le courage de dire que le moment est venu de couper un cordon qui empêche l’Afrique de décoller.”

All that is not to say that these actions are meaningless. The first name change in 75 years is symbolic, as it sheds the CFA acronym that originally stood for *Colonies Françaises d’Afrique*. The closure of the BCEAO’s Operations Account and subsequent removal of reserves from the French Treasury also marks the end of an era. UEMOA states now have greater autonomy in their daily management of monetary matters, even if it is not obvious that this creates genuine additional monetary policy space and freedoms. In fact, these changes cover some of the key concerns that have been flagged by social movements against the CFA franc, as the following quote from Pigeaud and Sylla (2018) presciently shows:

*[These “anti-franc” groups] no longer want the CFA franc name nor that the currency is printed in France. They ask for the removal of the Operations Account and an end to French presence at the regional central bank.”*<sup>285</sup>

In May 2020, France issued a co-operation agreement between itself and the UEMOA member governments, in which it reiterated it would no longer appoint representatives to the board of BCEAO or the UEMOA banking commission. It stressed that “France’s role is therefore changing to become that of a simple financial guarantor”.<sup>286</sup> But this guarantee is not only the defining characteristic of the CFA arrangement, it is also by far the most influential, whether pertaining to its effect on economic outcomes and policy flexibility, or to more abstract notions of sovereignty.

Critics will continue to point to the defects of an arrangement that presents an inflexible exchange rate, capital flight and a restriction on the extension of credit to the economies. Crucially, the external guarantee of the exchange rate remains in place. Monetary stability in UEMOA will still be anchored by France and, like its predecessor, the ‘eco’ will be underwritten by the French balance sheet. Just like half a decade earlier, it will still rely on this support to lend credibility to its value. The post-independence monetary paths taken by a country depended on whether it severed the link to the former colonial power’s balance sheet; this determined the convergent paths taken by CFA countries and non-CFA countries. This defining feature has not changed with these proposed reforms and, ultimately, monetary sovereignty cannot be claimed until it does.

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<sup>285</sup> Original: “Ils ne veulent plus du nom franc CFA et souhaitent que les signes monétaires ne soient plus fabriqués en France. Ils demandent la suppression des comptes d’opérations et la fin de la présence française dans les banques centrales.” pp.190

<sup>286</sup> <https://www.gouvernement.fr/conseil-des-ministres/2020-05-20/accord-de-cooperation-entre-la-france-et-les-gouvernements-d>. Original: “La place de la France se transforme donc pour devenir celle d’un simple garant financier.”

### **A status quo bias?**

The changing nature of the relationship between France and the CFA member countries has been presented in the previous chapter. The key takeaway is that the economic rationale for such an arrangement appears to be much weaker than it might have been in previous decades, while political support for the currency appears to have faded on both sides. However, overcoming the inertia of the status quo is not a trivial undertaking. For over 70 years the CFA franc has circulated in West and Central Africa, and for 60 years within independent countries. The life expectancy of the current arrangement has been questioned a number of times in the past,<sup>287</sup> but it has shown remarkable resilience. The 2019 reforms are so striking precisely because so few reforms have taken place in the currency's lifetime, despite the constant controversy surrounding the arrangement. As discussed, these reforms are not trivial, but for now they ensure the core underpinnings of the CFA arrangement remain in place.

Rather than considering whether or not an institution such as the CFA franc should ever have been created, the question today is whether it should be radically reformed, or even abolished entirely. These are two very different questions, due to the inherent status quo bias of political systems and policymaking. Fernandez and Rodrik (1991), for instance, show why certain reforms that may be supported *ex post* may not be supported *ex ante*, in particular when it is difficult to predict which parts of the economy will gain or lose from reform. Whilst it may be easy to argue that certain members of the urban elite will lose out from abolishing the CFA, there is considerable uncertainty about the broader distributional impacts that would materialise post-reform. It is not just unclear how a changed exchange rate regime would affect different sectors of the economy and different members of society, but the consequences of dissolving explicit (and implicit) ties with France could also be wide-ranging. The *sui generis* nature of the CFA arrangement compounds this uncertainty.

A status quo bias can also emerge when those who gain from the status quo are the strongest politically, and are thus incentivised to form blocking coalitions to prevent or delay reforms. This has been widely considered as one of the key factors sustaining the CFA arrangement, and more specifically was seen as playing a key role in delaying the eventual currency devaluation in 1994.<sup>288</sup> Alesina and Drazen (1991) explain delayed stabilisations through a game of rational heterogeneous

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<sup>287</sup> "It seems quite possible in our view that in 20 years [the CFA franc zone] will no longer exist in its current form. While there may well be a currency union, perhaps with additional members, it seems more likely that it will not be pegged to the euro with the help of France." Masson and Pattillo (2004), pp.165.

<sup>288</sup> Stasavage (2003b), Chapter 4.

players, focusing on the “war of attrition” between different political and socioeconomic groups that results in political stalemate. Together, these ideas may help to explain why a more radical reform of the CFA arrangement has not been attempted.

### **What are the alternatives?**

This status quo bias hypothesis for the CFA franc arrangement is strengthened by the uncertainty and lack of consensus concerning what the preferred alternative monetary arrangement for the region would be. The relative preferences over potential alternative arrangements will depend on what is prioritised, be it regional integration; notions of sovereignty; monetary stability; policy flexibility; or future relations with France. If this inertia is to be surmounted and truly transformative reforms are to be pursued, then it needs to be accompanied by a credible plan. A brief evaluation of potential options shows where conflicts arise, as well as questions of desirability and feasibility.

#### *A conventional currency board*

By forfeiting the guarantee with France, the zones (assuming for now they stay intact) abandon the hitherto credible link between foreign reserves and the domestic money supply. The only way to maintain this would be through an adequately reserved currency board arrangement, effectively maintaining the external monetary anchor. The advantages of this would be finally severing the post-colonial link and establishing a new pan-African currency, as well as the ability to peg to the US dollar, if desired. However, this would come at some cost given the need to target much higher reserve levels, which may cause too much strain to bear. Reserve accumulation is made more challenging by the persistent trade and budgetary deficits, which, all else equal, may require greater debt issuance to reach desired reserve levels. In addition, this kind of regime may not represent the full monetary sovereignty that is central to the calls for reform, while policy restrictions would be even more severe than described in Section 3.5.

#### *A managed arrangement*

If a more conventional currency board-like arrangement is unpalatable, the burden of monetary credibility would be shifted to the local monetary authorities. If it was decided to pursue a fixed or managed peg against a basket of currencies, then the challenge is whether the regional monetary authorities are capable of managing this arrangement. The current regime can accommodate significant external and domestic imbalances because there is little threat of currency speculation. Without the French government balance sheet as a backstop, the markets will not be so lenient.

It is also not obvious that unshackled regional central banks would be able to implement policy independent from national fiscal policies.<sup>289</sup> Even in the eurozone, this separation is looking increasingly unconvincing relative to what was initially envisaged by the designers of the project. In reality, most advanced economies tacitly acknowledge the link, as politicians speak of combining loose fiscal policy with tight monetary policy, or vice versa.<sup>290</sup> Fears of a dependent central bank would be tempered by the fact that the regional central bank is facing many treasuries, rather than just one, but there is the risk that the largest economies – Côte d'Ivoire and Cameroon – dominate their respective zones.

The setting of the 'one size fits all' peg would also introduce a political element. The asymmetric business cycles, particularly in UEMOA, mean that different member states will require different exchange rate policy depending on the current state of the economy. Under the CFA regime, the exchange rate path is determined solely by external factors and so intra-zone wrangling is avoided, but this would change with greater discretion. The Gulf Cooperation Council (GCC) countries maintain a currency peg, predominantly to the US dollar,<sup>291</sup> but this is the only long-standing example of such an arrangement. While there are arguably more differences than similarities between the two blocs, CEMAC countries more closely resemble the GCC countries due to the heavy reliance on oil exports and greater homogeneity. One way to avoid debates over what is the appropriate level to set the peg would be to float the common currency, establishing a regime similar in spirit to the eurozone. Such a move would likely require some sort of pegged regime as an intermediary phase in order to smooth transition.

### *National currencies*

At the other extreme, another option is to dissolve the zones and create national currencies. This is less of a leap into the unknown in the longer term, as a lot is known about the challenges facing national currencies and national monetary policy. This would fully restore sovereignty over monetary matters and facilitate adjustments to relative price movements, with the prior discussion on non-CFA monetary experiences highly relevant. However, in certain cases, there may not yet

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<sup>289</sup> Masson and Pattillo (2004), p.64-65.

<sup>290</sup> "Theory and evidence suggest that tight fiscal policy and loose monetary policy is the right macroeconomic mix to help rebalance an economy in the state I've just described." From a 2012 speech by George Osborne, at the time UK Chancellor of the Exchequer, to the Lord Mayor's dinner for bankers and merchants of the City of London. <https://www.gov.uk/government/speeches/speech-by-the-chancellor-of-the-exchequer-rt-hon-george-osborne-mp-at-the-lord-mayors-dinner-for-bankers-and-merchants-of-the-city-of-london>.

<sup>291</sup> With the exception of Kuwait, which pegs to a basket of currencies.

be the state capacity and legitimacy to support a national currency, meaning that certain CFA countries – such as Niger, Chad, Central African Republic – may fare very differently outside the zones than more economically developed and politically stable countries, such as Senegal. As a result, such a transition may be extremely volatile for a protracted period, and would likely require considerable external support.

Beyond the risks that can come with monetary independence, this approach also appears to clash with the vision for greater regional integration. Pan-Africanists have been attracted to the idea of a common currency that is free of colonial links, but not necessarily a move to national currencies. As with the history of the euro, the political vision of regional leaders carries considerable weight. Yet, some advocates of CFA reform argue that national currencies are the best option from an economic perspective and believe that they are not inconsistent with greater regional solidarity and broader Pan-African projects.<sup>292</sup>

Nevertheless, as has been the case throughout the post-colonial history of the region, it is likely to be the political element that is the principle motive. Any potential reforms to the monetary institutions in Western and Central Africa will give substantial weight to the push for greater regional integration. This vision has driven the long-standing desire to create a monetary zone for non-CFA West African countries, and then merge this with UEMOA to create a common currency for West Africa.

#### *A single currency for ECOWAS*

First formally proposed in 2000, this ECOWAS single currency project has faced constant delays and little tangible progress has been made. It is perhaps the least practicable of all the options. As well as the enormous technical challenge to implement this project, such as harmonising banking legislation and creating a new central bank, it would require a treaty to be agreed between all the ECOWAS countries. Perhaps the most significant obstacle is Nigeria, which accounts for more than 70 percent of the region's GDP and so would effectively act as the anchor economy.

Nigeria's history of monetary indiscipline does not suggest it is equipped to perform this anchoring role. In addition, its presence as a major oil exporter among a number of oil importers underlines the fact that expanding UEMOA in such a way would increase the heterogeneity and business

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<sup>292</sup> Interview with Ndongo Samba Sylla on March 14<sup>th</sup> 2019 episode of the podcast *Money on the Left*. <https://mronline.org/2019/05/26/money-on-the-left-confronting-monetary-imperialism-in-francophone-africa/>.

cycle asymmetry in the union. In the last two decades, there has been little evidence to suggest that the countries will soon meet the four primary and six secondary convergence criteria set out by the West African Monetary Institute (WAMI).<sup>293</sup>

The December 2019 proposed reforms to UEMOA add a new dimension to the discussion, but the path towards an ECOWAS currency is still challenging. The name change of the West African CFA franc to eco (which has long been the proposed name for an ECOWAS currency) would imply that it is intended that other West African countries join UEMOA, growing its size beyond the current set of eight countries. But, it is extremely difficult to imagine France would ever extend its convertibility guarantee to Nigeria and Ghana, due to the size of their economies. It is also inconceivable that the non-CFA countries would sign up to an arrangement with such obvious colonial connotations. Indeed, Nana Akufo-Addo, the Ghanaian president, has cautiously welcomed the reforms and expressed a desire to join the proposed ‘ecozone’, but only if certain issues are resolved and they have explicitly opposed plans to maintain the peg to the euro.<sup>294</sup> It seems therefore that the growth of the eco would necessitate a termination of the explicit link to France, but it is clear this is not the only challenge in expanding the zone.

### **A protracted stalemate?**

In addition to the status quo bias, this conflict between the Pan-African vision and what is practicable may stall changes to the monetary configurations in Western and Central Africa. Of course, it is also plausible that UEMOA and CEMAC pursue different paths. In fact, this seems likely given the stark political and economic differences between the zones. In relative terms, moving in different directions would be reasonably straightforward, given the technical separation of the zones. This is borne out by the 2019 reforms to UEMOA, with no changes announced for CEMAC.

In terms of the bigger picture, the complex regional dynamic and conflicting economic and political motives may produce a prolonged period of stalemate, blocking the path for radical change. The path of least resistance may be a continuation of the CFA franc institution in its current form – with the tweaks set out in the December 2019 reforms – despite the evidence presented in this thesis which suggests that the justification for such an arrangement has weakened.

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<sup>293</sup> As part of ECOWAS, WAMI was set up in 2001 to drive the single currency project in West Africa.

<sup>294</sup> <http://www.presidency.gov.gh/index.php/briefing-room/press-releases/1463-declaration-by-the-government-of-the-republic-of-ghana-on-the-adoption-of-the-eco-by-uemoa>.

## Conclusion

The CFA franc arrangement is a complex institution that reflects the tensions between macroeconomic policy considerations, ambitions on regional integration and the reality of post-colonial international relations. In this thesis, an attempt has been made to examine the leading contemporary issues, in order to frame the modern-day debate in light of growing scrutiny on the arrangement.

Firstly, it looked at how the so-called resource curse hypothesis interacts with the fixed exchange rate that the zones' members face. This exchange rate restriction is imposed on member countries by the CFA arrangement and helps produce a stable monetary environment. However, it can potentially cause prolonged real exchange rate misalignment, which tends to be associated with inefficient resource allocation and weaker economic growth. The empirical results find that membership of a regional fixed exchange rate arrangement, and specifically the CFA franc zones, appears to have adversely affected the long-term gains to real GDP per capita resulting from a country's natural resource endowment.

The following chapter detailed the ways that the CFA arrangement influences fiscal policy. Explicitly, it analyses the response function of national fiscal policies in a setting where monetary policy is determined at a regional level and the exchange rate path is effectively determined by factors entirely exogenous to the entire economic region. It notes how conflicting, and potentially undesirable, incentives may arise within this framework, particularly when factoring in moral hazard considerations related to France's role as guarantor and debt relief programmes such as HIPC. Empirical findings suggest that fiscal policy in the CFA zones has been following an unsustainable path and that European-style fiscal rules have proved largely ineffective.

In Chapter Three, the analysis suggested that the factors supporting the existence of this *sui generis* Franco-African institution have receded considerably over the decades since the end of the colonial era. In particular, while the benefits to both sides have reduced, the policy costs of the arrangement – especially the loss of monetary and exchange rate policy – remain as relevant as ever. The performance of independent currencies in the region has improved considerably since the 1980s and 1990s, albeit with certain exceptions. Lastly, this post-colonial structure continues to look out of place, with France's paternalistic role perceived as increasingly anachronistic.

The topics covered in this thesis are by no means an exhaustive review of the CFA franc, as it is not possible to cover every way in which the CFA arrangement imposes itself on economic policies or outcomes – for better or for worse – nor its relationship with more profound questions of national sovereignty and post-colonial dependency. It is harder still to bring these arguments together for a conclusive verdict on the overall merits of the CFA franc as it stands today. However, the arguments and conclusions presented in this thesis make valuable contributions to discussions concerning the past, present and future of the arrangement.

In general, the conclusions of the three main chapters indicate a number of shortcomings of the CFA franc arrangement, and call into question the merits of sustaining the institution in its current form. The empirical findings in the first two chapters show that there can be adverse economic impacts resulting from the lack of policy flexibility afforded to member countries. The consequences of these restrictions may be direct – as shown in Chapter One through the inflexibility of external prices; or indirect – as seen in Chapter Two through the misaligned incentives of fiscal policy created by the loss of national monetary and exchange rate discretion. The final chapter complements this analysis, showing that a number of the more favourable elements associated with the arrangement have faded over the decades. Crucially, it also shows that the political backing to sustain the arrangement appears to have receded. But, a growing case against the CFA franc may not be enough to precipitate sweeping changes.

Owing to its longevity, the CFA franc is firmly woven into the political economy of (predominantly) francophone Western and Central Africa. Unpicking the stitches and abandoning the arrangement as it stands today would be a considerable undertaking, that would undoubtedly prove economically painful in the short run. The 2019 UEMOA reforms are a first step towards regaining some monetary *identity*, but it is not monetary *sovereignty* when the former colonial power remains the guarantor of the currency. Taking the next step and sacrificing the French guarantee would be far more significant than what has been announced so far. As there is no precedent, there is considerable uncertainty over how this transformation would be effected and the economic consequences of doing so. For now, the CFA franc arrangement remains in an existential crisis, as its stakeholders try to forge a new path that represents a radical step, without actually undergoing radical change.

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