THREE ESSAYS ON THE POLITICAL ECONOMY OF THE CFA FRANC

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University of Massachusetts Amherst

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THREE ESSAYS ON THE POLITICAL ECONOMY OF THE CFA FRANC

A Dissertation Presented

by

FRANCISCO PÉREZ

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 2022

Department of Economics
THREE ESSAYS ON THE POLITICAL ECONOMY OF
THE CFA FRANC

A Dissertation Presented
by
FRANCISCO PÉREZ

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James Heintz, Chair of the Faculty
Department of Economics
DEDICATION

To my father, Francisco Pérez Santiago, who always encouraged me to learn and study as much as I could. “For what you know,” he would constantly say, “is the one thing that can’t ever be taken from you.”
“l’Afrique se fera par la monnaie ou elle ne se fera pas.”

“Africa will forge itself through money or it won’t be forged at all”

Joseph Tchundjang Pouemi
I would like to express my deepest gratitude to my committee chair Dr. Léonce Nidkumana for his extraordinary support and patience. I would also like to thank my defense committee, Dr. Gerald Epstein, Dr. James Heintz and Dr. Joye Boyeman, for all the time they have invested in me and my research. Words cannot express my gratitude to the late Dr. Lisa Saunders who was an excellent mentor and role model.

Special thanks to my classmates for the late-night study sessions, the hours of lively discussion, and the steadfast moral support. Thanks should also go to my wonderful friends, Aaron Tanaka, Rafael Feliciano, Nischit Hegde, Sarah Howard, Roopal Patel, and Yves-Georges Joseph, who have helped me survive this process with their affection and good humor. I could never repay my friends and adopted family in West Africa for all they have given me.

I am deeply indebted to my family, my mother, Antonia, and sisters, Sugeni, Denise, Yajaira and Maria, who always encouraged me to pursue my dreams even when those dreams took me far away from them. My brother-in-law Jashaun Sadler has been a formative influence, helping to spark an interest in monetary affairs and African history at an early age. I would also like to thank my parents-in-law, Carlos Linares and Nidia Pulles Linares, who have generously provided the childcare necessary for me to finish this dissertation. My children, Zemi and Liro, have been a source of joy, wonder and inspiration. Lastly, I could not have undertaken this journey without my spouse, Natalia Linares. This Ph.D. belongs as much to her as to me.
ABSTRACT

THREE ESSAYS ON THE POLITICAL ECONOMY OF THE CFA FRANC

SEPTEMBER 2022

FRANCISCO PÉREZ
A.B., HARVARD UNIVERSITY
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Directed by: Professor Léonce Nidkumana

This dissertation is organized into three essays. The second essay provides a historical overview of the CFA franc and explores why the CFA franc has survived for so long. It argues that a historical and dialectical materialist analysis of the CFA’s history can best explain both its extraordinary longevity and the periodic major reforms to its functioning. The third essay assesses whether the Central Bank of West African States (BCEAO) has an independent monetary policy by examining the relationships between BCEAO’s foreign reserves and base money, and between BCEAO and the European Central Banks’s policy rates. The fourth essay evaluates whether the monetary policy transmission mechanism in West Africa is effective by estimating the impact of a change in policy rates and base money on inflation and commercial bank lending. The results of this study suggest that BCEAO is only weakly constrained by its peg to the euro and that it cannot reliably control inflation.
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INTRODUCTION

After being largely confined to technocratic debates for the last 25 years, the CFA franc has once again become the subject of popular controversy (Pigeaud & Sylla, 2021). In September 2017, Senegalese authorities arrested the activist Kemi Seba after he symbolically burned a 5,000 CFA franc note. Several months later, “in June 2018, 10 musicians from seven African countries released a song entitled 7 minutes contre le CFA to mobilise opposition to the common currency” (Taylor, 2019, p. 1). In February 2019, Ousmane Sonko ran for President of Senegal on an anti-CFA franc platform. Although he came in third in the first round of voting he did galvanize significant youth support, and is expected to be a strong contender in the next presidential election in 2024 (Millecamps, 2021). This is the context for the surprising announcement by Presidents Macron of France and Ouattara of Côte d’Ivoire of a package of reforms to the CFA franc in December 2019.

The CFA franc is the common currency of fourteen West and Central African countries and has been pegged to the French franc since its inception in 1945—and since 1999 to the euro. The Banque centrale des Etats de l’Afrique de l’ouest (Central Bank of West African States or BCEAO) issues the CFA franc (XOF) in the Union économique et monétaire ouest-africaine (West African Economic and Monetary Union or UEMOA) comprising Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Sénégal and Togo. The Banque centrale des Etats de l’Afrique centrale (Central Bank of Central Africa or BCEAC) issues the CFA franc (XAF) in the Communauté économique et monétaire de l’Afrique centrale (Central African Economic and Monetary Community or CEMAC) comprising Cameroon, Central African Republic, Chad, Congo-Brazzaville, Equatorial Guinea and Gabon. The CFA franc
is the world’s longest-lasting fixed exchange rate agreement, as well as the oldest surviving multilateral currency union.

One of the major points of contention among economists and policymakers is the impact of the CFA’s peg to the euro on West and Central African economies. Advocates argue the peg serves as an effective nominal anchor for inflation in the CFA zone, and encourages greater trade and investment with the Eurozone and between CFA member countries (Tchatchouang, 2015). Critics point to the danger of real exchange rate overvaluation and reduced competitiveness of exports, the loss of monetary policy and easier capital flight (Nubukpo, 2007a; Nubukpo et al., 2016; Pigeaud & Sylla, 2021; Pouémi, 2000).

This dissertation will assess one of these major criticisms of the CFA’s peg to the euro: whether it leads to complete loss of an independent monetary policy. It will focus on the UEMOA since it is currently at the center of debate, and seeks to answer the following questions: Why has the CFA franc survived for sixty years after formal independence? Is monetary policy solely devoted to maintaining the fixed exchange rate to the euro or can West African policymakers attain other macroeconomic objectives? More importantly, does having an independent monetary policy even matter? There is strong evidence that monetary policy fails to reliably influence economic growth and price stability in many low- and middle-income countries (Mishra & Montiel, 2013). Consequently, is BCEAO’s current monetary policy framework effective?

The second essay of this dissertation provides a historical overview of the CFA franc and explores why the CFA franc has survived for so long. It argues that a historical and dialectical materialist analysis of the CFA’s history can best explain both its extraordinary longevity and the periodic major reforms to its functioning. The third essay assesses whether BCEAO has an independent monetary policy by examining the relationships between BCEAO’s foreign reserves and base money, and between BCEAO and the European Central Banks’s policy rates. It also estimates
a “monetary policy reaction function” to examine if there are other determinants of BCEAO policy rates than ECB policy rates. The fourth essay evaluates whether the monetary policy transmission mechanism in West Africa is effective by estimating the impact of a change in policy rates and base money on inflation and commercial bank lending. The results of this study suggest that BCEAO is only weakly constrained by its peg to the euro and that it cannot reliably control inflation with its current instruments. The fifth essay concludes with a discussion of the implications of these results for the debates over how to reform the CFA franc.
CHAPTER 1

AN ENDURING NEO-COLONIAL ALLIANCE:
THE HISTORY OF THE CFA FRANC

1.1 Introduction

The CFA franc and its peg to the FF/euro has survived for 60 years because it is part of a larger neo-colonial alliance between political and economic elites in France and West and Central Africa. It is the financial counterpart to the tight political and military links between the French state and its former colonies in Africa. Since 1960, French governments have consistently provided vital support to authoritarian African regimes and undermined progressive governments that sought greater autonomy. “These arrangements, dubbed ‘la Françafrique,’ remained almost untouched...no matter who ruled in the Élysée Palace,” and have sparked a lively debate on the possible rationales for the French government’s behavior (Haski, 2013).

This essay argues that a Marxist understanding of imperialism can best explain the CFA’s longevity, and its survival at three turning points in its history: first, nominal independence in 1960, second, challenges to its legitimacy in the early 1970s, and, third, the climactic devaluation of 1994.

This essay extends Marxist theories of imperialism in a novel way by examining the interplay of “capitalist” and “territorialist logics” of state power in both France and Africa (Arrighi 2010; Amin 1990). It adds a historical case study to the literature on Marxist theories of imperialism, and to the debates on the continuing relevance of dependency theory, especially in international finance (Brewer, 1990; Harvey, 2013; Kvangraven, 2020; Sylla & Koddenbrock, 2019; Vernengo, 2006). It analyzes the
CFA franc as a case study of modern capitalist imperialism, the continued exploita-
tion by firms based in North America, Western Europe, and Japan of the labor and
natural resources of the Global South without formal political control. It follows in
the dependency tradition, recognizing the fundamental asymmetry of power and la-
bor productivity between the capitalist “core”—so-called “advanced” economies—and
the periphery—or “developing” economies (I. Wallerstein, 2004). Moreover, studies
of modern imperialism tend to focus on the aims of imperialist nations, ignoring or
downplaying the agency of political and business leaders in peripheral nations. This
essay seeks to correct this Eurocentric bias by placing greater emphasis on the incen-
tives and constraints informing the choices of Africa’s leaders. The current reform
efforts underway in West Africa make these contributions timely and valuable.

Arrighi (2010, p. 34) defines “[‘capitalism’ and ‘territorialism’ as opposite modes
of rule or logics of power,” but Harvey identifies how the two coexist in dialectical
tension within the modern state. Harvey (2013, p. 26) defines “capitalist imperialism”
as:

a contradictory fusion of the ‘politics of state and empire’ (imperial-
ism as a distinctively political project on the part of actors whose power
is based in command of a territory and a capacity to mobilize its human
and natural resources towards political, economic and military ends) and
‘the molecular processes of capital accumulation in space and time’ (impe-
rialism as a diffuse political-economic process in time in which command
over and use of capital takes primacy).

For core states, therefore, imperialism can take the form of political domination of
peripheral regions—whether formally through annexation or informally as “spheres of
influence”—and/or economic domination via unequal trade, migration, and financial
relationships.

Amin (1990) posits a similar dialectic (or dilemma) for peripheral elites, they can
choose “national bourgeois” development strategy that emphasizes national economic
development via state-led industrialization, or a “comprador bourgeois” strategy pri-
oritizing short-term profitability which leads to an alliance with foreign capital and
a (neo)liberal policy regime. Amin’s distinction between nationalist and comprador bourgeoisie can be thought of as territorialist and capitalist logics adapted to peripheral societies, with territorialism equivalent to “developmentalism” or “economic nationalism” and capitalist logic similar to a comprador orientation.

The CFA persists because French elites have mostly followed a territorialist logic and African elites a capitalist logic for the last six decades. For decades, critics of the CFA have decried this “extraversion,” the outward orientation of African elites, for hindering long-term growth prospects in West and Central Africa (Amin, 1972, 1974; Nubukpo, 2007b). Yet, French governments have conceded to capitalist logic at times, most dramatically with devaluation of CFA and introduction of the “Balladur Doctrine” in 1994. Similarly, West and Central African governments tried to reorient the CFA in a more territorialist/developmentalist direction in the 1970s. Pressure from the International Monetary Fund (IMF), World Bank and the French Treasury following the sovereign debt crisis of the 1980s, convinced most African leaders to accept neoliberal reform—a reassertion of capitalist logic. Advocates of reforming the UEMOA are currently trying to push the region’s monetary policy in a more territorialist/developmentalist direction. The Franco-African neo-colonial alliance has, so far, successfully suppressed efforts at greater political and economic autonomy in Africa. The CFA’s peg to the euro will therefore persist as long as this alliance does; until France decides to abandon its sphere of influence in Africa or African leaders seek greater autonomy and/or new allies.

The first section of this essay outlines the different theories that seek to explain the CFA’s survival and describes the Marxist framework this essay will apply to the CFA’s history, understanding the actions of French and African political elites through the dialectic of territorialist and capitalist logics. The second section recounts the colonial roots of the CFA franc in French territorialism. The third section describes the origin of the modern CFA as a key part of la Françafrique (French neo-colonialism) in the
1950s and 1960s through the initial choices of French elites for a territorial logic and African elites for a capitalist logic. The fourth section describes the shift towards more territorialism/developmentalism in CFA zone in the 1970s, as African elites’ opting for a more territorialist logic was accommodated by French territorialism. The fifth section describes the long debt crisis of the 1980s, and the reassertion of capitalist logic in both France and the CFA zone. The sixth section discusses neoliberal reform of the CFA in the 1990s and 2000s, as a return to the initial framework animating the CFA of French territorial logic and African capitalist logic. The essay concludes with a discussion of a possible fourth turning point in the history of CFA, as African civil society increasingly presses for more territorial/developmental logic from political leaders, potentially threatening the CFA’s future.

1.2 Explaining the CFA’s Durability

There are various theories as to why CFA endures, and the CFA has attracted a wide array of critics. Economists favorable to the CFA focus on the extraordinary monetary stability it has provided for low-income African countries (Guillaumont Jeanneney & Guillaumont, 2017). Yet low inflation, has failed to spur growth or investment in much of the CFA zone. Adherents of public choice theory point to the corruption of African politicians and civil servants (Monga & Tchatchouang, 1996; N’Guessan, 1996). Many critics of the convertibility guarantee—usually left-wing—stress the benefits to French business of monopolistic control of African markets and natural resources (Martin, 1985, 1986; Nubukpo et al., 2016). Other critics doubt that there any significant economic gains to be made in dominating a group of small, poor countries—and see French neo-colonialism as driven mainly by political factors (Chipman, 1989). Others deny even those political benefits and point to more idiosyncratic factors like close personal ties among French and African political leaders immediately before and after independence in 1960 (Stasavage, 2003). This
essay argues that the CFA’s longevity is best explained by the choice of French elites as the ruling class of a middle-ranking power to pursue a territorial strategy, while African elites have repeatedly a close alliance with foreign capital and the stability it provides, weakening the prospects for economic development in the CFA zone in the process.

The framework developed by Marxist scholars Giovanni Arrighi (2010) and David Harvey (2013), positing a dialectical relationship between capitalist and territorialist logics animating states’ pursuit of imperial expansion better explains the behavior of the French government in Africa. Left-wing critics too often assume a perfect union between the interests of imperial states and foreign capital and ignore how the two can conflict. Those who contend that French neo-colonialism is mostly or entirely motivated by political concerns make the opposite mistake. They make a simplistic distinction between the politics and economics of empire, and misunderstand how the two are always intertwined, and serve to shape and limit one another.

Although both governments and business may seek to expand, they face different constraints, which can lead the pursuit of profit to diverge from the quest for power. Statesmen act within a comparatively stable political order where power is often a zero-sum game, while capital accumulation is potentially endless, is fraught with recurrent crises, and is not fixed in place. Moreover, the capitalist is only responsible to himself and his shareholders, while statesmen are accountable to some broader social groups or classes (first line of Table 1.1).

Most studies of Marxist imperialism focus on the actions of imperialist (or core) governments, overlooking how (neo)colonial (or peripheral) elites can choose to resist or collaborate with imperialist projects. Amin (1990) explains how peripheral elites can choose to be a “national” or “comprador” bourgeoisie. I re-interpret these different strategies as the choice of peripheral elites to follow their own version of territorialist or capitalist logic. Choosing to follow capitalist logic or a comprador
strategy, typically leads to an alliance with foreign capital which maximizes domestic elites’ returns in the short-term and the external value of their financial assets in the long-term. These comprador bourgeoisies then become junior partners to foreign capital in the exploitation of domestic labor and natural resources. Following a territorialist logic implies a form of state-led development that encourages them to invest in domestic production, not necessarily where returns are higher. Basically, peripheral elites can choose to pursue their short-term, class interests or their longer-term, national interests (second line of Table 1.1). Emphasizing the agency of peripheral elites does not imply that they have as much power as French elites. The basic asymmetry between core and peripheral nations remains. Core nations being those with significant foreign military bases and investments, and peripheral nations those unable to project such military and financial power abroad.

Table 1.1: Territorialist and Capitalist Logics

<table>
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<th>Territorialist Logic</th>
<th>Capitalist Logic</th>
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<td>Core</td>
<td>Control of foreign territory</td>
</tr>
<tr>
<td>Periphery</td>
<td>State-led development</td>
</tr>
<tr>
<td></td>
<td>Maximize returns on foreign investment</td>
</tr>
<tr>
<td></td>
<td>Maximize external value of wealth</td>
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The choices of each side, core elites and or peripheral elites, interact to determine the nature of economic relationships between the two. If peripheral elites choose to pursue a territorialist or developmentalist strategy they are likely to encounter imperialist resistance. Whether imperialists are choosing to maximize their profits regardless of location or to concentrate their efforts in maintaining a sphere of influence, they will generally resist any attempts by a peripheral state to restrict their profit-making activities in their territory. If territorialist logic dominates the imperial state, however, then the imperialist may in exceptional cases accommodate the developmentalist drive in subordinated states. For example, during the Cold War the United States allowed its allies in Germany, Japan, South Korea, and Taiwan to
form strong developmental states that became capitalist rivals for geostrategic reasons (Amin, 1990; Pérez, 2021). As this essay details, the French government made a similar choice in the 1970s, conceding to the modest territorialist desires of their client states in Africa—and the elites that dominate them—in order to preserve their sphere of influence in Africa. Low-income but large countries like China and India, also have greater political space for their developmentalist ambitions given their military power.

If peripheral elites choose to become the clients of a specific nation-state and its capitalists, then a stable sphere of influence is formed. If, instead, they choose a fully neoliberal accumulation strategy then they open their economy to trade and investment with all imperialist/foreign capital. This essay argues that the CFA survives because the French have chosen a territorialist strategy and the African elites a comprador strategy, creating and sustaining a stable French sphere of influence in Africa, the infamous French “pré-carre” (backyard) in Africa.

The interaction between territorialist and capitalist logics in Africa and France has determined the last dialectic, that of money. Economic theory typically presents this as the inflation-output trade-off in macroeconomic policy. Expansionary monetary and fiscal policies increase output at the expense of higher inflation, while contractionary policies reduce inflation at the cost of lower output. Advocates of price stability advocate for “sound” money policies, while those economists that prioritize employment argue that finance should be “functional” (Lerner, 1943). A similar divide has existed since beginning of modern banking and monetary policy, with the “Currency School” in early 19th century England advocating for sound finance, while the “Banking School” pushed for functional finance (Kindleberger, 1996).

For peripheral countries this dialectic presents itself as a “stability-development” tradeoff (Epstein, 2007). In fixing the exchange rate to the euro, the CFA member governments have opted for stability over development (Devarajan & Rodrik, 1991). Those CFA member governments that have tried to re-orient policy towards a more
nationalist economic development strategy have been frequently overthrown by the French military and intelligence services. This neo-colonial alliance—the French state largely following territorial logic, and CFA governments capitalist logic—has been strong and flexible enough to survive for six decades.

These are dialectical relationships, or contradictory unities, and are therefore complex and dynamic Harvey (2007). They are contradictory in that they can be represented as dilemmas or trade-offs; pursuing or favoring one goal comes at the expense of achieving the other. To lower inflation may require lower output (e.g. the gains of labor come at the expense of capital). But they are also unities, in the sense that one cannot exist without the other (e.g. capitalists cannot exist without workers). For imperialists, territorialist and capitalist logics may coincide as with the domination of mineral rich countries—like French investment in oil extraction in Gabon. They may also be separated or even contradict like the political domination of poor countries with few opportunities for profitable investment by core nations—like the French sphere of influence in Benin—or the large foreign investments by core nations in countries where they have limited political influence—like French investment in China.

Often there is a temporal dimension to these dialectics. For example, in the long-run in peripheral nations, territorialist logic—some form of state-led development—is necessary for capitalism to flourish. Stability and development may conflict in the short-term. For example, peripheral governments facing large, unsustainable current account deficits often have to sacrifice employment and output in order to stabilize inflation and exchange rates. But in the long-term, these governments cannot have development without stability—civil wars lead to poverty—or stability without development—poverty leads to civil wars. As a result, these dialectical contradictions can generate cyclical behavior; with policy regimes swinging from one pole to the other, from prizing stability to development and back.
Shifts by French and African elites from one pole to the other explain the evolution of the CFA across the three major turning points identified by Stasavage (2003) in its history: the decision to maintain it at independence in early 1960s, the decision to “Africanize” the banks and give them a greater development role in early 1970s, and the neoliberal reform era in the mid to late 1990s. The diversifying of trade and investment partners by France and CFA members threatens their alliance. The Marxian political economy model of international finance developed here, predicts that were French elites to pursue a more capitalist strategy—choosing to invest where returns are highest—or African elites a more territorialist/developmentalist strategy—choosing to protect domestic markets and gear the financial system towards local long-term productive investment—the CFA franc’s peg to the euro would not survive.

Other theories cannot explain why the CFA has lasted for so long, or why it has changed. The CFA’s endurance cannot be explained by an inert and self-serving bureaucracy at the two regional central banks (N’Guessan, 1996). The ouster of Governor Philippe-Henri Dakoury-Tabley in 2011 demonstrates that ultimately BCEAO officials serve at the will of member governments, especially the most powerful ones. While personal ties between French and African elites are crucial, Stasavage’s (2003) argument implies that the CFA should have ended when the last members of the generation of French and African elites that established la Françafrique—men like Félix Houphouët-Boigny, François Mitterrand, Omar Bongo, and Jacques Foccart—passed away in the 1990s and 2000s. Instead la Françafrique was able to renew itself with new members like Robert Bourgi and Blaise Compaoré, indicating that forces more systematic than personal ties are at play in the persistence of the CFA franc.

Nor can the CFA franc’s existence be reduced solely to political considerations—the delusions of grandeur by a middle-ranking world power (Chipman, 1989)—or to the desire of French capital to maintain exclusive access to Africa’s natural resources.
(Martin, 1985, 1986). A dialectical and historical materialist analysis allows for political and economic interests to coincide and to deviate, capturing the full complexity of Franco-African relations from the rise of modern European colonialism in the 1880s to the present. French economic and political interests may be served at the same time when its satellites in Africa are growing rapidly—like Côte d’Ivoire in the 1960s—or possess strategic natural resources—like uranium in Niger. These interests may clash, as in expensive military interventions in countries with small economies and few natural resources—like Chad in the 1980s—or French investment in African nations outside its sphere of influence—like Nigeria and South Africa.

The same convergence and divergence of political and economic interests, territorialist and capitalist logics, also apply to peripheral nations. For example, the success of “Ivorian state capitalism,” the post-colonial alliance between Ivorian state-owned enterprises and French capital, meant Ivorian elites could follow a territorialist and capitalist logic. The subsequent decades of debt crisis and civil war, did force them to choose between a figuring out a different model of state-led development—territorialist logic—and safeguarding the external value of their assets through the CFA franc’s peg to the FF/euro—capitalist logic. They chose to maintain the CFA and sacrifice economic development for stability. As a result, average inflation (4.2 and 7.7 percent) and average GDP per capita growth (-0.7 vs. 0.3 percent) have been lower than the African average from 1980 to 2019. According to the World Bank, Côte d’Ivoire did not regain the real GDP per capita level it had in 1980 until 2008.

Finally, many studies by economists focus exclusively on the inflation-output trade-off in macroeconomic policy when evaluating the CFA franc, and merely allude to (or blithely ignore) the history of the political, military and diplomatic alliances

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1World Development Indicators, accessed July 2, 2020
and conflicts between France and the CFA member states (Guillaumont Jeanneney & Guillaumont, 2017). Without this historical context, any analysis of the CFA remains incomplete. A historical and dialectical materialist understanding of neocolonialism in West and Central Africa can, therefore, best explain the rise, evolution and potential dissolution of the CFA’s peg to the FF/euro.

1.3 A Colonial Currency

From small enclaves on the Algerian coast and the mouth of Senegal River in the mid-19th century, the French empire extended to include a huge portion of the African continent several times the size of France. Eventually, France’s sub-Saharan African empire was organized into twelve territories and two regions, Afrique Occidentale Française (French West Africa or AOF) with its capital in Dakar and Afrique Equatoriale Française (French Equatorial Africa or AEF) with its capital at Brazzaville (Manning, 1999). French colonial policy in late 19th century was territorial in the most literal sense. Amin (1974) notes that during the imperialist “scramble for Africa,” the British tried to conquer the most densely populated—and hence profitable—areas of West Africa—notably the Niger River delta—while the French claimed the vast Sahara desert.

Precolonial currencies in West and Central Africa were divided into “universal” money—first gold, later cowry shells—used for long distance trade, and “local commodity money”—for example, iron bars, copper, and cloth—used for exchange within the same political unit (Pouémi, 2000). French colonial authorities first tried to demonetize these tokens then impose French francs as a means of payment. They were able to replace cowries quickly but local commodity money like iron bars were still in use until 1940s, since there were few small-denomination FF bills and coins in circulation. To deal with this shortage, the French eventually introduced token bronze and
aluminum tokens in the 1930s (Banque Centrale des États de l’Afrique de l’Ouest, 2000).

French colonial authorities created the Banque du Sénégal (Bank of Senegal)—which would eventually become the BCEAO—in 1852 with part of the indemnity paid to former slaveowners after the abolition of slavery set aside to provide seed capital for the bank. The Bank of Senegal had the exclusive right to issue banknotes in Senegal although these were not legal tender—French merchants could reject them as payment. The Bank was privately owned by French settlers and other colonial interests and was meant to finance the colonial trade—the infamous économie de traite (or trading economy). It discounted bills of exchange and other forms of short-term trade credits with the personal guarantee of two or more French merchants—who would literally “underwrite” or sign their names on the contracts. The imposition of taxes payable in French francs encouraged cash crop production. As typical in colonial monocrop economies—peanuts from Senegal and Mali were three quarters of exports until the 1920s—the money supply exhibited strong seasonality. Cash and bank deposits were scarce before the planting season and plentiful right after harvest (Banque Centrale des États de l’Afrique de l’Ouest, 2000).

The French empire in West and Central Africa grew tremendously in the 1890s prompting a reordering of the Bank of Senegal into the Banque de l’Afrique de l’ouest (Bank of West Africa or BAO). The Bank remained privately-owned although under greater state regulation. Its notes became legal tender, and it had to maintain reserves of one-third of the monetary base. The currency boards set up by French colonial authorities were significantly different from those created by the British in that they could hold domestic assets and had an overdraft facility from the imperial Treasury. During the Third Republic, the Treasury was the banker to local governments in France (Jacquemot 2017). In the 1930s, the French government turned to imperial autarky, severely limiting movement of goods and capital in and out of its empire,
in preparation for war. As a result of this turn towards greater state control of the colonial economy, French authorities nationalized the BAO in 1932, converting it into a public agency (Gerardin 1989; Banque centrale des États de l’Afrique de l’Ouest 2000).

1.4 A Neo-Colonial Currency (1945-1965)

Unlike elsewhere on the continent were political elites were more eager to break ties with their former colonists, political elites in most former French colonies decided to maintain close links with the French government (I. M. Wallerstein, 2006). The CFA survived independence because the de Gaulle Administration (1958-1968) pursued a territorial strategy, while independence leaders privileged continuity and stability—capitalist logic. Those more nationalist regimes in Mali, Guinea-Conakry and Togo that attempted to leave the French sphere of influence were punished or overthrown.

French colonial authorities had long insisted on using FF in the colonies, while the British and others had settled on using distinct colonial currencies with a fixed exchange rate to the imperial currency. European colonial officials had seen how fluctuations of the relative price of gold and silver wreaked havoc between their gold-based empires and their Asian silver-based colonies. But although it made sense to fix the exchange rate to reduce transaction costs and exchange rate risks, many colonial officials felt it did not make sense to use metropolitan currencies in colonies. They feared the possible destabilizing effects on the exchange rate of loose monetary policy in the colonies and the sudden repatriation of large sums of currency to Europe (Helleiner, 2002). After long resisting the creation of colonial currencies, French authorities decided to create a separate currency for the AEF and AOF since inflation had been much higher in occupied France during World War II than in West and Central Africa (Gerardin, 1989). Consequently, on December 26, 1945 when the French government
formally adopted the Bretton Woods agreement, colonial authorities registered a new currency with the nascent IMF, the *franc de colonies françaises d’Afrique* (franc of French African Colonies or CFA franc).

For its first few years the CFA franc’s exchange rate to the FF did vary. In 1955, BAO was eventually replaced by two issuing institutions one for each regional group of colonies, including mandate territories acquired from Germany after World War I—Togo and Cameroon. Initially one CFA franc was worth 1.7 French francs. Between 1945 and 1948, the exchange rate was changed several times until finally settling at the rate of one CFA franc for two FF, where it would remain until 1994. While adjustable rates better reflected the shifts in economic conditions in France and its African colonies, colonial authorities preferred the predictability of a fixed rate.

In addition, French authorities launched the *Fonds d’investissements pour le développement economique et social* (Investment Fund for Social and Economic Development or FIDES), a relatively large—much larger than anything pre-WWII—series of public investments in large-scale, top-down development projects in 1946. Later post-colonial state-led industrialization drives were inspired by the FIDES model (Austen, 2003; Manning, 1999).

The extraordinarily close ties between French and African elites, unlike those in Portuguese, Belgian or British empires, is the historical basis for the CFA and la Françafrique. Residents in four communes—small colonial enclaves—in Senegal had parliamentary representation in Paris since 1848. After World War II, the French government extended limited citizenship rights to the rest of AOF and AEF (Manning, 1999). African MPs were a key swing vote in parliament during the Fourth Republic, and several served as ministers in its chaotic, short-lived governments. Leaders like

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2The FF was redenominated in January so that 100 FF = 50 CFA francs = 1 *nouveau franc*
Léopold Sédhar Senghor and Félix Houphouët-Boigny, the first Presidents of Sénégal and Côte d’Ivoire, respectively, formed close personal ties with leading French politicians and bureaucrats like Mitterrand during this time (Stasavage 2003).

In the late 1950s, during the transition to the Fifth Republic under the leadership of Charles de Gaulle, French elites decided to formally decolonize but still maintain a sphere of influence in West and Central Africa. De Gaulle’s government insisted on (secret) defense and monetary accords with the newly independent governments of the former AOF and AEF, restricting their room for maneuver on foreign, military and economic policies. In addition, conservative African leaders felt political independence was premature, and preferred to maintain close links with the French government. As a result, sovereignty for the newly “independent” states was therefore severely limited. For example, French advisers served as government ministers for several years after formal independence.

The French state has pursued a largely territorialist imperial strategy in Africa. A strategy appropriate for a middle ranking power (Chipman, 1989). Their former European imperial rivals in Africa—the British, Belgian, and Portuguese— either pursued more capitalist strategies or failed territorialist ones. The Portuguese aimed for formal political control for a long time, being ousted only after long independence wars in Angola, Mozambique and Guinea-Bissau. Portuguese capital may have been too weak compared to its European rivals to maintain an informal empire, making territorialism more attractive. Belgian support for separatist movements in the Congo failed to establish a durable sphere of influence in Central Africa. British elites, opted, for a more capitalist form of imperial influence. Only the French elites had the desire and ability to continue tight political and economic links with their former colonies after formal independence.

De Gaulle and conservative African leaders successfully pushed for the political disintegration of its two regional colonial federations in West and Central Africa while
The French government thought it would be easier to dominate twelve small countries—all had less than three million inhabitants at the time—than two large ones (Manning, 1999). Conservative leaders in the more developed coastal colonies like Houphouët-Boigny, head of the wealthiest French colony in sub-Saharan Africa, did not want to subsidize the poorer colonies of the interior of AOF like Burkina Faso (then Upper Volta) and hence preferred the breakup of AOF. In contrast, pan-Africanist leaders and organizations advocated for political unity and fought for independence as two larger countries (I. M. Wallerstein, 2006).

By 1962 the governments of all the former members of AEF and AOF signed the treaties with France giving birth to the modern CFA franc. It was renamed at independence in 1960, while keeping the same acronym, becoming the franc de la communauté financière africaine (African financial community franc) in West Africa and franc de la coopération financière en Afrique centrale (financial cooperation in Central Africa franc) in Central Africa. The two central banks were also renamed but remained in Paris and under French management. The commercial banks in the newly independent countries were all subsidiaries of French banks.

The CFA zone’s operations since 1960 have been based on four basic rules: first, the regional central banks must maintain a fixed exchange rate to each other and the FF; two, governments must allow free mobility of capital throughout the zone; three, governments must pool their reserves in FF at an operations accounts kept by the two regional central banks at the French Treasury and; four, maintain a minimum reserve cover—the ratio of foreign reserves to the base money supply—of 20% (Veyrune, 2007). In return, the French Treasury offered to “guarantee” the convertibility of the CFA franc, committing to lend FF the two regional central banks in potentially unlimited quantities if they lacked the foreign reserves to maintain the fixed exchange rate. The two operations accounts held by the regional central banks with the French Treasury include an overdraft facility. The two regional central banks
would get a small return on their foreign reserve assets if their balance was positive but if it was negative they would have to pay an escalating penalty rate. In essence, the CFA zone governments traded monetary stability for monetary autonomy, ceding control to France of their “money supply, their monetary and financial regulations, their banking activities, their credit allocation and ultimately, their budgetary and economic policies” (Renou, 2002, p. 16). The De Gaulle administration’s willingness to continue supporting the CFA franc may have guaranteed its survival. While most other newly independent African countries quickly created their own domestic currencies, the governments of Tanzania, Uganda and Kenya also wanted to maintain their colonial common currency, the East African shilling. They failed to do so, therefore the East African experience serves as a interesting counterfactual to the CFA franc. The East African currency union collapsed due to disagreements among the member governments, but also because the British government never offered anything like the French convertibility guarantee to its former colonies (Masson & Pattillo, 2005; Perez, 2018).

With the Fifth Republic, French foreign policy shifted from parliamentary debates to the presidency. The new neo-colonial system was buttressed by the creation of two key institutions that would come to embody the territorialist logic within the French state, the Ministry of Cooperation and the Secretariat of African and Malagasy Affairs based out of l’Élysée. The Ministry of Cooperation, simply replaced the Ministry of Colonies. It and two subsidiary agencies the *Fonds d’aide et de coopération* (Aid and Cooperation Fund or FAC, successor to FIDES) and the *Caisse centrale de coopération économique* (Economic Cooperation Facility) worked exclusively with the former French colonies in Africa. Until the 1990s, the Ministry of Foreign Affairs was virtually shut out of the *pre-carré* in Africa. The Secretariat of African and Malagasy Affairs was designed to give African leaders direct access to the French president. The first Secretary was the notorious Jacques Foccart “a man who could
decide to overthrow a president or send French paratroopers to rescue one” (Haski, 2013). These coup d’états were often led in tragicomic fashion by the same mercenary, Robert “Bob” Denard, who personally led the overthrow of the government of the Comoros Island several times (Simons, 2007). Foccart and Houphouët-Boigny spoke regularly by phone for decades (Glaser & Smith, 1992). Foccart’s nickname “monsieur Afrique” would pass on to his successors as special advisers to the French President on African affairs.

Gabon is the paradigmatic case of La Françafrique. A small, mineral-rich country, French military and intelligence services were heavily involved in Gabonese politics to protect the interests of the French state-owned oil company, ELF. In Gabon, capitalist and territorialist logics of empire reinforced one another. Oil is a strategic military resource, and Gabonese deposits were considered even more important after the French lost access to Algerian crude oil after the long, bloody war of independence there. The French government supported Omar Bongo, who ruled Gabon from 1967 until his death in 2009. Bongo eventually became the “dean of la Françafrique” replacing Houphouët-Boigny (Glaser, 2014). His son Ali Bongo succeeded him as President and is still in power with French support.

In Togo, the French supported the assassination of the first president, Sylvanus Olympio, after he threatened to leave the CFA franc zone. Togo’s colonial elites had weaker links to France; Togo had been a German colony before WWI and Olympio had studied in the UK. He wanted Togo to create its own currency and peg it to the Deutschemark. In response, Olympio was quickly overthrown and murdered by the Togolese military. Gnassingbé Eyadema, a former soldier in the French colonial army, later consolidated power in 1967 and held it until his death in 2005. He too was succeeded by his son Gnassingbé Faure who remains in power with French support.

Guinea-Conakry was the only country to vote no in the referendum of 1958 asking residents of AEF and AOF if they wanted to join a looser federation with France.
Rejection meant opting for immediate independence, and won by an overwhelming margin. Humiliated, de Gaulle’s administration responded spitefully. The French intelligence services tried to sabotage Guinea’s economy by making the new Guinean franc worthless through the large-scale introduction of counterfeit bills (Pigeaud & Sylla, 2019).

Guinea’s first leader, Sékou Touré declared himself a Marxist-Leninist and flirted with the USSR and China, trying to play different world powers off one another. As Stasavage (2000) notes, unlike other independence leaders Touré had few personal ties to France. He had been a trade union leader and had studied in Prague not Paris. Still Touré never fully broke with West, maintaining ties to French and American capital still keen to exploit Guinea’s significant bauxite reserves. After he died in office in 1984, Guinea did rejoin the French political sphere but not the CFA franc zone.

In Mali, the government of Modibo Keita wanted to pursue a more developmentalist (territorialist) strategy leaving the CFA franc zone in 1962. Keita was one of the leaders of the more militant and Pan-Africanist wing of the anti-colonial movement, along with Touré and Kwame Nkrumah of Ghana (I. M. Wallerstein, 2006). Keita initially wanted a looser agreement with French, with greater autonomy within the franc zone. His government requested a _compte d’avance_, a line of credit or swap line, with the _Banque de France_. Like the operations account, a swap line offered emergency liquidity but unlike the operations account it would not have required Mali’s government to deposit its foreign reserves with the French Treasury. France had offered this less restrictive form of monetary cooperation to central banks in its former North African colonies—Morocco, Tunisia and Algeria (Gerardin, 1989). Despite his anticolonial rhetoric, Keita did not want to fully break with French due to both fears of the transition costs of such a rupture and the advantages of a more equitable form of monetary cooperation, one that increased not decreased policy space. The over-
draft facility in FF softens the balance of payments constraint (d’Almeida, 1999), and such “offsetting finance” (Helleiner, 1994) allows for greater economic planning. De Gualle’s government refused so the Malian government created its own central bank and currency.

The Malian franc was badly mismanaged, with excessive monetization of fiscal spending on wasteful projects and bloated public salaries leading to hyperinflation. An increasingly autocratic Keita was overthrown by the Malian military with French support in 1968—and died in prison in 1977. Soon thereafter the Malian government applied to rejoin the CFA franc zone. Its reentry was delayed until 1984, and in the meantime, the French government appointed the president of the Bank of Mali, which had its own operations account with the French Treasury. Ultimately, the Malian and Guinean experiences became cautionary tales for those governments tempted to exit the CFA and establish their own currencies (d’Almeida, 1999; Pigeaud & Sylla, 2021; Pouémi, 2000).

1.5 Developmentalist Reforms (1965-1980)

Growing criticism of its inflexibility and charges of neo-colonialism led to the first major reform of the CFA: the “Africanization” of the banks, a modest reorientation towards developmental finance and the exit of two members. The CFA survived because the French government decided to accommodate surging African territorialism, in order to maintain France’s sphere of influence in Africa.

Almost immediately after ratification of the monetary cooperation accords in 1962, critics warned that the CFA’s restrictive structure would hinder industrialization efforts. As a result, African leaders demanded more control over management of the regional central banks. This was an era where heavy state intervention in the economy was the norm (Austen, 2003). In the periphery, virtually all government opted for some form of state-led industrialization. The choice was between more state—a cen-
trally planned economy like Cuba or North Korea—or less state—a highly-regulated form of capitalism that Amin (1990) refers to as nationalist-populist regimes like those of Nehru in India or Nasser in Egypt. Post-WWII France itself was famous for its *dirigisme*. Although most of the former French colonies in sub-Saharan Africa had initially opted for “less state,” they too decided to push for greater state intervention in the economy, which required more control of credit allocation.

The breakdown of the Bretton Woods regime of fixed exchange rates in the early 1970s precipitated negotiations to reform the CFA franc zone. At the same time Madagascar and Mauritania made decisive, but less acrimonious exits than Guinea. Madagascar had a leftist military revolt and decided to leave the franc zone and create its own currency. Mauritania decided to introduce its own currency as part of its diplomatic reorientation towards the Arabic-speaking world.

The French government signed new accords with the CFA zone governments to “Africanize” the CFA franc’s management in 1972-3. The two central banks were moved from Paris to Dakar, Senegal and Yaoundé, Cameroon in the late 1970s and the number of French representatives on their boards was reduced. African governments would now have greater control over their foreign exchange reserves; the two regional central banks were only required to keep 65% of foreign reserves in FF with French Treasury down from 100%.

More importantly, the regional central banks were empowered to conduct “developmental finance” policies. They could make loans to governments worth 20% of the previous year’s fiscal revenue, and to commercial and development banks on concessional terms (Stasavage, 2003, p. 37). The new rules allowed for unlimited discounting of short-term (warehouse) credits to agriculture. National credit committees set different requirements on banks’ loan portfolios and interest rate ceilings to channel credit to priority sectors, all hallmarks of direct monetary policy (Epstein, 2007).
The French Treasury opposed the reforms, fearing that fiscal advances would encourage inflation, while the territorialist agencies saw them as necessary to placate their allies in Africa. Despite its displeasure with the reforms, since decisions at the boards of the central banks had to be made unanimously, the French Treasury retained effective veto power over monetary policy in the CFA zone (Martin, 1986, p. 217).

There had been calls for even greater autonomy within the CFA franc zone, and the reforms adopted in 1972-3 were seen as concessions by the French to preserve the currency union. For example, the UN adviser and Marxist economist Samir Amin, at the invitation of President Hamani Diori of Niger, proposed a looser form of currency union with distinct national currencies each pegged to a regional unit of account, as well as a regional clearinghouse for payments. National central banks could adjust these exchange rates to address major imbalances while reserves would still be pooled regionally. This would allow greater exchange rate flexibility while retaining regional solidarity (Amin, 2019). Although convinced that the CFA was a neo-colonial instrument, Amin, believed that eliminating the peg to the FF would not be enough to spur development since the problems were rooted in productive structures (Amin, 1974; d’Almeida, 1999). Diori was later overthrown when he demanded higher prices for Niger’s uranium from the French state-owned nuclear energy company.

The commercial banks in the CFA zone where owned by private European investors, and French and African states. In West Africa, “except Benin after 1972 and Guinea-Bissau, the banking system consists of subsidiaries of BNP (BICI), Société Générale, BIAO (controlled by SFOM, a financial holding by BNP), and Credit Lyonnais, as well as various public development or specialized banks” (Gulde & Tsanggarides, 2008). When other foreign banks wanted to operate in the CFA zone, they would form joint ventures with French banks to take advantages of the monetary ties to the FF (Vallée, 1989, p. 101). African governments also had large shares in local
affiliates of French banks, cementing the neo-colonial alliance. These banks were quite profitable since “the market share of the largest banks in each country ranges from 50 percent in Côte d’Ivoire to 100 percent in Guinea-Bissau” (Gulde & Tsangarides, 2008, p. 257).

The banking system in the CFA expanded quickly in the 1970s. Credit to the private sector as a percentage of GDP grew steadily in CFA zone, peaking in the late 1970s and early 1980s. It reached as high as 40% in Côte d’Ivoire (Figures 1.1 and 1.2). Commercial banks became more leveraged with loan portfolios two to three times the size of their deposits. The reforms had their intended effect of increasing financing to the private and public sectors.

In the 1970s Côte d’Ivoire became la vitrine de la France en Afrique (France’s showcase in Africa), after rapid growth of agricultural exports made it the third largest economy in sub-Saharan Africa—after Nigeria and South Africa. Houphouët-Boigny boasted of building Ivorian state capitalism, a joint venture of state-owned Ivorian firms and French capital. Côte d’Ivoire became one of the world’s largest cocoa producers, and a significant exporter of coffee and tropical fruits like pineapples. This massive commodity boom attracted millions of workers from its poorer, landlocked neighbors—Niger, Burkina, and Mali—as well, as thousands of French expats. Even ardent critics of the CFA franc like Pouémi (2000), were impressed by the “Ivorian miracle.” Amin (1974), however, was pessimistic, arguing that Côte d’Ivoire was merely replicating the experience of neighboring Ghana, which had a cocoa boom in the colonial era based on extensive growth that eventually collapsed and led to long term economic stagnation.

1.6 Debt Crisis and Devaluation (1980-1995)

The long sovereign debt crises of the 1980s and 1990s best illustrates the political economy of the CFA franc. African elites in the CFA zone were able to delay neolib-
Figure 1.1: Credit to Private Sector to GDP in UMEOA 1962-2020

Source: World Bank World Development Indicators
Figure 1.2: Credit to Private Sector to GDP in CEMAC 1962-2020

Source: World Development Indicators
eral restructuring and maintain access to luxury imports, while resisting attempts at democratization with French blessing. The French government had to yield to capitalist logic eventually but were still able to keep their favored governments Africa in power.

For the French government this meant cutting aid transfers to CFA governments and eventually imposing a large devaluation of the CFA franc. Nevertheless, those French agencies and officials most concerned with maintaining the sphere of influence were able to delay devaluation and democratization. African territorialism, like developmentalism in much of periphery, ended, yielding to capitalist logic.

Until the mid-1980s, the CFA zone was generally seen as performing well economically (Fielding, 2015, p. 190). Many economists believed that “The guaranteed convertibility of the CFA franc combined with its fixed parity to the French franc would provide a stable investment climate for both foreign and domestic investors, which in turn would contribute to economic growth and development” (Tchatchouang, 2015).

Inflation rates were lower in the CFA zone and growth rates higher than or comparable to the rest of sub-Saharan Africa. The zone held enough appeal that Equatorial Guinea, a small, oil-rich country became the first non-French former colony to join the currency union in 1984.

Starting in early 1980s most African economies suffered deep fiscal and balance of payments crises, leading to “lost decades” of development. Falling commodity prices in the starting in the late 1970s led to sharp recessions throughout the CFA zone. As export earnings fell, current account deficits grew even larger. Many African and Latin American governments had borrowed from Western banks at variable interest rates which rose dramatically when the Federal Reserve decided to hike the Federal Funds Rate—the famous “Volcker Shock”—to combat high inflation in the US. Consequently, external debt stocks and service soared. Subsequent attempts at internal devaluation via austerity led GDP per capita to fall across the region. Indeed, sev-
eral members of the CFA zone have either yet to return to the inflation-adjusted per
capita income level they had in the late 1970s and early 1980s—Cameroon, Central
African Republic, Côte d’Ivoire, Gabon and Niger—or took decades to recoup the
ground lost—Chad, Senegal and Togo (Figures 1.3 and 1.4).

The CFA treaty changes of 1972-3 were blamed for fueling the public and private
debt crises, since they allowed governments to borrow directly or indirectly from
the regional central banks and lowered credit standards to the private sector. For
example, “until 1990 the BCEAO had a constitutional obligation to refinance all
short run agricultural credit given to farmers by commercial banks. There was no
upper bound on this type of credit” (Fielding, 2015, p. 44).

Although there were safeguards designed to limit usage of the overdraft facility,
the 1980s was the only time in the CFA franc’s history that the operations accounts of
the two regional central banks had negative balances. The net foreign asset position
of the BCEAO began to decline in 1979 (de Macedo, 1985, p. 261), but the Treasury
used the foreign reserves generated by oil exports in Central Africa—in Cameroon,
Gabon and Equatorial Guinea—to offset West Africa’s deficits (van de Walle, 2007,
pp. 402–3). West Africa had a negative balance on its operations account from 1979
to 1985, with a peak of over 5 billion FF, then another smaller dip from 1988 to 1991.
Central Africa held up better due to oil export revenue but fell into a negative balance
from 1987 to 1990 and again from 1993 to 1995. These deficits were never as large
as those in West Africa. In 1988 when both accounts were overdrawn, the French
Treasury became alarmed and started pressuring Mitterrand for a devaluation of the
CFA franc to close the balance of payments deficits in the zone (Stasavage 2003).

The IMF recommended its typical remedy of devaluation to achieve trade balance,
high interest rates to stabilize value of currency and fiscal austerity to lower inflation
and assure repayment of foreign debt. Senegal’s loan agreement in 1979 with the
IMF made it a test case, as the IMF experimented with new medium-term “struc-
Figure 1.3: GDP per capita in constant US$ in UEMOA 1960-2020

Source: World Development Indicators
Figure 1.4: GDP per capita in constant US$ in CEMAC 1960-2020

Source: World Development Indicators
structural adjustment” loans tied to policy conditions instead of its usual standby loans. Cuts in civil servants’ wages and employment, typically the largest item in public budgets, were fiercely resisted. Devaluation would hurt political elites who consumed imported goods, and other key urban groups. The Senegalese government resisted implementation, and the IMF canceled the structural adjustment loan, replacing it with one-year standbys.

The IMF’s historically close ties to the French Treasury meant that it too represented the capitalist logic within the French state in discussions over the policy responses to the debt crisis in CFA zone. The careers of the two IMF chiefs during this period (1978-2000), Michel Camdessus and Jacques de Larosi`ere are instructive of the tight links between the French government and the IMF. In 1987, Camdessus and de Larosi`ere swapped positions; Camdessus left the Banque de France for the IMF, while de Larosi`ere left the IMF for the Banque de France. Both were former directors at the French Treasury.

African governments were reluctant to liberalize trade, cut government spending and devalue the CFA franc, and French government under Mitterrand decided to accommodate them for several years. Of course, “The ‘political’ ministries,” the Ministries of Cooperation and External Affairs, “remained more indulgent of Senegalese policy delays and lapses than the Treasury and the Caisse Centrale” (de Macedo, 2005). Although the CFA countries were not entirely spared “the rigors of adjustment, membership in the franc zone has conferred on the indebted francophone states, with respect to the medicines of the IMF and World Bank, a margin for maneuver that makes their situation sweeter than that of nations like Zambia or Ghana” (Vallée, 1989, p. 24). French policy softened the balance of payments constraint for its African client regimes, while other African economies were undergoing rapid neoliberal restructuring, since French political leaders prioritized the political stability of their allies.
The territorialist agencies also questioned the efficacy of devaluation. Exchange rate devaluation has contradictory effects: it hurts residents of a country as consumers by lowering their purchasing power but helps them as producers by making their exports more competitive. The Caisse argued that the first effect would certainly cause hardship by making the cost of basic imports like food and oil rise, while African economies did not have a manufacturing sector that would benefit from higher export prices. Most importantly, they asserted that demand and supply for Africa’s tropical agricultural products is price inelastic.

The French government preferred to extend grants and loans directly to CFA governments instead of indirectly through the operations account. For example, “Even in 1988, when the French Treasury was required to advance 2.3 billion French francs to fund operations accounts overdrafts for UEMOA and CEMAC, this was still only equivalent to about a quarter of French bilateral aid to the CFA states” (Stasavage, 2003, p. 40). France subsidized the budgets of governments in CFA zone from 1986 to 1993, but large aid flows were also part of larger regional trend during the “lost decades.” Indeed, “By 1996, excluding Nigeria and South Africa, the average African country received the equivalent of 12.3 percent of its GDP in [official development assistance] an international transfer that is unprecedented in historical terms” (van de Walle, 2007, p. 8). In addition, from 1989 to 1991, the Paris Club of bilateral creditors—led historically by the French Treasury—restructured the CFA countries’ debt.

There were fears that the first socialist President of the Fifth Republic, François Mitterrand, elected in May 1981 would begin to dismantle the institutions and networks of the Françafrique (Cowell, 1982; Vallée, 1989). Mitterrand’s opponent in the elections, the incumbent President Valéry Giscard d’Estaing became embroiled in scandal when he was caught illegally receiving diamonds as gifts from Jean Be-del Bokassa, the military dictator of the Central African Republic (French, 1996b;

The new socialist Minister of Cooperation, Jean-Pierre Cot, tried to reform the French aid system to focus more on development and to diversify France’s partners. Yet, Mitterrand had been Overseas Minister of Colonies in 1950 and his close personal connections with key African leaders, like Houphouët-Boigny, made him a leading figure in la Françafrique and an unlikely agent for change. Cot proposed creating individual currencies, pegged to the CFA, which would play a role like European Currency Unit did as a predecessor to euro, similar to in Amin’s earlier proposal. It would also have included other African countries, expanding France’s sphere of influence. The “neo-colonial lobby” led by the Presidents Bongo of Gabon and Houphouët-Boigny of Côte d’Ivoire and their allies in the French government mobilized to counter this challenge to the status quo. Mitterand’s second monsieur Afrique, Guy Penne, was not a diplomat, and believed his role was to advocate for francophone African presidents (Chipman, 1989; Martin, 1985; Renou, 2002; Stasavage, 2003; Vallée, 1989). In 1986, Mitterrand replaced Penne with his own son, Jean Christophe Mitterrand, nicknamed “papamadit” (or “daddy-told-me”) by the French press. Jean-Christophe was forced to resign in 1992 after being engulfed in a corruption scandal involving illegal arms trading with the authoritarian regime in Angola (Daley, 2001).

The one major political threat to La Françafrique during this time, the left-wing military regime of Thomas Sankara in Burkina Faso was overthrown after less than four years in power in 1987. Sankara, a charismatic, French-trained captain, led a military coup of younger officers frustrated with the status quo. He renamed the country—from Upper Volta to the “Land of Upright People”—criticized European imperialism, and promoted anti-corruption, gender equality and economic self-reliance (Verschave 1998). He also championed efforts for a Third World debt strike, attempting
to rally fellow leaders in Africa. In response, the Mitterrand and Houphouët-Boigny governments supported a coup d'état led by Sankara’s right-hand man, Blaise Compaoré. Sankara was murdered and Compaoré became a key pillar of La Françafrique. He ruled for 27 years, until he was finally forced from office in 2014 by a youth-led movement for democracy.

In 1993, World Bank and IMF unilaterally suspended CFA countries’ programs, except for Burkina Faso and Benin (*Rapport annuel de la Zone franc*, 1994, p. 25). Until mid-1992, the IMF and the French Treasury had been advocating vociferously for a devaluation, but African presidents were still able to block devaluation during negotiations with French political leaders. A parliamentary shake-up in France finally removed the last remaining political obstacles to devaluation. While there was growing pressure from IMF and World Bank, “it was above all the weakening of French interests favorable to the Francophone regimes that allowed the devaluation of 1994 to finally occur” (Stasavage, 2003, p. 155). Unlike outgoing Prime Minister Chirac, the new PM Edouard Balladur did not have ties to Françafrique networks. In September 1993, he declared the “Balladur Doctrine:” the French government would provide no further aid via the operations account or official aid until indebted CFA zone governments agreed to IMF loan conditionality (*Rapport annuel de la Zone franc*, 1994, p. 25). It is also notable that no action to devalue the CFA was taken until Houphouët-Boigny passed away in December 1993 (Manning, 1999, p. 184). Camdessus announced the devaluation after meeting with African heads of state on January 11, 1994. The CFA’s value was cut in half from 50 to 100 CFA per FF. Predictably, the devaluation sparked protests throughout the CFA zone against the sharp drop in real wages amidst deteriorating living standards (Noble, 1994).

Despite the Treasury’s alarm, the costs of maintaining the convertibility guarantee were low. IMF researchers argue that “Given the size of France compared to the CFA franc zone, it is clear that the resources available are sufficient to defend a parity
if France is willing to do so, and the 1994 devaluation was only necessary because France had decided that the real exchange rate was severely out of line” (Masson & Pattillo, 2005, p. X). Of course, the single time African governments did have to rely on the overdraft facility, the French Treasury imposed a devaluation rather than continue providing support, “What a strange guarantor that Treasury!” (Nubukpo et al., 2016, p. 109).

The devaluation was a clear shift towards capitalist logic within French policymaking circles. It was a clear signal “that France’s commitment to the cultural imperative of la francophonie no longer took precedence over the pursuit of economic self-interest in an increasingly competitive, post-cold war world” (Schraeder, 2000, p. 403). The shift towards capitalist logic, was also apparent at the 1996 Franco-African summit which included the largest number of representatives from anglophone and lusophone Africa. Even, then the Treasury and IMF did have to concede to the territorialists within the French government, who agreed to significant debt relief of 22 billion FF in 1994 as a face-saving measure for African presidents.

France’s military presence in Africa was also reorganized to strengthen its hold in the countries that were most important to French capital. For much of the period after independence, France’s “range and use of military power, which reflected political interests, was far out of proportion to the degree and importance of French economic interests” (Chipman, 1989, p. 188). Although it is debatable whether much of the CFA zone was of strategic interest, within the CFA zone French soldiers closely followed French capital. The New York Times reported that “Some countries where French troops are stationed, like the Ivory Coast and Gabon, represent rich markets for France or, like Niger and Chad, are current or potentially important sources of strategic resources such as uranium and oil” (French, 1996a).
1.7 Neoliberal Reforms (1995-2019)

The latest round of reforms in the 1990s returned the CFA franc to a form closer to its original, more restrictive structure. As in the 1960s, territorialist logic among French elites combined with capitalist logic among African elites, to reinforce France’s sphere of influence in West and Central Africa. The French Treasury is still guaranteeing the convertibility of the CFA, even after the French franc was replaced by the euro. Guinea-Bissau joined the West Africa CFA in 1996, while other countries like Ghana, Sierra Leone, Liberia, Nigeria were considered candidates for expansion. The reforms of the CFA treaties in 1999 were inspired by the Maastricht Treaty and the Eurozone’s architecture.

Starting in 1993, CFA governments liberalized the banking sector. As part of their “structural adjustment packages,” governments removed most direct controls on interest rates and credit. They also created Banking Commissions to better regulate the banks in UEMOA and CEMAC (Doumbia, 2013; Honohan, 1993).

The CFA zone also adopted a neoliberal monetary policy framework: with an independent central bank targeting inflation exclusively by setting the interest rate at which it lends reserves to commercial banks. Instead of direct controls the BCEAO now acts “through indirect bank liquidity regulating instruments, notably base rates, refinancing operations and reserve requirements mechanism to conduct monetary actions” (Rapport annuel, 2018, p. 51). Interest rate management requires “that attention should be paid to the development of short-term money markets, an issue that has been overshadowed by attention to stimulating directly long-term finance in the developing world” (Honohan & Caprio Jr., 1991). In 1993, the BCEAO first instituted reserve requirements. Monetary policy was no longer controlled by the Council of (Finance) Ministers but by a Monetary Policy Commission.

In 2001, the CFA was officially pegged to the euro when it replaced the FF (to arrive at the current rate of 1€=6.55957 FF=655.957 CFA francs). In the negotiations
to create the euro, the French government advocated to keep the operations accounts, arguing with the skeptical German government that it was a liability of the Treasury not the Banque de France therefore, it was a fiscal not monetary concern (d’Almeida, 1999). Germany did get the French to agree that any future enlargement of the CFA zone would require ECB approval.

In its bid to restore credibility after the long sovereign debt and banking crises, the BCEAO virtually stopped lending to banks and governments. In the 2000s, the BCEAO came closest to behaving like a currency board, reducing its domestic assets to a minimum. Between 1998 and 2003, the BCEAO also phased out advances to governments (article 16 of BCEAO statute), encouraging them to issue Treasury bills on the newly created regional securities exchange, the *Bourse Régionale de Valeurs Mobiliers*. Since 2010, most BCEAO credit to government has been in the form of purchasing Treasury bonds. In 2007, the BCEAO began regular open market operations in the form of liquidity auctions. Since 2011, the BCEAO loans to the banking sector have steadily increased from 300 billion to 4 trillion CFA. The bulk of BCEAO support is via weekly and monthly bills at auctions, with repo lending increasing to 1 trillion CFA in 2016.

The CFA zone has had consistently lower inflation relative to the rest of sub-Saharan Africa. Since 1999, annual inflation has been 1-5% lower than the median in Sub-Saharan Africa (Figure 1.5). Real GDP per capita in the CFA zone has always been lower than the rest of sub-Saharan Africa, starting more than $500 lower in 1960. The gap grew to a maximum of $600 by 1974 before falling to a minimum of $160 by 1986 (Figures1.6). Since growth performance improved in Africa starting in the mid-1990s, the gap widened to nearly $600 again by 2011 before falling below $500 by 2018.

La Françafrique, and with it the tradition of French political and military intervention in francophone Africa is still flourishing. Mitterrand’s successor Jacques
Figure 1.5: Inflation in CFA Zone and Sub-Saharan Africa 1999-2020

Sources: IMF International Financial Statistics, BCEAO

Chirac, for example, announced plans to reduce troop levels in Africa, and did close some bases from 1997 to 2002. But the French government still maintained major military bases in Gabon, Chad, Ivory Coat and Senegal, and smaller troop placements elsewhere in CFA zone, proof that territorialism remains the dominant strategy over the long-term. Chirac also aided Dennis Sassou Nguesso’s return to power in Congo-Brazaville by supporting his insurgency in return for oil contracts for French firms (French, 1997).

Nicolas Sarkozy promised to end Françafrique after his election in 2007, yet soon after intervened in the civil war in Côte d’Ivoire to support one of his friends, Alassane Ouattara following the disputed presidential election of 2010 (Aster, 2007; Howden
Ouattara is a former IMF and BCEAO official, a protégé of Houphouët-Boigny with ties to the French right-wing. French authorities tried to cut the Ivorian government’s access to its accounts at the BCEAO to force out the incumbent Laurent Gbagbo. In 2011, Sarkozy’s administration pushed for the ouster of the BCEAO governor, Henri-Phillippe Dacoury-Tabley, seen as pro-Gbagbo, and pressured French-owned banks in Côte d’Ivoire to stop operations. Finally, it cut off the Ivorian government’s access to international payments by shutting the operations account; “By proceeding in this fashion, French authorities proved that the operations account system could transform itself into a powerfully repressive
instrument: France could, using it, organize a terribly efficient financial embargo’” (Pigeaud & Sylla, 2021, p. 97).

In 2013, the previous French President, François Hollande sent French troops to Mali and the Central African Republic, in both cases to stem the advance of Northern Muslim rebels (Erlanger, 2013; Nossiter, 2014). In the last 25 years, the French military has intervened in civil wars in Congo-Brazzaville, Mali, Central African Republic and Côte d’Ivoire, and provided crucial support to long-ruling dictators in Cameroon, Chad, Congo-Brazzaville and Gabon.

The balance of power between French and African elites has changed, however, with African leaders increasingly able to influence French politics. Indeed, some authors even arguing for an inversion, from La Françafrique to an Africafrance, where African presidents have gained the upper hand in their relationships with the French government. They point to African strongmen financing French electoral campaigns and being courted by a growing chorus of foreign suitors (Glaser, 2014; Glaser & Smith, 1992, 1997). Robert Bourgi, a former Monsieur Afrique, accused major right-wing politicians like Jacques Chirac and Dominique de Villepin—and even Jean Marie Le Pen of the far-right National Front—of receiving illicit financing for their presidential campaigns from Presidents Wade of Senegal, Gbagbo of Côte d’Ivoire, Mobutu of Zaïre, Bongo of Gabon, Compaoré of Burkina Faso and Sassou Nguesso of Congo-Brazzaville (“Chirac and De Villepin ‘given $20m by African Leaders’”, 2011). US diplomatic cables released by WikiLeaks also report that Bongo was embezzling funds from the BCEAC and partly using them to finance French political parties, including Sakozy’s 2007 presidential campaign (Chrisafis, 2010).

In November 2017, the current French president, Emmanuel Macron, promised a group of Burkinabe students that he would finally put an end to the la Françafrique (Pennetier, 2017). Opposition to the continuing French military presence in Mali, Burkina Faso, and Niger is growing across West and Central Africa (Pennetier &
Irish, 2020). In a welcome sign, the French billionaire Vincent Bolloré was arrested in April 2018 and is under investigation for corruption. The Bolloré Group was seeking to strengthen its monopoly of railroads and ports in West Africa by illicitly supporting the electoral campaigns of the presidents of Togo, Faure Gnassingbé, and Guinea-Conakry, Alpha Conde, in order to win contracts for management of the ports of Lomé and Conakry (Alderman, 2018).

1.8 Another Turning Point? (2020-Present)

Trumpeted in many headlines as the “end of the CFA” (Bensimon, 2019), the recently announced reforms would do more to preserve the current arrangement than to fundamentally alter it. While a formal proposal has yet to be made, in their announcement Ouattara and Macron called for changing the name from CFA, eliminating the requirement to keep foreign reserves with the French Treasury, and removing the French representatives from the BCEAO’s board. These moves do not significantly change the operation of the CFA, they do not change the peg to the euro nor French government’s “convertibility guarantee.” The Eco would still prioritize price and exchange rate stability exclusively, to the possible detriment of economic development.

The currency’s name is one of the most powerful symbols of continuity with French colonialism. The Economic Community of West African States’ (ECOWAS) plan for monetary integration envisaged first a monetary union including the anglophone states—Nigeria, Ghana, The Gambia, Sierra Leone, and Liberia—and Guinea-Conakry which would later merge with the UEMOA—Guinea-Bissau, Senegal, Togo, Niger, Mali, Benin, Burkina Faso and Côte d’Ivoire. What the choice of Eco means for this regional project is now unclear, but by rebranding the CFA, Ouattara and Macron are getting rid of one of its most objectionable elements: its name.
On January 16, 2020, the finance ministers of Nigeria, Ghana, Sierra Leone, Liberia and Guinea denounced the move since Eco (short for ECOWAS) was the name the ECOWAS leaders had agreed to in July 2019 for an eventual currency union of all 15 members (“Anglophone West Africa Kicks Back at Use of Eco to Replace CFA Franc”, n.d.). While its defenders argue it is an attempt to restart ECOWAS’ project despite years of stalling by Nigerian authorities, many progressive analysts interpret the renaming of the CFA as a cynical attempt, led by France and its allies in the region, to “kidnap the Eco,” undermine an eventual ECOWAS’ monetary union and isolate Nigeria (Sylla, 2020).

Long a source of conspiracy theories and resentment, Ouattara and Macron promised to eliminate the requirement that the CFA countries keep half of their foreign reserves at special accounts with the French Treasury. This change has been anticipated since November 2019 when the President of Benin, Patrice Talon, declared that the BCEAO would move all reserves from Paris (Shaban, 2019). This change too, however, is largely symbolic as the BCEAO is likely to hold its reserves in euro-denominated assets, even if it diversifies away from French government bonds.

Perhaps the most untenable part of the CFA arrangement—the most blatant example of ongoing French imperialism—is the presence of French officials on the Boards of Directors of the two CFA regional central banks. The Macron-Ouattara proposal removes all French representatives. But it also maintains the French government’s “convertibility guarantee” for the Eco and its ability to name an “independent” Board member. This promise by the French government to backstop the CFA franc, has been hailed as the key to the CFA franc’s remarkably stable exchange rate. The French government will only support the Eco if governments in the region come under IMF surveillance. Moreover, the proposals call for the return of French representatives to the BCEAO’s management if it ever needs to borrow from the French government to
support the peg of the eco to the euro. Ouattara can therefore boast of the end of French tutelage while still leaving the door open for its return.

In raising the question of the CFA’s future, Macron and Ouattara have opened a policy debate that may not lead to their preferred outcome: “The Eco as simple avatar of the CFA franc” (Nubukpo, 2020). Economists have long debated alternative proposals, from the creation of separate national currencies for current members of CFA, to separate currencies tied to a regional unit of account, to a common currency pegged to a basket of major currencies—not simply the euro (Jacquemot, 2017; Pigeaud & Sylla, 2021; Pouémi, 2000; Tchatchouang, 2015). The Ghanaian government responded that it is open to the joining the Eco but only if it had a more flexible exchange rate (“Le Ghana prêt à se rallier à l’eco après la réforme du franc CFA – Jeune Afrique”, 2019). Nigeria, with over two-thirds of the region’s GDP and half its population, would dominate any monetary union but with its protectionist streak, may prefer to guard its monetary policy autonomy (and avoid subsidizing its poorer neighbors). Few governments meet ECOWAS’ “convergence criteria” for joining the Eco anyway. The tug-of-war between the French and Nigerian governments for regional hegemony is likely to continue, making it impossible to predict the future of the ECO. Equally unclear is what, if anything, will change for the CEMAC.

1.9 Conclusion

The interaction of capitalist and territorialist motives among elites in both Africa and France explains the persistence of the CFA as well as its evolution in the last sixty years. This territorialist logic in France was constrained by capitalist logic during the 1980s debt crisis. French officials and businessmen who prioritize defending political allies in Africa had to concede to those who prefer to reallocate state resources to promoting French trade and investment in more lucrative foreign markets. Still territorialist logic has largely defined French policy in West and Central Africa.
African elites have chosen a “comprador” strategy preferring to secure the foreign value of their domestic assets as well as military support for their governments by allying themselves closely with the French state and capital. In an era when other recently decolonized states were experimenting with far more state control of the economy in their industrialization drives, the CFA zone’s governments move towards territorialism (or developmentalism) in the early 1970s was late, tentative, and short-lived. Instead, capitalist logic has largely dominated, encouraging the kind of economic extraversion long denounced by critics (Amin, 1974; Nubukpo, 2007b). Nubukpo (2007b) refers to this long-term commitment by African elites to remaining in France’s sphere of influence as “voluntary servitude.”

Without detailed, historical data on income and wealth inequality in the CFA zone it is impossible to quantify the costs and benefits of the CFA’s peg to the euro to different social groups in Africa. Nevertheless, several analyses point to the likely winners and losers (Nubukpo et al., 2016; Sylla & Koddenbrock, 2019). “The cost of this French subsidy,” including military spending and foreign aid, “has been spread widely among French taxpayers and African producers for export, while the benefits are concentrated on a select group of individuals in France and Africa” (Stasavage, 2003, p. 140). Even former French officials admit that the “trial against [the CFA franc] is partly justified,” since “the CFA franc primarily benefits the rentier elites” (Jacquemot, 2017, p. 121).

At the symposium celebrating the 50th anniversary of BCEAO in 2012, the long-standing debate about monetary policy in developing countries, whether governments should prioritize “development” or “stability,” reemerged among participants (Banque Centrale des États de l’Afrique de l’Ouest, 2014; Caldentey & Vernengo, 2018; Epstein, 2007). As recounted by the BCEAO governor at the time, Tiémoko Meyliet Koné: “Some participants noted that price stability and financial stability are the best contributions central banks can make to the economy. In contrast, other par-
ticipants said Africa has specific development needs and its central banks should not just stick to monetary stability, but also aim for development goals” (Banque Centrale des États de l’Afrique de l’Ouest, 2014). The growing popular opposition to French military and commercial presence in the last several years may lead the pendulum to swing back towards more territorialism/development in West Africa. As the analysis here implies, to shift the emphasis of monetary policy from stability to development, however, will require building and sustaining political coalitions across UEMOA that can successfully challenge the entrenched interests of African elites and their French allies.

If the likely beneficiaries of the CFA franc’s peg to the euro are French and West and Central African elites that have chosen to prioritize stability, has this indeed been to the detriment of development? Critics of the peg to the euro have long argued that an independent monetary policy is essential for financing development and that the peg means ceding such independence (Acemoglu & Robinson, 2010; Pouémi, 2000). Accordingly the independence of BCEAO monetary policy independence is the subject of the next essay.
CHAPTER 2

DOES THE CENTRAL BANK OF WEST AFRICAN STATES HAVE AN INDEPENDENT MONETARY POLICY?

2.1 Introduction

In December 2019, the Presidents of France, Emmanuel Macron, and Côte d’Ivoire, Alassane Ouattara, responded to mounting criticism of the CFA franc and of France’s military presence in the region by announcing a series of reforms to the CFA franc. These proposed reforms, however, do not address one of the major criticisms levied against the CFA franc: that the CFA franc’s fixed exchange rate to the euro deprives BCEAO of the ability to have an independent monetary policy (Monga & Tchatchouang, 1996; Nubukpo et al., 2016; Pigeaud & Sylla, 2021; Pouémi, 2000).

Economic theory predicts that the governments of the West African Economic and Monetary Union (Union économique et monétaire ouest africaine or UEMOA) in enshrining capital mobility and a fixed exchange rate in their treaties with France, have relinquished the ability to pursue an independent monetary policy. The classic Mundell-Fleming (Fleming, 1962; Mundell, 1963) model posits an open-economy trilemma, or “impossible trinity.” A government cannot have an independent monetary policy, a fixed exchange rate and free capital mobility all at once; in choosing two policy aims it necessarily gives up its ability to attain the third one. Accordingly, BCEAO should have to mimic changes in the European Central Bank’s (ECB) policy rates, and the size of BCEAO’s balance sheet—the CFA money supply—should follow closely changes in BCEAO’s foreign reserves.
Yet there is empirical evidence that what matters most to a government’s ability to have an independent monetary policy is the degree of capital mobility (Rey, 2015). The low level of international financial integration in many low- and middle-income countries, allows governments to pursue both a fixed exchange rate and an independent monetary policy (Khemraj & Pasha, 2012b). Indeed, in April 2010 BCEAO announced it would begin targeting an average regional inflation rate of 2% over two years. Is this not a tacit admission by BCEAO that it has the ability to pursue both an external “nominal anchor,” the fixed exchange rate to the euro, and a domestic one, like the regional price level?

Properly assessing the costs of maintaining the peg to the euro is important for West African citizens and policymakers currently debating the CFA franc’s future. Consequently, this paper examines the question of whether or not the CFA franc’s exchange rate to the euro deprives BCEAO of monetary policy independence.

This paper employs three approaches to assess BCEAO monetary policy independence. Inspired by the Monetary Approach to the Balance of Payments, the first approach focuses on “quantities,” specifically the relationship between foreign reserves and the domestic base money supply. BCEAO is ostensibly a currency board, “at bottom an arrangement that legislates a particular monetary rule: a rule that changes that in the monetary base will be equal to the country’s overall balance of payments surplus or deficit” (Williamson, 1995, p. 1). If the BCEAO behaves like a strict currency board that lacks monetary policy independence then the supply of CFA francs should be a function of the level of euro-denominated assets on its balance sheet. The second and third approaches, inspired by the notion of interest rate parity, focus on “prices,” in particular the relationship between foreign and domestic policy interest rates. If BCEAO lacks monetary policy independence then its policy rates should track changes in ECB policy rates. Consequently, this paper examines whether BCEAO foreign reserves and base money supply, and ECB and BCEAO policy rates
are co-integrated. Evidence of co-integration suggests BCEAO lacks monetary policy independence. Finally, I also estimate a “monetary policy reaction function,” in the form of a “Taylor Rule,” to assess whether BCEAO monetary policy responds only to movements in ECB policy rates. If BCEAO policy rates respond to regional economic conditions, and not simply ECB policy rates, then this suggests that its monetary policy is independent.

This paper is the first to analyze BCEAO’s balance sheet since its reserve cover, the ratio of foreign assets to the base money supply, fell below 100% in 2013. Prior studies of the CFA’s monetary policy independence have found that the fixed exchange rate was not a constraint before the major devaluation of 1994, but that monetary policy has become less independent since then (Dufrénot, 2011; Kireyev, 2015; Shortland & Stasavage, 2004; Veyrune, 2007). The peg to the euro may have been a greater constraint when BCEAO was trying to reestablish its credibility after the devaluation on 1994 and major subsequent reforms—culminating in the creation of UEMOA—and kept its reserve cover above 100%. Therefore it is important for current policy debates to examine what has happened to BCEAO’s balance sheet since 2013.

This paper also contributes to the literature on monetary policy reaction functions in low- and middle-income countries by using a novel method to calculate the “output gap” in the CFA zone. The specifications for Taylor Rules are frequently drawn from studies on high-income countries that have significantly different economic and financial institutions. One of the biggest challenges is how to conceptualize the output gap in developing countries. To that end, this paper proposes using the difference between GDP growth and an explicit GDP growth target to calculate the output gap. This recognizes both the difficulties with estimating an unobservable variable like potential GDP and the fact that policymakers in low- and middle-income countries often aim to increase productive capacity not simply to maximize capacity utilization.
This paper finds mixed evidence for BCEAO monetary policy independence. The results of this study indicate that the BCEAO minimum bid rate and ECB main refinancing rate are co-integrated. The estimated Taylor Rule suggests that BCEAO does adjust its minimum bid rate to track changes in the ECB main refinancing rate but does not respond to changes in either regional inflation or output. These two results point to BCEAO lacking monetary policy independence. On the other hand, foreign reserves and the base money supply as well as the ECB and BCEAO marginal lending facility rates are not co-integrated, suggesting monetary policy is independent. Given how infrequently BCEAO changes its policy rates and the low level of international financial integration of most UEMOA members, BCEAO monetary policy is most likely only weakly constrained by the peg to the euro.

The second section of this essay reviews the empirical literature on the open economy trilemma and monetary policy independence in the CFA zone. The third section describes the empirical methods used to test for monetary policy independence and to estimate a monetary policy reaction function. The fourth section presents the data and provides a brief historical overview of BCEAO’s balance sheet and policy rates. The fifth section presents the results of this study, and the sixth section concludes.

2.2 Literature Review

2.2.1 The Open Economy Trilemma

Studies on the open economy trilemma in developing countries note that reserve accumulation, limited international financial integration, capital controls and the frequent sterilization of capital inflows allow governments to achieve a significant degree of exchange rate stability while maintaining independent monetary policies (Aizenman et al., 2010; Aizenman & Glick, 2009; Khemraj, 2014; Rey, 2015). Aizenman et al. (2010) emphasize governments’ ability to “lean against the trilemma” using re-
serve accumulation. They document how most countries are in an intermediate space on all three goals of the trilemma. Rey (2015) highlights the importance of financial integration and capital controls. She contends that if countries are integrated into international financial markets, then monetary policy space is limited regardless of the exchange rate regime. Instead of a trilemma, governments then face a dilemma: they can have monetary policy autonomy or capital mobility, but not both. For the poorest countries, though, international financial integration is quite low therefore governments can pursue a “dual anchor” approach (Khemraj & Pasha, 2012a). They can target the nominal exchange rate and a domestic policy goal because they impose capital controls and/or have reduced exposure to international financial markets. The dual anchor approach is compatible with the trilemma, with governments able to pursue exchange rate stability and an autonomous monetary policy because capital mobility is restricted either *de jure* or *de facto*.

The empirical literature therefore suggests that BCEAO could have considerably more monetary policy autonomy than suggested by economic theory. Dufrénot (2011), Shortland and Stasavage (2004), and Veyrune (2007) and Kireyev (2015) find that BCEAO had a large degree of monetary policy independence until the devaluation of 1994. After that relative independence declines or disappears. Dufrénot (2011), Kireyev (2015), and Shortland and Stasavage (2004) focus on BCEAO policy rates, while Veyrune (2007) concentrates on its balance sheet. In addition, Dufrénot (2011) also estimates a “credit growth rule,” which seeks to estimate to what extent domestic commercial bank lending in UEMOA is constrained by the level of BCEAO’s foreign reserves.

### 2.2.2 Balance Sheet

Veyrune (2007) tests whether there are co-integrating relationships between BCEAO and *Banque centrale des états de l’Afrique centrale* (Central Bank of Central African
States or BCEAC) gross foreign assets and the amounts deposited in the operations accounts with the French Treasury as well as with base money in each region. He uses monthly data from March 1956 to August 2005 on the stock of base money, overall foreign reserves and reserves deposited in operations account. He finds that the base money supply and foreign reserves are not co-integrated for the whole period, but base money and deposits in the operations account for BCEAO were co-integrated after devaluation (1994-2005). This change is “somewhat dramatic because the zone and its members switch from a low elasticity of base money to change in reserves to a large one” (Veyrune, 2007, p. 16).

Veyrune (2007) also finds evidence of significant “offsetting” or sterilization of capital flows, which suggests that BCEAO has an independent monetary policy and is not simply responding passively to changes in its foreign reserve position. He regresses the change in net domestic assets on the change in foreign reserves and a set of control variables. The estimated coefficient for the change in foreign reserves is the “sterilization ratio.” A ratio of zero indicates no sterilization and a passive monetary policy where the central bank allows capital flows to determine the money supply, while a coefficient of -1 indicates an independent monetary policy where the central bank fully offsets the effect of capital flows on its balance sheet size by selling (buying) domestic assets when reserves increase (decrease). Veyrune finds ratios indicating strong sterilization (-0.88 for overall zone, -1 for BEAC and -0.89 for BCEAO) for the whole sample period. He finds that sterilization ratios are lower after 1994 (-0.7, -0.55 and -0.7).

In addition to the relationships between BCEAO’s balance sheet items, Dufrénot (2011) also examines BCEAO’s reserve management and its impact on commercial bank loans. According to the monetary approach to the balance of payments, if the CFA zone cannot substitute for imports, boost exports, or attract capital inflows, the only way left to respond to a drop in foreign reserves is to reduce domestic credit.
Since exports are highly correlated with domestic credit to the private sector, Dufrénot estimates a “credit growth rule.” He regresses domestic credit to GDP on change in reserves, real exchange rate misalignment, the inflation differential between the CFA and euro zones, and deviations from trend growth rates. A passive policy implies a coefficient on the change in reserves of less than one, while a coefficient greater than one implies partial independence. He finds that the ratio of domestic credit to GDP is “strongly responsive” to changes in foreign reserves, and the estimated coefficient of 0.84 is not significantly different from one. This suggests BCEAO does not have monetary policy independence. He concludes based on estimates of a “credit growth rule, that the central bank find (sic) it convenient to act as under a classical currency board, as if domestic credits were bound by foreign reserves.” (Dufrénot, 2011, p. 80).

2.2.3 Policy Rates

Theory does not predict that BCEAO policy rates be identical to ECB rates since the volatility of macroeconomic conditions in West Africa relative to France/Eurozone should be compensated by a risk premium for investors in CFA franc-denominated financial assets. Nevertheless, movements in both policy rates should still be in similar directions and magnitudes, assuming the risk premium is constant in the short-term. Consequently, changes in BCEAO and Bank of France/ECB policy rates should be positively correlated and follow the same trends. Using monthly and quarterly data from January 1995 to December 2001, Shortland and Stasavage (2004) estimate a monetary policy reaction function to explain BCEAO’s policy rate setting behavior. They model BCEAO’s discount rate as a response to changes in foreign assets to GDP and Bank of France/European Central Bank policy rates as well as domestic economic conditions: the output gap (measured as deviation from trend growth), regional inflation rates, and public debt to GDP. Using quarterly data they estimate that a one percentage point increase in French/Eurozone interest rates leads to a
0.23% increase in BCEAO’s discount rate. They conclude “that while in the long run BCEAO matches changes in French (Eurozone) interest rates one for one, in the short run it retains freedom to react to domestic economic variables, such as inflation, the output gap, its foreign exchange position and government borrowing.”

Over the sample period, ECB’s policy rate had the largest influence on both the level of BCEAO’s discount rate and decisions to change it.

There is considerable evidence that after the 1994 devaluation BCEAO interest rate changes did follow those of the Bank of France/ECB. Dufrénot (2011) examines the behavior of the spread between the Bank of France and BCEAO’s discount rates using annual data from 1980 to 2007. He assesses whether the policy rate differential has a constant and a trend using Granger causality and Andrew-Quandt structural break tests. He finds that the constant term becomes insignificant after 1994, suggesting that after devaluation there was interest rate parity between France and UEMOA.

Dufrénot also estimates a Taylor rule but criticizes Shortland and Stasavage (2004) for using a specification better suited for high-income countries. Dufrénot (2011, p. 72) describes his specification as “a short-term extended Taylor rule for a small open African economy.” He models BCEAO’s nominal interest rate as a function of deviations of regional inflation, GDP growth rates and real exchange rate from their targets, as well as changes to foreign reserves and the Bank of France’s discount rate. Dufrénot’s estimated Taylor rule suggests that BCEAO’s reaction function differs before and after 1994. Before 1994, BCEAO responded to the French discount rate and the inflation rate differential but also to real exchange rate misalignment, the growth gap and changes in foreign reserves. After 1994, only foreign interest rates and inflation are statistically significant. Actual BCEAO interest rate policy, however, was looser than predicted by the estimated Taylor rule, suggesting more independence.
Instead of estimating a Taylor rule, or monetary policy reaction function, other studies examine whether there is a long-run relationship between ECB and BCEAO policy rates. Kireyev (2015) tests for co-integration between each central bank’s marginal lending facility rates using monthly data from January 2008 to October 2013. He finds that the two policy rates are not co-integrated, which implies BCEAO has monetary policy independence.

The empirical evidence on the open economy trilemma demonstrates that countries have more policy space than theory predicts. BCEAO monetary policy was not constrained by the peg to the French franc before the major devaluation of 1994, but after that monetary policy did become a lot more constrained as BCEAO tried to reestablish credibility. No study has examined the question of BCEAO monetary policy independence since reserve cover, the ratio of foreign assets to the base money supply, fell below 100% in 2013. This paper aims to fill this gap.

2.3 Methodology

To assess the independence of BCEAO monetary policy I examine whether there are long-run relationships between its foreign reserves and base money supply, and between its policy rates and those of ECB. The null hypothesis of no co-integration implies that BCEAO has an independent monetary policy. If either pair of policy rates is co-integrated I also estimate a Taylor Rule to assess whether the BCEAO responds to changes in regional inflation and output as well as ECB policy rates.

2.3.1 Balance Sheet

If BCEAO behaves like a strict currency board—without an independent monetary policy—the size of its balance sheet would change one-to-one with the level of foreign assets. If BCEAO’s base money supply is a function of foreign reserves, then the two
series should be co-integrated, i.e. exhibit a common trend. Therefore, evidence of co-integration suggests monetary policy is not independent.

Both series must be non-stationary in (logged) levels and stationary in first differences—I(1)—before they can be assessed for co-integration. I use the Augmented Dickey-Fuller (ADF) test for stationarity. I employ both Engle and Granger (1987) and Johansen (1991) tests for co-integration. The Engle-Granger procedures tests whether the linear combinations of both series are trend stationary. It consists of two steps. First, regress the log of the base money supply on the log of foreign assets

\[
\text{LogBaseMoney}_t = \beta_0 + \beta_1 \text{LogReserves}_t + e_t \tag{2.1}
\]

Where \( t \) represents the month from January 2004 to December 2019. Then test the residual, \( e_t \), for a unit root:

\[
e_t = \rho e_{t-1} + \epsilon_t \tag{2.2}
\]

If \( \rho < 1 \) then the series are co-integrated. The null hypothesis is that the residual of the regression of base money supply on foreign reserves has a unit root and, therefore, the base money supply and foreign reserves are not co-integrated and BCEAO has an independent monetary policy.

Instead of relying on a two-step procedure like the Engle-Granger test, Johansen (1991) develops a maximum likelihood estimator. It is more accurate than the Engle-Granger test in shorter time series. The Johansen procedure is essentially a multivariate version of the ADF test. I use the Akaike Information Criterion to choose the number of lags in all the following tests. The Johansen procedure can be presented as a Vector Autoregression (VAR):

\[
y_t = \mu + A_1 y_{t-1} + \ldots + A_p y_{t-p} + u_t \tag{2.3}
\]
Where \( y_t \) is \((\text{LogBaseMoney}_t, \text{LogReserves}_t)'\). This VAR can be re-written as

\[
\Delta y_t = \mu + \Pi y_{t-1} + \sum_{i=1}^{p-i} \Gamma_i \Delta y_{t-i} + u_t
\]

(2.4)

Where

\[
\Pi = \sum_{i=1}^{p} A_i - I
\]

(2.5)

and

\[
\Gamma_i = - \sum_{j=i+1}^{p} A_j
\]

(2.6)

Essentially the Johansen test consists of determining the rank of \( \Pi \) in Equation 2.5. The rank of \( \Pi \) equals the number of co-integrating vectors. If the two series are co-integrated then we would expect one co-integrating vector—the series are CI(1, 1). The null hypothesis is that \( \Pi \) has a rank of zero, implying that the base money supply and foreign reserves are not co-integrated and BCEAO has an independent monetary policy.\(^1\)

### 2.3.2 Policy Rates

Again, I use both Engle-Granger and Johansen tests to determine if ECB and BCEAO policy rates are co-integrated. If BCEAO monetary policy is not independent, then the policy rates should be co-integrated. If either pair of policy rates is co-integrated then I estimate a monetary policy reaction function or Taylor Rule.

To run the Engle-Granger test first regress BCEAO policy rate on ECB policy rate:

\[
\text{BCEAO}_t = \beta_0 + \beta_1 \text{ECB}_t + \epsilon_t
\]

(2.7)

\(^1\)Johansen proposes two different likelihood ratio tests: the trace test and the maximum eigenvalue test. This study uses the maximum eigenvalue test since it is more reliable.
Then test the residual $e_t$ for a unit root. The null hypothesis is that the residual of the regression of BCEAO policy rate on ECB policy rate has a unit root, implying that BCEAO has an independent monetary policy.

The Johansen test for policy rates is the same as equation 2.4 above where $y_t$ is now the vector $(BCEAO_t, ECB_t)'$. The null hypothesis is that $\Pi$ has a rank of zero, meaning that BCEAO and ECB policy rates are not co-integrated and BCEAO has an independent monetary policy.

Third, if the policy rates are co-integrated I estimate a monetary policy reaction function or Taylor Rule. Co-integration establishes that BCEAO and ECB policy rates follow a common trend, therefore the goal of estimating a monetary policy reaction function is to assess whether ECB policy rates are the sole determinant of BCEAO policy rates. If the only determinant of the BCEAO policy rate is corresponding ECB policy rate then BCEAO monetary policy is not independent. But if BCEAO monetary policy reacts to other factors then that implies that BCEAO monetary policy is somewhat independent.

I model BCEAO policy rates as a function of ECB interest rates, and deviations of inflation and output from their targets. I include an inflation gap because BCEAO has chosen to target inflation since 2010. I also include an output gap because central banks often use expansionary monetary policy to mitigate recessions. Consequently, I estimate the following Taylor Rule:

$$BCEAO_t = \phi_0 + \phi_1 ECB_t + \phi_2(\pi_t - \pi^*_t) + \phi_3(y_t - \bar{y}_t) + e_t \quad (2.8)$$

Where $BCEAO_t$ is the BCEAO policy rate, $ECB_t$ is the ECB policy rate, $t$ is the quarter, $\pi$ is domestic inflation, $\pi^*$ is the inflation target of 2% annual inflation, $y_t$ is the real GDP growth rate and $\bar{y}_t$ represents the trend in the real GDP growth rate. Thus $(\pi - \pi^*)$ is the inflation gap, and $(y_t - \bar{y}_t)$ is the output gap.
If BCEAO does follow ECB interest rate policy then $\phi_1$ should be positive. If BCEAO targets inflation then it should raise interest rates when the inflation gap is positive and should lower them when it is negative, therefore $\phi_2$ should be positive. If BCEAO responds to changes in output then it should raise interest rates when GDP is above its trend, when the output gap is positive, and lower interest rates when GDP is below trend, therefore $\phi_3$ should also be positive.

There is some debate as to how to interpret the inflation and output gaps in UEMOA. First, although BCEAO has an inflation target of 2% on average for UEMOA over 2 years, as a fixed exchange rate regime it is also important to maintain a stable inflation differential between UEMOA and the Eurozone. Many fixed exchange rate regimes have collapsed after the country pegging its currency experienced much higher inflation than the anchor currency, leading to real exchange rate misalignment. Consequently, I estimate the Taylor rule for BCEAO with $\pi^*$ as Eurozone inflation.

More importantly, there is some concern among scholars with how to estimate and interpret the idea of an “output gap” (Smets, 2002), especially in low- and middle-income countries. In high-income countries, the output gap is often interpreted as the deviation of actual from “potential” GDP. Given that potential GDP is unobservable, to estimate it economists sometimes use surveys of capacity utilization. Dufrénot (2011, p. 67) criticizes this “institutional mimetic” approach for applying empirical specifications developed for high-income countries inappropriately to a different institutional context. The output gap is difficult to measure in many developing countries because there are not regular, reliable surveys of capacity utilization. Moreover, changes in both inflation and output are often a result of common supply shocks in Africa—mainly from rain-fed agriculture. Including a variable for the output gap measured this way may therefore lead to biased estimates. Consequently, Dufrénot prefers to measure the output gap as the deviation of real GDP from its long-term trend.
While this approach to the output gap avoids some of the theoretical and empirical issues with estimating potential GDP in developing countries, it may not reflect the goals of policymakers. Instead of trying to stabilize GDP growth around its long-term trend, several member governments of UEMOA have specific growth targets that aim to explicitly increase the level of long-term economic growth. For example, Côte d’Ivoire\(^2\) and Senegal\(^3\), the two largest members of UEMOA, have formulated national development plans that project (or target) an annual real GDP growth rate of approximately 7% for the next 5-10 years. Annual real GDP growth for UEMOA did average 6.36% from 2012 to 2019 therefore the regional growth target is attainable. Consequently, I also estimate the following Taylor Rule:

\[
BCEAO_t = \phi_0 + \phi_1 ECB_t + \phi_2 (\pi_t - \pi^*_t) + \phi_3 (g_t - g^*_t) + e_t
\]  \hspace{1cm} (2.9)

With the same variables as Equation 2.8 except \(\bar{y}_t \) is replaced by \(y^*_t\), the targeted real GDP growth rate of 7% annually (or 1.75% quarterly) for UEMOA. Instead of measuring the output gap as the deviation of actual GDP growth from its trend, Equation 2.9 uses the deviation of actual GDP growth from its target. Each Taylor rule is estimated using generalised least squares to account for serial correlation in the residuals and obtain heteroskedasticity-consistent standard errors.

### 2.4 Data

#### 2.4.1 Balance Sheets

The first assessment of whether BCEAO has policy independence or behaves like a currency board is whether it holds any domestic assets (i.e. assets denominated in CFA francs). An archetypical currency board would hold only foreign assets to back

\(^2\)https://www.gouv.ci/a/actualite – article.php?recordID = 12625\(d = 1\)

\(^3\)https://www.presidence.sn/en/pse/presentation
the domestic base money supply (Williamson, 1995). For most of BCEAO’s history its holdings of domestic assets have been much larger than foreign assets (Figure 2.1). At no point has BCEAO held only foreign assets, although the level of foreign assets was higher than domestic assets following the devaluation of 1994, with foreign reserves rising to their highest level relative to domestic assets from 2006 to 2008. Data on the regional consumer price index (CPI) and GDP and its own assets, liabilities, and policy rates are from BCEAO.

Figure 2.1: BCEAO Foreign and Domestic Assets, 1963-2021

BCEAO has maintained a much higher reserve cover after devaluation, with an average of 35% from 1962 to 1994 and of 107% from 1995 to 2019. BCEAO’s foreign reserves fell below the statutory threshold of 20% of short-term (or sight) liabilities (calculated as currency and deposits by government, banks, financial institutions,
and others with BCEAO) in 1975 and then again from 1980 to 1993 (Figure 2.2). Throughout this period BCEAO’s net foreign asset position was negative. The devaluation of the CFA franc doubled the value of BCEAO’s foreign reserves and increased the reserve cover significantly. From 2000 to 2010 the average reserve cover was 117%. It has been trending downward since 2010, however, dipping below 100% in 2013. It hit a modern low of 69% at the end of 2016 before rebounding to 82% by the end of 2019 (Figure 2.2).

2.4.2 Policy Rates

BCEAO officially shifted to indirect monetary policy—open market operations to influence money market interest rates—in the 1990s and adopted inflation targeting in 2010. The Monetary Policy Committee (MPC) meets quarterly—in March, June, September, and December of each year. In February 2007, BCEAO began conducting regular weekly liquidity auctions, where it auctions off a predetermined amount of its own bills with one-week maturity. Two years later it introduced liquidity auctions for one-month bills at fixed rates and initially in unlimited amounts. The MPC issues a communiqué after its quarterly meetings announcing any changes to its policy rates and their rationale for them. In 2010, BCEAO renamed the repo rate (le taux de pension) as the marginal lending facility rate (le taux d’intérêt du guichet de prêt marginal). BCEAO now sets a floor on the price of bank reserves, the minimum bid rate (le taux d’intérêt minimum de soumission aux opérations d’appels d’offres d’injection de liquidités), and a maximum, the marginal lending facility rate. During regular liquidity auctions (appels d’offres d’injection de liquidités) commercial banks’ demand for reserves sets the marginal auction rate (taux marginal des injections de liquidités par appels d’offres).

BCEAO’s marginal lending facility (or repo) rate was set at 4.75% in August 2008 (Figure 2.3). BCEAO then reduced the rate three times: to 4.25% in June 2009, 4%
Figure 2.2: Reserve Cover, 1963-2021

Source: BCEAO, author’s calculations
in June 2012 and 3.5% in September 2013. BCEAO initially set the minimum bid rate at 100 basis points below the marginal lending facility rate, at 3.75% in August 2008. Hence it experienced the same trend as the marginal lending facility rate, being cut to 3.25% in June 2009, 3% in June 2012 and 2.5% in September 2013. In December 2016, BCEAO decided to expand its policy corridor to 200 basis points and raised the marginal lending facility rate to 4.5%. Both rates remained unchanged until the onset of the COVID-19 pandemic in March 2020. In its June 2020 meeting BCEAO lowered both rates by 50 points to 4% and 2% respectively.

**Figure 2.3: BCEAO and ECB Rates 2000-2019**

ECB cut its marginal lending facility rate five times from 5.25% in September 2008 down to 1.75% in May 2009 in response to the financial crisis originating in the
US housing market. After raising the rate to 2% in April 2011 and 2.25% in July 2011, ECB cut the rate seven times down to 0.30% in September 2014. It cut it further to 0.25% in March 2016, where it has remained since.

With ECB rates so low, BCEAO has had more freedom to set its own rates with less fear of sparking capital flight. Economic theory predicts that BCEAO rate should be higher than ECB’s since investors expect a risk premium to deal with higher economic volatility in the CFA zone. While this is typically the case, BCEAO’s marginal lending facility rate was lower, however, than ECB’s marginal lending facility rate from November 2006 until October 2008 (Figure 2.3). Data on ECB policy rates are from ECB.

The two measures for the inflation gap are displayed in Figure 2.4. The solid line is the quarterly percentage change in the consumer price index for UEMOA minus an annual inflation target of 2% (or 0.5% quarterly). The dotted line is inflation in UEMOA minus the quarterly percentage change in the consumer price index for the Eurozone. The two series largely track one another since quarterly inflation in the Eurozone for this period has averaged 0.44%, therefore targeting Eurozone inflation has nearly the same effect as targeting 0.5% quarterly domestic inflation. In both cases, the average inflation gap during the sample period is positive but close to zero (see Table 2.1). Notably, the inflation gap has often been negative, with UEMOA inflation lower than the target or Eurozone inflation. Again, one of the main outcomes of the CFA franc’s peg to the euro has been low inflation, which has at times veered into deflation. Data on Eurozone inflation is from OECD.

While the two inflation gap measures are similar, the output gap measures do differ significantly (Figure 2.5). The solid line depicts the deviations from trend of quarterly real GDP growth for UEMOA. As expected, the mean of the time series is zero, and the deviations relatively small (see Table 2.1). The largest positive output gap (with actual GDP above trend) is less than 0.5% while the biggest negative output gap
(with actual GDP below trend) is less than 1%. The dotted line depicts the difference between quarterly real GDP growth and the target of 7% annual growth. Average real annual GDP growth in UEMOA since 1990 has been about 3.8% (approximately 1% quarterly), and peaked in 2012 at 6.9% therefore the BCEAO has never reached its 7% target. Consequently, the average quarterly output gap using the target growth rate is -0.7% (see Table 2.1).

Dufrénot (2011) also criticizes studies that use monthly or quarterly data since BCEAO’s policy rates change so infrequently. Furthermore, only annual GDP data is publicly available for UEMOA members. Nevertheless, I estimate the Taylor rules
using quarterly data because the goal of this study is to assess how BCEAO monetary policy has changed since the recover cover dropped below 100% in 2013 and using annual data would mean not having sufficient observations for statistical inference. The urgency and importance of the policy debate over the CFA franc’s future makes any empirical evidence on the independence of BCEAO monetary policy valuable despite considerable data limitations. Moreover, the inertia in BCEAO policy rates itself provides data on how and when BCEAO reacts—or does not—to changes in ECB monetary policy and regional economic conditions.
Table 2.1 summarizes the data used to estimate the determinants of BCEAO policy rates. The sample begins with 1991Q1 and ends in 2021Q4. Data on BCEAO policy rates, GDP growth and inflation rates in UEMOA are from BCEAO. Data on ECB policy rates are from ECB. The Organization for Economic Cooperation and Development (OECD) provides data on inflation in the Eurozone. Policy rates are reported daily and price indices monthly therefore I aggregate them into a quarterly series. GDP for UEMOA members is reported annually so I interpolate the series to make them quarterly.

Table 2.1: Summary Statistics for Taylor Rule

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCEAO Min Bid Rate</td>
<td>54</td>
<td>2.708</td>
<td>0.470</td>
<td>2.000</td>
<td>3.750</td>
</tr>
<tr>
<td>BCEAO Marginal Lending Rate</td>
<td>92</td>
<td>4.438</td>
<td>0.747</td>
<td>3.500</td>
<td>6.000</td>
</tr>
<tr>
<td>ECB Main Refinancing Rate</td>
<td>58</td>
<td>0.628</td>
<td>0.894</td>
<td>0.000</td>
<td>3.500</td>
</tr>
<tr>
<td>ECB Marginal Lending Rate</td>
<td>92</td>
<td>2.239</td>
<td>1.827</td>
<td>0.250</td>
<td>5.750</td>
</tr>
<tr>
<td>Inflation Gap Target</td>
<td>92</td>
<td>0.0003</td>
<td>0.010</td>
<td>−0.022</td>
<td>0.036</td>
</tr>
<tr>
<td>Inflation Gap Eurozone</td>
<td>91</td>
<td>0.001</td>
<td>0.009</td>
<td>−0.023</td>
<td>0.031</td>
</tr>
<tr>
<td>Output Gap Trend</td>
<td>92</td>
<td>0.000</td>
<td>0.002</td>
<td>−0.008</td>
<td>0.005</td>
</tr>
<tr>
<td>Output Gap Target</td>
<td>92</td>
<td>−0.007</td>
<td>0.005</td>
<td>−0.017</td>
<td>0.0005</td>
</tr>
</tbody>
</table>

BCEAO’s reserve cover ratio was over 100% from 1996 to 2013. It has been below 100% since 2013 falling as low as 68% in 2016 (Figure 2.2). The BCEAO minimum bid rate has been reduced five times since it was introduced in 2008, and has never been increased. The ECB main refinancing rate has been changed more frequently but has been at 0.25% or below since November 2013 (Figure 2.3). Using the a 2% target or Eurozone inflation rate as BCEAO’s inflation target makes little difference (Figure 2.4). UEMOA governments fall short of their growth target while the average output gap measured as deviations from long-run growth is by definition zero (Figure 2.5).
2.5 Results

2.5.1 Unit Root Tests

To be suitable for co-integration analysis time series must be trend stationary, or I(1), that is be non-stationary in levels and stationary in first differences. As seen in Table 2.2 we cannot reject a unit root at the 5% significance level for the natural logarithm of monthly BCEAO foreign reserves from January 2004 to December 2019. We can reject a unit root after taking the first difference of the time series. BCEAO foreign reserves are therefore I(1). We can reject a unit root for the log of BCEAO base money supply, suggesting the series is I(0). If this is indeed the case, then we cannot model a long-run relationship between the base money supply and foreign reserves because they are not integrated of the same order. This lack of co-integration between BCEAO’s base money and foreign reserves suggests that BCEAO has an independent monetary policy.

Table 2.2: Unit Root Tests for Co-integration

<table>
<thead>
<tr>
<th>Variables</th>
<th>Levels</th>
<th>First Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Foreign Reserves</td>
<td>-2.218</td>
<td>-9.22***</td>
</tr>
<tr>
<td>Log Base Money</td>
<td>-4.597***</td>
<td>-8.505***</td>
</tr>
<tr>
<td>BCEAO Minimum Bid Rate</td>
<td>-1.925</td>
<td>-8.155***</td>
</tr>
<tr>
<td>BCEAO Marginal Lending Rate</td>
<td>-1.511</td>
<td>-8.21***</td>
</tr>
<tr>
<td>ECB Main Refinancing Rate</td>
<td>-1.282</td>
<td>-7.151***</td>
</tr>
<tr>
<td>ECB Marginal Lending Rate</td>
<td>-0.982</td>
<td>-8.35***</td>
</tr>
</tbody>
</table>

Note: Critical Values at 5% for reserves and base money -3.43, policy rates -2.87, first differences -1.95. *p<0.1; **p<0.05; ***p<0.01

The monthly series on ECB and BCEAO marginal lending facility rates from January 2000 to December 2019 are both non-stationary, but the first difference of each is stationary, indicating that both are I(1) variables and therefore suitable for co-integration analysis (Table 2.2). Similarly, the monthly series on ECB’s main refinancing rate and BCEAO minimum bid rates from August 2008 to December
2019 are both non-stationary, but the first difference of each is stationary. Therefore both are I(1) variables and suitable for co-integration analysis (Table 2.2).

2.5.2 Co-integration Tests

The Engle-Granger tests suggests that the marginal lending rates are not co-integrated while the minimum rates are co-integrated. The p-value of the Augmented Dickey-Fuller test on the residuals of a regression of BCEAO’s marginal lending facility rates on the ECB’s rates is 0.403 (see Table 2.3). Therefore the Engle-Granger test fails to reject the null of no co-integration when estimating the long-run relationship between BCEAO and ECB marginal lending rates. In contrast, the residuals of a regression of the BCEAO minimum bid rate on the ECB main refinancing rate are stationary. The p-value of the ADF unit root tests on the residuals for the minimum policy rates is 0.009 implying co-integration (see Table 2.3).

Table 2.3: ADF Tests on Residuals

<table>
<thead>
<tr>
<th>Series</th>
<th>Test Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Rates</td>
<td>-3.91***</td>
<td>0.009</td>
</tr>
<tr>
<td>Marginal Lending Rates</td>
<td>-2.208</td>
<td>0.403</td>
</tr>
</tbody>
</table>

Note: Critical value at 5% is -1.95. *p<0.1; **p<0.05; ***p<0.01

The results of the Johansen tests for co-integration are similar to those of the Engle-Granger tests, suggesting that the pair of marginal lending rates are not co-integrated while the minimum rates are co-integrated. The test statistic for the null hypothesis that Π has a rank of zero is 1.656 and the critical value is 7.52 (Table 2.4). Therefore we cannot reject the null hypothesis of no-cointegration between the BCEAO and ECB marginal lending rates at the 95% confidence level.

We can reject the null hypothesis of no co-integration between the ECB’s main refinancing rate and the BCEAO’s minimum bid rate using the Johansen procedure as well. The test statistic for the null hypothesis that Π has a rank of zero is 7.577 and
Table 2.4: Johansen Test for Marginal Lending Rates

<table>
<thead>
<tr>
<th>Null hypothesis for rank test</th>
<th>r = 0</th>
<th>r ≤ 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalue</td>
<td>0.017</td>
<td>0.006</td>
</tr>
<tr>
<td>Test statistic</td>
<td>1.656</td>
<td>6.16</td>
</tr>
<tr>
<td>Critical value at 5%</td>
<td>7.52</td>
<td>17.85</td>
</tr>
</tbody>
</table>

The critical value is 7.52 (Table 2.5). Co-integration of the these minimum policy rates implies the BCEAO does not have an independent monetary policy. The standardized eigenvector for the long-run relationship between minimum policy rates is:

\[
BCEAO_t = \frac{0.627}{(0.0898)} ECB_t - 2.49
\]

This implies that a 100 basis point increase in the ECB main refinancing rate leads to an approximate 63 basis point increase in the BCEAO minimum bid rate. A unit root test of the residual of the eigenvector rejects the null hypothesis of non-stationarity (Table 2.6).

Table 2.5: Johansen Test for Min Bid Rates

<table>
<thead>
<tr>
<th>Null hypothesis for rank test</th>
<th>r = 0</th>
<th>r ≤ 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalue</td>
<td>0.125</td>
<td>0.056</td>
</tr>
<tr>
<td>Test statistic</td>
<td>7.577</td>
<td>17.627</td>
</tr>
<tr>
<td>Critical value at 5%</td>
<td>7.52</td>
<td>13.75</td>
</tr>
</tbody>
</table>

Table 2.6: ADF Tests of Residual of Eigenvector

<table>
<thead>
<tr>
<th>Series</th>
<th>Test Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residuals</td>
<td>-3.89***</td>
<td>0.0008</td>
</tr>
</tbody>
</table>

Note: Critical value at 5% is -1.95. *p<0.1; **p<0.05; ***p<0.01
### 2.5.3 Taylor Rule

Table 2.7: Taylor Rule Estimates

<table>
<thead>
<tr>
<th>BCEAO Min Bid Rate</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECB Main Refinancing Rate</td>
<td>0.716***</td>
<td>0.757***</td>
<td>0.718***</td>
<td>0.765***</td>
</tr>
<tr>
<td></td>
<td>(0.073)</td>
<td>(0.095)</td>
<td>(0.085)</td>
<td>(0.095)</td>
</tr>
<tr>
<td>Domestic Inflation Gap</td>
<td>-5.977*</td>
<td>-3.650</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.532)</td>
<td>(3.209)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurozone Inflation Gap</td>
<td>-6.287*</td>
<td>-4.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.774)</td>
<td>(4.082)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Gap Trend</td>
<td>-8.515</td>
<td>-7.977</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(18.635)</td>
<td>(18.325)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Gap Target</td>
<td>8.594</td>
<td></td>
<td>10.472</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(8.931)</td>
<td></td>
<td>(9.091)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.383***</td>
<td>2.416***</td>
<td>2.392***</td>
<td>2.429***</td>
</tr>
<tr>
<td></td>
<td>(0.046)</td>
<td>(0.042)</td>
<td>(0.106)</td>
<td>(0.038)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N</th>
<th>53</th>
<th>53</th>
<th>53</th>
<th>53</th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>0.828</td>
<td>0.832</td>
<td>0.826</td>
<td>0.835</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.818</td>
<td>0.822</td>
<td>0.815</td>
<td>0.824</td>
</tr>
<tr>
<td>Residual Std. Error (df = 49)</td>
<td>0.193</td>
<td>0.190</td>
<td>0.194</td>
<td>0.189</td>
</tr>
<tr>
<td>F Statistic (df = 3; 49)</td>
<td>78.843***</td>
<td>81.174***</td>
<td>77.592***</td>
<td>82.416***</td>
</tr>
</tbody>
</table>

*Notes:*  
***Significant at the 1 percent level.  
**Significant at the 5 percent level.  
*Significant at the 10 percent level.

Since the minimum rates are co-integrated I estimate the Taylor Rule in Equation 2.8 using BCEAO and ECB minimum rates. Column 1 of Table 2.7 displays the result of the regression of the level of the BCEAO minimum bid rate on the level of the ECB main refinancing rate, the gap between inflation in UEMOA and the 2% target and the deviations of UEMOA GDP growth rate from trend. The coefficient
on the ECB minimum bid rate is positive and statistically significant at the 1% level. A 100 basis point increase in the ECB main refinance rate predicts a 72 basis point increase in the BCEAO minimum bid rate in the same quarter. The coefficients on the inflation gap is significant at the 10% level, but it has the wrong sign. These estimates suggest that a 1% increase in the inflation gap leads to a decrease of 6 basis points of BCEAO minimum bid rate. The coefficient on the output gap also has the wrong sign, but is not statistically significant.

Column 2 of Table 2.7 displays results of monetary policy reaction function using the annual growth rate target of 7% to estimate the output gap as in Equation 2.9. The coefficient on the ECB minimum bid rate is positive and statistically significant at the 1% level. A 100 basis point increase in the ECB main refinance rate predicts a 76 basis point increase in the BCEAO minimum bid rate in the same quarter. The coefficient on the inflation gap using the 2% target also has the wrong sign but is not statistically significant. The coefficient on the output gap in this specification is positive, but is not statistically significant.

Using Eurozone inflation to calculate the inflation gap instead leads to broadly similar results (Columns 3 and 4 of Table 2.7). The coefficient on the ECB main refinancing rate is positive and statistically significant in both specifications. The coefficient on deviations from trend real GDP (Column 3) is negative but not statistically significant, while the coefficient on the deviations of real GDP from the growth target is positive but not statistically significant (Column 4). The coefficient on the inflation gap is negative in both cases (Columns 3 and 4). It is statistically significant at the 10% level when using deviation from trend GDP growth as the output gap, and not significant when estimated using distance from growth rate target as the output gap. The $R^2$ for all specifications indicates that the model accounts for a relatively high degree (approximately 83%) of the variation in the minimum bid rate.
These results suggest that BCEAO does not respond to changes in the regional inflation and output gaps and considers only ECB’s main refinancing rate when setting its minimum bid rate. This implies that BCEAO does not have an independent monetary policy since the only highly statistically significant predictor of the BCEAO minimum bid rate is the ECB Main Refinancing Rate.

2.6 Conclusion

The evidence on BCEAO monetary policy independence is mixed. The lack of co-integration between foreign reserves and the base money supply and between BCEAO and ECB marginal lending facility rates suggests that BCEAO does have an independent monetary policy. On the other hand, the evidence for co-integration between BCEAO minimum bid rate and ECB main refinancing rate, and BCEAO’s perverse reaction to the regional inflation gap and lack of responsiveness to the output gap when setting the minimum bid rate imply that BCEAO does not have an independent monetary policy.

An examination of BCEAO’s balance sheet—the quantitative approach—is more informative than that of its policy rates—the price approach—for two reasons. First, BCEAO does not change its policy rates as frequently as ECB. ECB changed its marginal lending facility rate 25 times from January 2004 to December 2019. In contrast, BCEAO changed its marginal lending facility rate 7 times in the same time, and its minimum bid rate only 5 times since its inception in 2008. Moreover, ECB rates have been at zero for nearly a decade, putting little pressure on BCEAO. The case for interest rate parity between ECB and BCEAO would be stronger if the BCEAO marginal lending facility rate which is older and has experienced greater variance than the minimum bid rate was also co-integrated with the ECB marginal lending facility rate.
Secondly, the level of international financial integration of UEMOA countries is rather low. Interest parity between the CFA and Eurozones assumes that a large number of arbitrageurs are willing and able to exploit discrepancies in interest rates between the two zones that would threaten the fixed nominal exchange rate (buying financial assets in CFA francs when BCEAO raises interest rates relative to ECB or selling them when BCEAO lowers rates). As discussed in greater detail in Section 3.2.1, bond markets in UEMOA are small and thin, especially corporate bonds. There are simply not that many financial assets available for speculators to trade. Therefore the channels that would enforce interest rate parity between the CFA and Euro zones are limited.

Although there is political pressure to not let the reserve cover ratio fall further (Wilson, 2021, p. 247), the empirical evidence from this study suggests BCEAO monetary policy is only weakly constrained by the peg to the euro. BCEAO does not have to—legally or in practice—maintain a 100% reserve cover. As financial markets in UEMOA become more sophisticated and more integrated into global markets it is likely that its monetary policy will become more constrained. The critics then are only partially correct since this study shows that BCEAO has more policy space than economic theory would predict.

BCEAO seems to recognize its monetary policy independence as it has both an official nominal exchange rate target and a domestic inflation target. This then raises two further questions. First, is low inflation the right domestic policy priority? Secondly, can BCEAO effectively control regional inflation? This last question is the topic of the next essay.
CHAPTER 3
IS MONETARY POLICY EFFECTIVE IN CONTROLLING INFLATION IN THE WEST AFRICAN ECONOMIC AND MONETARY UNION?

3.1 Introduction

Since 2010 the Central Bank of West African States (BCEAO) has committed to targeting the inflation rate, in addition to the fixed nominal exchange rate with the euro, but many studies (Mishra & Montiel, 2013) find that monetary policy in low-income countries does not reliably influence domestic output and prices. The monetary policy transmission mechanism in low-income countries is frequently weak or ineffective; expansionary monetary policies often fail to lower commercial banks’ lending rates, increase borrowing by non-financial businesses or significantly boost aggregate demand. In this context, this paper investigates whether consumer prices in the West African Economic and Monetary Union (Union monétaire et économique de l’Afrique de l’ouest or UEMOA) are affected by BCEAO’s monetary policy. In short, is BCEAO’s current monetary policy framework effective in controlling inflation?

Whether BCEAO’s current monetary policy framework is ineffective and why, has strong implications for which possible reforms of the CFA franc are worth pursuing. The Macron-Ouattara proposal would not change the inflation target or address more fundamental problems with the banking system in the CFA zone because it assumes that monetary policy is effective at meetings its goals. If monetary policy instruments in low-income countries simply have weak and uncertain effects then some economists suggest that central bankers there are better off adhering to strict rules-based monetary policies, including fixed exchange rates (Mishra et al., 2012). Other economists,
however, assert that the weakness of the transmission mechanism in many low-income countries implies that the whole neoliberal monetary policy framework based on central bank independence, inflation targeting and the use of “indirect” methods such as open market operations to influence short-term interbank lending rates (instead of traditional “direct” methods like credit ceilings) should itself be questioned (Epstein, 2007; Nubukpo, 2007a, 2007b). Targeting inflation rates by intervening in money markets may not be suitable for countries without deep, liquid secondary markets for public and private debt. Moreover, controlling inflation primarily through monetary policy assumes it is a demand-side phenomenon, when there is much evidence that the price level in many African countries—at least at low to moderate inflation—is more responsive to supply-side shocks than excess money supply (Durevall et al., 2013; Ndikumana et al., 2021). Even if BCEAO were effective in managing inflation, there is no consensus among economists that price stability should be the sole, overriding objective of monetary policy in developing countries (Heintz & Ndikumana, 2011).

This study adds to the literature on monetary policy in low-income countries and to the current debate on the future of the CFA/Eco in two ways. First, this is the first study with a sample large enough (2010 to 2020) to properly evaluate BCEAO’s inflation-targeting regime, now more than a decade old. Second, the specifications in several studies of monetary policy effectiveness in low-income countries are either arbitrary or taken from the large literature on rich countries (Mishra & Montiel, 2013). In contrast, this study is based on a careful examination of monetary policymaking in the UEMOA.

To identify the impact of monetary policy decisions on inflation in each country and the aggregate region, I derive Impulse Response Functions (IRF) from an estimated Vector Autoregression (VAR) model using a recursive structure. The model features four variables in the following order: an index of world food prices, an index of consumer prices in the UEMOA, BCEAO’s monetary policy stance, and total lend-
ing by the domestic banking sector. The choice of variables reflects BCEAO’s stated policy aim of targeting inflation, the influence of food imports on price levels in the region, and the likely importance of the bank lending channel for monetary policy transmission. The ordering of the variables in the model reflects the information sets available to BCEAO and to commercial banks in the UEMOA. This study also empirically assesses the effectiveness of the three monetary policy instruments available to BCEAO: the minimum bid rate, marginal lending facility rate, and changes in the base money supply.

Simulations of the impact of monetary policy shocks in the eight members of the UEMOA and the aggregate region yield mixed evidence of monetary policy effectiveness. This study finds that changes in policy rates have no statistically significant impact on consumer prices or bank lending, while changes in the base money supply do affect inflation and bank lending in the theoretically expected direction in only two UEMOA members, Côte d’Ivoire and Niger.

The next section of this essay reviews the literature on monetary policy challenges in low-income countries and the CFA zone. The third section provides a historical overview of monetary policy and the banking sector in the UEMOA. The fourth presents the VAR model used to identify the effectiveness of BCEAO’s monetary policy and discusses some of the challenges with employing VAR models. The fifth section describes the data and stylized facts on the variables of interest. The sixth section presents the results, and the seventh section concludes with a discussion of the implications of weak monetary policy transmission for the UEMOA.

3.2 Monetary Policy Challenges in Developing Countries and the CFA Franc Zone

Most studies of monetary policy in low-income countries find that it is ineffective and cannot reliably influence domestic output and prices. Studies of the MTM in
the CFA zone generally corroborate these findings. This is the first study, however, with a sample large enough (2010 to 2019) to reasonably evaluate BCEAO’s inflation-targeting regime.

3.2.1 The Monetary Transmission Mechanism

The monetary transmission mechanism (MTM) is the process where central bank policy aims to influence its ultimate economic targets: real GDP and/or the price level. An effective transmission mechanism implies that monetary policy can reliably shift domestic output and prices in the desired direction. Operationally, the central bank adjusts the level of bank reserves to achieve an intermediate target—now typically a short-term interbank lending rate, in the past a monetary aggregate. The MTM has two legs: first from central bank actions to a financial variable and, second, from that financial variable to a component of aggregate demand. In high-income countries, central banks engage in open market operations by intervening in the secondary market for short-term domestic public debt like Treasury bills in the US. When commercial banks end up with higher reserves, they tend to bid down the overnight interbank rate. Arbitrage between the two keeps the Treasury bill rate and interbank rate equal to one another. The interbank lending rate then affects various other financial variables which influence private investment, net exports, and consumer and government spending.

In high-income countries with sophisticated financial markets, monetary policy works through four channels: bank credit, balance sheets, interest rates, and exchange rates. Expansionary monetary policy lowers the overnight interbank lending rate and a variety of short-term interest rates based on it, prompting greater borrowing by firms and households—the interest rate channel. Monetary policy can also affect the relative price of equity vs debt finance. By lowering (raising) yields on bonds, expansionary (contractionary) monetary policy encourages (discourages) investment
in stocks. The balance sheet channel operates through the higher (lower) consumer spending caused by higher (lower) stock valuations. The bank lending channel is activated when banks pass on the lower (higher) costs of liquidity to their customers by lowering (raising) the interest rate they offer on their loans. Finally, monetary policy can influence the short-term interest rate differential with other currencies and, thus, capital flows and ultimately exchange rates.

An effective MTM reliant on money markets requires the existence of competitive (many buyers and sellers) and deep (large transaction volumes) markets so that buyers and sellers are price-takers in four key financial markets: first, the money market between the central bank and commercial banks; second, the interbank market, with commercial banks as borrowers and lenders; third, sovereign debt markets, with commercial banks as lenders and governments as borrowers; fourth, asset markets with banks, households, and non-financial businesses as participants. If these markets do not exist or are poorly integrated among themselves, then injections and withdrawals of liquidity by central banks will have weak effects on the real economy. This “conventional description of monetary transmission,” therefore, “relies on effective arbitrage along several margins: between different domestic short term securities, between domestic short-term and long-term securities, between long-term securities and equities, between domestic and foreign securities, and between domestic financial and real assets” (Mishra et al., 2012, p. 278).

In most low-income countries, markets for short and long-term bonds, equity, real estate either do not exist or are small and largely domestic. Moreover, central banks often intervene heavily in the market for foreign exchange. The thinness of these financial markets—with few buyers and sellers, low volumes, and infrequent transactions—and their limited integration with each other and with foreign markets means that interest rate, balance sheet and exchange rate channels are likely not operative (Mishra & Montiel, 2013). High-income countries feature a variety of financial prod-
ucts and markets for productive investment, of different risk profiles (from junk to AAA-rated bonds, penny stocks to blue chips), term structures (from overnight repos to 30-year bonds), and asset classes (equity, secured and unsecured debt, derivatives, etc). There is also a correspondingly wide array of financial intermediaries—mutual funds, hedge funds, investment banks, commercial banks, insurers, re-insurers, etc. In contrast, African financial systems largely consist of a few large oligopolistic commercial banks—although small by global standards. Essentially, African firms and entrepreneurs are limited to one financial product, bank loans, offered by a small number of providers. Consequently, most studies of the MTM in the low-income countries focus on the bank credit channel.

Furthermore, if competition is imperfect, then banks may not pass on lower borrowing costs to their customers but may simply enjoy higher interest rate margins. Higher borrowing costs in Africa compared to other world regions limit credit, ensuring that credit is supply-determined (Ndikumana, 2016). Furthermore, if the financial system is small relative to the domestic economy, then even if the first leg of MTM is effective—from policy rates to interbank lending rates—the second—from interbank lending rates to nominal GDP—may not be. As a result “the link between the central bank’s monetary policy instruments and the behavior of aggregate demand in such countries is something of a black box” (Mishra et al., 2012, pp. 271–2).

In a study comparing 108 countries—52 low-income, 29 “advanced,” and 28 emerging economies—Mishra et al. (2012), find large differences in national financial development by income. They report that the value of total financial assets in relation to GDP is much higher in high-income economies (1.24) than in low-income economies (0.24). The stock market capitalization to GDP ratio is 0.9 in advanced countries, 0.82 in emerging, and 0.27 in low-income while the overall average is 0.58. Total stock market trade volumes to GDP ratios are 0.79, 0.52 and 0.02 respectively (0.35 overall), while the stock market turnover ratio is 0.77, 0.61 and 0.11 (0.41 overall).
Mishra et al. (2012) cannot even document the existence of private bond markets in low-income countries, reporting a bond market capitalization to GDP ratio of 0. The commercial banking sectors in low and middle-income countries are more concentrated and therefore have higher net interest rate margins (0.05 in middle-income and 0.06 in low-income compared to 0.02 in high-income countries).

In a meta-analysis of the impact of monetary policy in low-income countries Mishra and Montiel (2013) find little evidence of an effective MTM. The effect of monetary policy decisions on aggregate demand is small or nil. The MTM is also unreliable, its impact varying unpredictably over time. In a review of 14 studies of sub-Saharan African countries from 2002-2012, Mishra and Montiel (2013, p. 196) conclude that “None of those studies finds unambiguous evidence of large and statistically significant effects of monetary policy innovations on both aggregate demand indicators.” Their survey includes only one study (Saxegaard, 2006, discussed below) that focuses on either CFA zone.

Mishra et al. (2014) estimate a panel VAR to show that monetary policy is less effective at influencing bank lending rates in low-income countries. Their sample includes 132 countries from 1978 to 2013. Monetary policy decisions are more likely to move bank lending rates in the theoretically expected direction in countries with “better institutional frameworks,” more competitive banking systems and more developed financial markets. They find a huge range of monetary policy effectiveness between countries.

Ndikumana (2016) estimates an investment function for 37 sub-Saharan countries from 1980 to 2012 and finds that while investment responds to bank lending rates, monetary policy has little influence on investment. The investment to GDP ratio responds more to the average lending rate than two monetary policy variables: the Treasury bill and discount rates. This suggests that commercial bank lending does
influence GDP, but the first leg of the MTM—from policy rates to bank lending rates—is ineffective.

3.2.2 The MTM in the CFA Zone

Studies of the MTM in the CFA zone generally find little evidence that BCEAO and the Central Bank of Central African States’ (BCEAC) monetary policies reliably impact output and prices in the CFA zone’s members. All these studies, however, are working papers produced by researchers at the two regional central banks or the IMF; none has been published in a peer-reviewed journal.

Nubukpo (2002) examines the effect of BCEAO monetary policy on inflation and growth in the UEMOA between the fourth quarter of 1989 and the fourth quarter of 1999 and finds that monetary policy does have the theoretically expected effects, but they are weak. Nubukpo estimates a recursive VAR with the following order of variables: consumer price inflation, real GDP, real investment, import prices, the money market rate, and the policy (repo) rate. Estimates of a Vector Error Correction Model (VECM) find weak but significant effects of policy rates on inflation and GDP. Impulse response functions (IRFs) of monetary policy decisions suggest an impact on inflation in all countries but growth rates are only affected in a few countries.

Saxegaard (2006) focuses on the effect of “excess liquidity”—bank reserves beyond the minimum requirements—on monetary policy effectiveness for three central banks: the Bank of Uganda, the Bank of Nigeria, and the BCEAC. He first seeks to distinguish which excess reserves are held for precautionary reasons and which are truly excessive from the commercial banks’ point of view. Then he estimates a threshold for voluntary excess reserves and uses it to estimate the non-linear impact of monetary policy transmission given frequently high levels of excess reserves in African banking systems. He follows Bernanke and Mihov (1998) in estimating a structural VAR with four variables: GDP, the inflation rate, the nominal exchange rate and base money.
He models monetary policy as a shock to base money (M0) since most African central banks (including the BCEAC and BCEAO for much of this period) used a monetary aggregate as a policy target. CEMAC’s estimated threshold for “excess” reserves was 17 percent of deposits, with the banking system below this threshold from the beginning of the sample in the second quarter of 1995 until the second quarter of 2000. From then until end of his sample in the fourth quarter of 2003, liquidity was “excessive.” Shocks to M0 did impact output in CEMAC but not inflation, leading Saxegaard to declare the MTM weak.

Oloufade (2015) examines the effects of monetary policy on industrial production in the UEMOA. He estimates a recursive VAR and a VECM using monthly data from January 2001 to December 2013 for the region and seven of the member countries. He uses Granger tests to determine the following sequence of five variables: the policy (repo) rate, a commercial sales index (indice de chiffre d’affaires which only covers wholesalers and retailers in the formal sector), consumer price inflation, credit to the private sector and an industrial production index—based on survey of 976 firms covering approximately 80% of industrial sales. IRFs of a change in the monetary policy rate do have the expected effect on industrial production, peaking in three months and dissipating after 16 months. In the regional VECM, Oloufade finds the wrong sign for the policy rate’s effect on industrial production, but it is not statistically significant in the short or long-run for the region. Excluding credit to the private sector, however, does lead to a negative sign and a statistically significant effect of monetary policy on industrial production. The policy rate does have the expected sign and is statistically significant in the short-term for Senegal and the long-term for Côte d’Ivoire using all four regressors. An error decomposition analysis finds that movements in the policy rate explain less than one percent of the variance of the industrial production index. Oloufade also uses a General Method of Moments (GMM) estimator with fixed effects as a robustness check and finds that the policy
rate has a negative but statistically insignificant effect on industrial production. Despite these mixed results, Oloufade concludes that BCEAO’s monetary policy does impact industrial production via the bank lending channel and endorses BCEAO’s inflation-targeting monetary policy regime.

Bikai and Kenkouo (2015) estimate a structural VAR for each country in the CEMAC and a panel VAR for the region. They use quarterly data on GDP (spliced), CPI, M2, credit to the private sector, and the policy rate (TIAO). They find that monetary transmission is weak in Cameroon and Congo-Brazzaville and changing the policy rate had no effect on output and prices in the Central African Republic, Gabon, Chad, and Equatorial Guinea. They bemoan the paradox of credit rationing despite excess liquidity in the banking sector, and the inflationary effects of short-term consumer loans. In response, they advocate for financial market deepening in Central Africa.

Kireyev (2015) is one of the few studies of monetary policy effectiveness in the CFA zone that does not use a VAR model. Instead, he examines the question of MTM effectiveness by estimating the dynamic multipliers (or impact effects) of changes in BCEAO policy rates on other interest rates and inflation using distributed lag models. He uses monthly data from February 2007 to September 2013 to run a series of bivariate ordinary least squares (OLS) regressions with the following variables: policy rates, deposit rates, money market rates, interbank rates, lending rates, and inflation rates. He finds a statistically significant impact of changes in BCEAO policy rates on money market, interbank, average lending, and average inflation rates in the region. There is no significant effect on average deposit rates, and the estimated coefficient has the wrong sign. He concludes that the MTM is weak and suggests this is due to segmented interbank lending markets, where intragroup borrowing rates for large international banks differ substantially from the rates between smaller banks.
3.3 Financial Markets and Monetary Policy in the UEMOA

3.3.1 Modern History of BCEAO Monetary Policy

One of the major difficulties with using VAR methods is the need for researchers to impose *ad hoc* restrictions on their models as part of their identification strategies. Ideally such assumptions are based on an understanding of the history and intuitions of monetary policy in specific developing countries. Instead,

Few – if any – papers base their specification of the behavior of the monetary authorities on independent evidence about how monetary policy has actually been conducted in the relevant country. In general, identification assumptions concerning the information available to the monetary authorities and lags in policy effects appear to be largely arbitrary or taken from the industrial-country literature (Mishra & Montiel, 2013, p. 214).

The historical overview of BCEAO’s monetary policy in the this section of this essay is meant to address these concerns. It is, therefore, a necessary complement to the quantitative analysis that follows.

BCEAO moved towards modern, “indirect” monetary policy—open market operations to influence money market interest rates—and financial liberalization starting in the late 1980s and early 1990s. As part of their “structural adjustment packages,” governments in the CFA zone removed direct controls on interest rates and credit (although interest rate ceilings and “indicative” credit ceilings remain). Instead of direct controls BCEAO now acts “through indirect bank liquidity regulating instruments, notably base rates, refinancing operations and reserve requirements mechanism to conduct monetary actions” (Annual report 2018, p. 51). These reforms also reinforced the independence of the regional central banks and created Banking Commissions to better regulate the banks in UEMOA and CEMAC (Doumbia, 2013; Honohan, 1993).

Monetary policy was no longer controlled by the Council of Finance Ministers but by an independent Monetary Policy Commission (MPC). It meets quarterly—in March, June, September, and December of each year—to set reserve requirements
(liquidity ratios) and the minimum and maximum rates at which it lends bank reserves (high-powered money) to commercial banks. BCEAO first instituted reserve requirements in 1993. It used to set reserve requirements by country but decided to set a uniform rate for the entire region in 2010 at 7%. It lowered it to 5% in 2012 and then to 3% in 2017.

Between 1998 and 2003, BCEAO also phased out advances to governments, encouraging them to issue Treasury bills on the newly created regional securities exchange, the Bourse Régionale de Valeurs Mobiliers. Domestic public debt markets are supposed to finance government spending without stoking inflation and allow central banks to carry out open market operations. The “policy implication is that attention should be paid to the development of short-term money markets, an issue that has been overshadowed by attention to stimulating directly long-term finance in the developing world” (Honohan, 1993).

The MPC initially set two policy rates, the *taux de mise en pension*, or repurchase (repo) rate, and the *taux d’escompte*, or discount rate. The repo rate was meant to serve as an effective ceiling for the interbank market for reserves, with the discount rate set at a penalty—typically 50 basis points above the repo rate. In 2010, BCEAO discontinued the discount rate, and renamed the repo rate the marginal facility lending rate (*taux d’intérêt du guichet de prêt marginal*).

In 2007, BCEAO shifted to open market operations in the form of auctions of a predetermined amount of central bank bonds with one-week maturity. Two years later it introduced similar liquidity auctions for one-month central bank bills at fixed rates and initially in unlimited amounts. Since then, BCEAO’s main policy rate has been the minimum bid rate (*le taux d’intérêt minimum de soumission aux opérations d’appels d’offres d’injection de liquidités*), the rate at which bidding begins at BCEAO’s liquidity auctions.
Since April 1, 2010, BCEAO’s main target is an average regional inflation rate of 2%, within a band of 1-3%, over a horizon of two years (Rapport annuel, 2018, p. 23). To achieve that target BCEAO tries to contain the money market rate (the *taux marginal des injections de liquidite par appels d’offres* or marginal auction rate, the rate at which banks can borrow from BCEAO at auctions) between a floor set by the minimum bid rate and a ceiling set by the marginal lending facility rate. The money market rate is supposed to influence BCEAO’s intermediate target: the interbank rate for one-week loans. The MTM in the UEMOA then depends on arbitrage between the money and interbank markets, so that the interbank rate is supposed to track changes in the money market (or marginal auction) rate. The weekly interbank rate is, in turn, supposed to influence the lending rates banks offer non-financial businesses. Lower (higher) interest rates encourage greater (reduced) borrowing and spending, and via this bank lending channel, increasing (decreasing) regional output and prices.

The marginal lending facility (or repo) rate was set at 4.75% in August 2008 (Figure 3.1). BCEAO then reduced the rate three times: to 4.25% in June 2009, 4% in June 2012 and 3.5% in September 2013. It initially set the minimum bid rate at 100 basis points below the marginal lending facility rate, at 3.75% in August 2008. Hence it experienced the same trend as the marginal lending facility rate, being cut to 3.25% in June 2009, 3% in June 2012 and 2.5% in September 2013. In December 2016, BCEAO decided to expand its policy corridor to 200 basis points and raised the marginal lending facility rate to 4.5%. Both rates remained unchanged until the end of the sample period.

The money market rate hovered around the minimum bid rate until January 2016. Since then, the money market rate has fluctuated more widely within the corridor set by BCEAO, hitting the ceiling (the marginal lending facility rate) during three months in 2016, two months in 2017, four months in 2018, and three months in 2019,
while being at the floor (the minimum bid rate) for four months in 2018 and just slightly above for two months in 2019 (Figure 3.1).

Figure 3.1: BCEAO Policy Rate Corridor, Money Market, and Interbank Lending Rates 2000-2019

![Graph showing BCEAO Policy Rate Corridor, Money Market, and Interbank Lending Rates 2000-2019.]

Source: BCEAO

The spread between the monthly average of the weekly interbank lending rate and the money market rate has generally been positive except for five months, with only one occurrence after 2011. It has ranged from -19 basis points in January 2011 to 524 basis points in August 2008. Since the announcement of an inflation target in April 2011, however, the spread has not exceeded 227 basis points. On average during the sample period the spread has been 101 basis points (Figure 3.1).
3.3.2 Banking Sector in the CFA Zone

Ineffective financial intermediation is a longstanding challenge in Sub-Saharan Africa. The region has systematically trailed behind other developing regions in bank lending to the private sector, with the gap growing since the 1970s. In that decade, the average ratio of bank credit to GDP was 1.4 times higher—21% for developing countries outside Africa vs. 16% in sub-Saharan Africa—while in the 2000s it was 2.3—42% compared to 18% for SSA. Indeed, “The low performance in bank lending may be one of the factors of the sluggish performance in domestic investment in SSA” (Ndikumana, 2016, p. 10). The Bank of International Settlements estimates that 40% of African savings are invested outside the continent (cited in Hugon (2007)). In 2014, private sector credit was 21.9% of GDP in UEMOA and 15% in CEMAC, compared to 35% in Nigeria and 32% in Ghana; it is over 200% in the US and UK. The loan to deposit ratio is also relatively low, at 95% in UEMOA and 72% in CEMAC, while it is generally over 100% in OECD countries (Diop, 2015). As Freedman and Click (2006, p. 282) explain “A low level of credit in relation to deposits (rather than to GDP) is a different problem from either a low level of deposits relative to GDP or a low level of credit relative to GDP. Indeed, a low level of credit in relation to deposits is the essence of an inefficient banking system.”

A high degree of market power has allowed banks in the UEMOA to enjoy high spreads and profit margins since financial liberalization in the 1990s (Doumbia, 2011). In 2003, the market share of the three largest banks in each country ranged from 50 percent in Côte d’Ivoire to 100 percent in Guinea-Bissau (Sy, 2006). Interest rate spreads are higher in SSA than in North Africa which, in turn, are higher than Southern Europe. Returns on equity and assets are twice as high in SSA as in the rest of the world (Sacerdoti, 2005). The spread is estimated at 13% in CEMAC vs. 6% for other developing countries, and bank profit rates between 15 and 20% (Hugon, 2007). Greater competition has lowered bank spreads, “For instance in Burkina Faso spreads
fell considerably (by about 2 basis points) between 1998 and 2000 when the number of banks in the country increased from five to seven. Spreads have been declining in recent years in countries such as Senegal, Cameroon, Cape Verde, and Gabon, reflecting more competition and ample liquidity in the banking system” (Sacerdoti, 2005, p. 12). But in 2009 when BCEAO lowered its policy rates, the commercial banks only decreased their lending rates for a few months to placate BCEAO. Their ability to quickly restore lending rates to their previous levels demonstrates their considerable market power (Diop, 2015).

Banks in the UEMOA exhibit a bias towards short-term loans and large exporters. Less than 10% of loans are long-term (Diop, 2015). The region’s economies are largely agricultural yet there is little long-term finance for improving farms and raising yields. Most agricultural loans are short-term warehouse credits for large marketing boards with cash crops as collateral (Sy, 2006). Medium- and long-term productive investments are mostly financed outside of the banking sector, especially by retained earnings (Hugon, 2007). These problems are common in banking sectors throughout Africa (Nkurunziza et al., 2012).

Nearly 30 years since the liberalization of the banking sector, money markets remain small. The T-bill market has expanded rapidly but it remains small: “Total gross issuance of publicly traded debt (public, private, and from regional institutions) has grown more than tenfold since 2000 to reach 382.8 billion CFA in 2006. As of July 2007, total outstanding debt reached 905 billion CFA (about US $2 billion) or 3.5 per cent of GDP, which is lower than in South Africa (47 per cent) but comparable to Russia (3 per cent of GDP). As is typically the case, public debt accounts for most of the local debt market” (Sy, 2010, p. 292).

When interbank markets are shallow, then banks cannot borrow reserves and will have to hoard them. Indeed, the persistence of excess liquidity in African banking systems is well documented. Nana and Samson (2014, p. 29) report that “over the
period 1990 and 2009, the ratio of liquid reserves to total assets for the median bank in sub-Saharan Africa (SSA) has varied between 11% and 19%. In comparison, over the same period, the liquid reserves to total assets ratio for the median bank in OECD has not exceeded 5%.” Since BCEAO imposed reserve requirements in 1998, only banks in Benin—facing the highest reserve requirements before BCEAO applied a uniform rate for region in 2012—have had difficulty meeting their reserve requirements.

Similarly, markets for short-term government debt also remain shallow. Since commercial banks see T-bills as a substitute for excess reserves, they buy and hold them, hindering the growth of secondary markets for T-bills, and repo markets that use T-bills as collateral. There is a “permanent flight to safety” to T-bills, with banks in the region preferring to invest in them over riskier loans to the private sector. As a result, “Over the 2005–2006 period, T-bill rates are broadly higher for countries with lower excess liquidity” (Sy, 2010, p. 300).

BCEAO moved to indirect monetary policy—using the policy rates to influence money market, interbank and bank lending rates to impact aggregate demand—in the 1990s. Yet the lack of competition in the banking sector and banks’ unwillingness to lend—as indicated by high levels of excess reserves—mean the efficacy of the second leg of the monetary transmission mechanism—from interbank rates to inflation in this case—is doubtful. Again, BCEAO’s monetary policy independence may matter little if the current monetary policy framework is ineffective.

### 3.4 Methodology

Some scholars maintain that the MTM in low-income countries is effective but that there are methodological problems that prevent its proper evaluation (Mishra et al., 2012). Berg and Portillo (2018) highlight the identification problems with VAR models and the poor quality of financial data from Africa. They point to short or “noisy” time series, measurement errors, and the difficulty of identifying targets and
instruments given frequent policy regime changes. Indeed, Li et al. (2018) develop a DSGE model to simulate various small, low-income, open economies, and show that even with the correct specification, VARs may not find conclusive evidence if the MTM is weak. Although VARs have dominated the empirical literature on monetary policy for decades many researchers—even those studying high-income countries where these models perform much better—still seem to lack confidence in this method (Nakamura & Steinsson, 2018).

Instead of VARs, Berg and Portillo (2018) rely on the “narrative” or case study approach championed by Romer and Romer (1989). They examine the impact of the decisions by central banks in Kenya, Uganda, Tanzania, and Rwanda to raise policy rates to confront rising inflation in 2011. They find clear evidence of effective transmission in Kenya and Uganda, leading to higher money market and lending rates, nominal exchange rate appreciation, and lower credit growth. The evidence for Tanzania was mixed while Rwanda did not raise interest rates since it did not experience inflation rates as high as its neighbors.

Most studies of MTM in low-income countries, however, attribute the lack of monetary policy effectiveness to institutional problems with financial markets. They point to the structural liquidity surplus that exists in many low-income countries and the low loan-to-deposit ratios, both prima facie evidence of a financial system that fails to transform short-term deposits by households into long-term loans to non-financial businesses. They attribute these failures to several market and government failures: information asymmetries, weak and corrupt legal and regulatory systems, oligopolistic banks, and heavy state intervention in foreign exchange markets.

Most of the studies testing the effectiveness of the MTM do so using Vector Autoregressions (VAR) models which raise three difficulties with identification. A VAR is an $K$ variable $K$ equation system where each variable is regressed on lagged values of itself and current and lagged values of all other variables. Ironically, VAR models
were originally developed to circumvent problems with identification by treating all variables as endogenous. A linear VAR model with a constant term consists of a system of equations like 3.1:

\[ y_t = c + \sum_{i=1}^{p} A_i y_{t-i} + u_t \]  

(3.1)

where \( u_t \sim N(0, \Sigma) \), \( y_t \) is a vector of \( K \) variables at time \( t \), \( c \) is a constant and \( p \) is the number of lags. “Naïve” VAR models treat all \( K \) variables as endogenous, therefore the estimated coefficients, \( \hat{A}_i \), cannot be interpreted as partial derivatives. Instead to assess the impact of a shock to any of the variables on the rest of the variables, researchers derive impulse response functions (IRFs). If presented as a vector moving average process the IRF for the \( ith \) period after a shock is:

\[ \phi_i = \sum_{j=1}^{i} \phi_{i-j} A_j \]  

(3.2)

Where \( \phi_0 = I_K \), \( A_j = 0 \) and \( j > p \). These IRFs cannot be used to estimate the contemporaneous reactions of the variable, however, since they are based on the correlations in the variance-covariance matrix of the estimated error term \( \Sigma \) and do not have a causal structure.

The first challenge for the researcher is to correctly identify the monetary policy instrument. Many central banks in developing countries claim to have switched from reserve money management to relying on short-term interest rates since the early 1990s, yet in many cases bank reserves remain the relevant policy tool (Mishra & Montiel, 2013). The second challenge is to identify the intermediate target of monetary policy. If the researcher misidentifies the intermediate target, then the correlation between that variable and aggregate demand may be the effect of a third factor on both variables, instead of the independent effect of monetary policy on nominal GDP.
The third and most contentious identification problem is the need to impose *ad hoc* restrictions in order to assess causality with VARs. The researcher must specify the links between the $K$ variables in the model, including identifying a possible source of exogenous variation. To arrive at causality in a VAR model therefore requires imposing restrictions on the matrix $\Sigma$. Ideally researchers would be making these restrictions based on an ample historical and institutional understanding of the conduct of monetary policy in specific countries. The historical overview of BCEAO’s monetary policy in Section 3.3 of this essay is meant to address these concerns.

Most studies of monetary policy use a Choleski decomposition, widely known as the “recursive” method, which assumes that $\Sigma = PP'$, where $P$ is a lower triangular matrix with positive diagonal elements, to recover structural errors from reduced form estimates of each equation in a VAR (Christiano et al., 1998). This leads to an orthogonal IRF where $\theta_i = \phi_i P$. It is then possible to estimate the vector of structural errors $v_t$ by multiplying the matrix $P$ and the vector $u_t$, the error term of the reduced form of Equation 3.1.

$$v_t = P\tilde{u}_t \quad \text{(3.3)}$$

Both $u_t$ and $A_{ij}$ are estimated using ordinary least squares (OLS) for each of the equations in the system. Consequently, the ordering of variables is crucial, since each variable is considered “causally prior” to the one that follows it. The first variable is considered exogenous with no contemporaneous links to the other endogenous variables in the model. The second variable is a function of contemporaneous shocks to itself and to the first variable. The third variable is a function of its own shocks and shocks to the first and second variables, and so on.

There is a lively debate within the literature on monetary policy about where to place the policy variable in a recursive ordering (Mishra & Montiel, 2013). Traditionally many researchers have put the policy variable first, since as a discretionary choice
made by policymakers it is arguably exogenous. Bernanke and Blinder (September 1992) argue for placing the policy variable last given the information set available to policymakers. They contend that central bankers can observe other slower moving macroeconomic variables, therefore while these other variables affect monetary policy contemporaneously, policy changes only have a lagged effect on them. Other studies follow the approach established by Peersman and Smets (2001) which assumes that monetary policy shock has no contemporaneous effect on the variables informing policy, but can impact other variables in the same period. Consequently, the monetary policy variable does not have to be placed first or last.

Moreover, the variance-covariance matrix of the error term need not be lower triangular, as long as researchers impose a sufficient number of identifying restrictions. “Structural” VARs require simultaneous solution of a subset of the system of equations. First popularized by Sims and Zha (2006) for modeling US monetary policy, Kim and Roubini (2000) extended the structural VAR method to developing countries. They model monetary policy in a small, open economy by adding global commodity prices and a world short-term interest rate as exogeneous variables for central bankers in developing countries.

3.4.1 Model Specification

This study estimates a recursive VAR model to test whether the BCEAO’s monetary policy has a consistent impact on inflation rates in the UEMOA. It focuses on four variables in the following order: an index of world food prices, an index of consumer prices in UEMOA, BCEAO’s monetary policy stance, and total lending by the domestic banking sector.

Three of the variables—the consumer price index, monetary policy stance and commercial bank lending—are dictated by the research question. Assessing the effectiveness of inflation-targeting requires a measure of the central bank’s monetary
policy stance and of inflation. It also requires the inclusion of a variable that reflects the possible channels through which monetary policy could affect nominal aggregate demand and therefore prices. As explained in Section 3.2.1 the bank lending channel is likely to be the only one operative in many developing countries. I use loan volumes instead of lending rates because changes in lending have a greater impact on nominal GDP than changes in the lending rates facing non-financial borrowers.

Finally, I also include an index of world food prices since these have an important effect on domestic prices in the UEMOA (BCEAO, 2020). Granger causality tests demonstrate that changes in world food prices are strong predictors—at 5% significance level—of changes in overall consumer prices for Benin, Burkina, Mali, Niger, and the region (see Tables B.1 and B.2 in Appendix B). Studies of monetary policy in small, open economies often use commodity prices or worldwide interest rates, to proxy for the exogenous influence of the global economy (Kim & Roubini, 2000; Mishra & Montiel, 2013). Surprisingly, most studies of monetary policy in the CFA zone ignore any consideration of global economic conditions (Nubukpo 2002; Saxegaard 2006; Oloufade 2015; Bikai and Kenkouo 2015; Kireyev 2015). Therefore, the choice of variables reflects BCEAO’s policy goals, the main drivers of inflation in the UEMOA and the likely operation of the MTM through the bank lending channel.

The ordering of the variables in the model reflects the stated aims of regional monetary policy, and the information sets available to BCEAO and to commercial banks in the UEMOA. I place the world food price index first since as small, open economies the countries in UEMOA are price-takers in international markets; food import prices are exogenous. Import passthrough is a key component of domestic inflation, therefore I place the consumer price index second (BCEAO, 2020). In an inflation-targeting framework, the central bank commits to responding to deviations of inflation from its target, therefore I place the monetary policy variable third. Granger causality tests find that changes in regional inflation do predict changes in
the marginal lending facility rate and the base money supply (and changes in the base moneys supply are also a predictor of changes in regional inflation, see Tables B.3 and B.4 in Appendix B). Finally, I assume that commercial banks in the UEMOA can observe changes in international and domestic prices and BCEAO’s monetary policy before making lending decisions, so I place bank lending last. Changes in the minimum bid rate are a leading indicator of changes in commercial bank lending at the 10% level in four countries—Côte d’Ivoire, Mali, Niger, and Togo—as well as the region (see Tables B.5 and B.6 in Appendix B). On the other hand, changes in the marginal lending facility rate do not seem to have any predictive power over changes in bank lending (see Tables B.7 and B.8 in Appendix B). Finally, changes in the base money supply only predict changes in bank lending—at the 10% significance level—in two countries: Senegal and Togo (see Tables B.9 and B.10 in Appendix B).

Consequently, the relationship between the vector of structural errors and the vector of reduced form errors, the matrix $P$ in equation 3.3, is as follows:

\[
\begin{bmatrix}
V_t^{\text{WorldFoodPrices}} \\
V_t^{\text{ConsumerPriceIndex}} \\
V_t^{\text{MonetaryPolicy}} \\
V_t^{\text{BankLending}}
\end{bmatrix} =
\begin{bmatrix}
1 & 0 & 0 & 0 \\
A_{21} & 1 & 0 & 0 \\
A_{31} & A_{32} & 1 & 0 \\
A_{41} & A_{42} & A_{43} & 1
\end{bmatrix}
\begin{bmatrix}
u_t^{\text{WorldFoodPrices}} \\
u_t^{\text{ConsumerPriceIndex}} \\
u_t^{\text{MonetaryPolicy}} \\
u_t^{\text{BankLending}}
\end{bmatrix}
\]

(3.4)

Many models of monetary policy include measures of output or an output gap, but I chose not to incorporate them for two reasons. First, as discussed in the previous essay, there are serious concerns about how to conceptualize and estimate the output gap in developing countries. Secondly, this study uses monthly data in order to exploit as much variation across time. The variables are all reported monthly—except for BCEAO policy rates which are set quarterly—while GDP is only reported annually.

The focus of this study, the effect of monetary policy on inflation, is investigated by simulating an impulse response function for a one standard-deviation increase of each
policy rate—the marginal lending facility rate and the minimum bid rate—and the base money supply, M0, on changes in the consumer price index for each country and the region. If monetary policy is effective then an increase in the policy rate should consistently lead to lower inflation; if it is weak then the estimated effects should be statistically insignificant. Similarly, if BCEAO's monetary policy is effective then a one-standard deviation increase in the base money supply should lead to an increase in the CPI. IRFs of a change to the monetary policy variable may determine whether the relationship between monetary policy and each of the other variables is positive or negative they lack precision on the magnitude of the effect.

I also evaluate the strength of the monetary transmission mechanism, specifically the bank lending channel, by simulating the response of bank lending to changes in monetary policy. If monetary policy is expansionary, with a higher base money supply, then consumer prices and commercial bank lending should rise. If monetary policy is contractionary, with policy rates rising, then then consumer prices and commercial bank lending should fall. If monetary policy shocks have a statistically significant effect (at 5% level) on consumer prices and bank lending then we can conclude that the monetary transmission mechanism in the given country is effective. If the simulated impacts of monetary policy on inflation and commercial bank loans are large (relative to the magnitude of the shock) then we can conclude that the monetary transmission mechanism is strong. Given that the results of impulse response functions are reported as averages of a large number of simulations (100 each in this study) the interpretation of the impact of a shock is not as straightforward for vector autoregressions as the coefficients of a multivariate linear regression model with independent variables.

### 3.5 Data

I have compiled a balanced panel of all eight members of UEMOA and the region as a whole with monthly time series from April 2010 to March 2020 (see Table 3.1). Since
the aim of this paper is to evaluate the effectiveness of BCEAO’s inflation-targeting regime. I use price, monetary policy and credit data starting from the announcement of inflation targeting in April 2010 and ending before the extraordinary measures undertaken by central banks around the world to combat the global recession created by the COVID-19 pandemic. The world food price index is from the IMF’s Primary Commodity Prices database (Figure 3.2). The consumer price index (Figure 3.3), policy rates (Figure 3.1), base money (Figure 3.4) and bank lending (Figure 3.5) data are all from BCEAO. Each series is transformed into the first difference of its natural logarithm, to make the changes in the variables comparable. Augmented Dickey-Fuller tests of the first difference of all 28 series reject the null hypothesis of a unit root at the 5% significance level (see Table A.1 for results. Unit root test results for BCEAO and ECB policy rates are displayed in Table 2.2).

Global food prices were highly volatile in the decade from 2010 to 2020 (Figure 3.2). During this period, monthly changes have ranged from a decrease of 4.7% in September 2011 to an increase of 6.4% in December 2010. Global food prices rose at the beginning of the decade with the index reaching 252.2 in April 2011 and remaining high, peaking at 253.3 in March 2012 before beginning a dramatic decline in June 2014. Global food prices fell until the index reached a low of 77.5 in January 2016. They followed an upward trajectory until September 2018 reaching 174.1, before declining once again and settling around 130 by the end of the decade.

Monthly consumer prices in the region exhibit a high degree of seasonality, with prices in Côte d’Ivoire—the largest economy in the UEMOA—being the least seasonal (Figure 3.3). Prices were on upward trend across the region from the beginning of the decade until 2013. Inflation spiked in Côte d’Ivoire during its political crisis in 2011. Since 2013, consumers prices have risen at a slower rate in Burkina Faso, Côte d’Ivoire, and Senegal, while in Mali, Niger, and Togo they have fluctuated a great deal since then but with no discernible trend. The heterogeneity of inflation rates
across the region demonstrates that UEMOA has yet to achieve price convergence, which poses an important challenge to a common monetary policy targeting regional inflation.

The base money supply—currency in circulation plus bank reserves held with BCEAO—as well as its growth trends also vary greatly by country in the UEMOA (Figure 3.4). In December 2019, the base money supply of Côte d’Ivoire, at nearly 3 trillion CFA francs, was more than double that the next largest economy in the UEMOA, Senegal at 1.4 trillion CFA francs, and ten larger than the smallest economy in UEMOA, Guinea-Bissau at 291 billion CFA francs. The base money supply grew steadily in Benin before peaking at 759 billion CFA in 2015 and then falling to around 600 billion CFA francs for the rest of the decade. In Burkina Faso, the base money hovered around 250 billion CFA and then started growing gradually in 2014 to triple to 750 billion CFA by the end of the decade. The base money supply of Côte d’Ivoire doubled over the decade while exhibiting a strong seasonal pattern. In Guinea-Bissau, the base money supply grew more than five-fold from less than 60 billion to nearly 300 billion CFA francs. In Mali, the base money supply grew from less than 400 billion CFA in 2010 to over 600 billion CFA francs in 2013. It fluctuated between 500 and 600 billion CFA until 2019 when it climbed over 700 billion CFA. Niger saw continuous growth from 200 billion to nearly 700 billion CFA from 2010 to 2017. The base money supply then shrank to 500 billion CFA where it has remained since. Senegal has the smoothest growth pattern, with the base money expanding consistently and growth accelerating in 2015. Togo’s base money supply growth looks like that of Burkina Faso, staying around 200 billion CFA until 2014 and then doubling to reach nearly 400 billion CFA by the end of the decade. The regional money supply largely mimics the trends for Côte d’Ivoire except the seasonal fluctuations seen in Côte d’Ivoire are dampened at the regional level. The overall base money supply more than doubled over the course of the decade starting in 2010 from 3.3 trillion to 7.7 trillion CFA.
In contrast, growth in commercial bank lending to the public and private sectors varies less across countries and across time (Figure 3.5). Commercial bank lending grew consistently over the sample period in all countries except Benin, Guinea-Bissau and Niger. In Benin, commercial bank lending has leveled off since peaking in 2018. In Guinea-Bissau, commercial bank lending grew until 2014, then experienced a downward trend until 2017 and then resumed growth again. This growth in commercial bank lending has been volatile, however, going through another sharp drop and rise in 2019. In Niger there were major decreases in lending in early 2018 and late 2019. Overall commercial bank lending in the region nearly quadrupled from 8.1 trillion to 31.6 trillion CFA.

Table 3.1: Sample Summary Statistics of Variables in Levels

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Food Price Index</td>
<td>120</td>
<td>101.49</td>
<td>5.14</td>
<td>84.33</td>
<td>117.65</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>1,080</td>
<td>100.24</td>
<td>3.31</td>
<td>89.44</td>
<td>108.03</td>
</tr>
<tr>
<td>Minimum Bid Rate</td>
<td>120</td>
<td>2.72</td>
<td>0.32</td>
<td>2.50</td>
<td>3.25</td>
</tr>
<tr>
<td>Marginal Lending Rate</td>
<td>120</td>
<td>4.04</td>
<td>0.42</td>
<td>3.50</td>
<td>4.50</td>
</tr>
<tr>
<td>Base Money Supply (in billions)</td>
<td>1,080</td>
<td>1,160.19</td>
<td>1,593.96</td>
<td>57.40</td>
<td>7,792.15</td>
</tr>
<tr>
<td>Commercial Bank Lending (in billions)</td>
<td>1,080</td>
<td>3,136.50</td>
<td>4,564.56</td>
<td>24.88</td>
<td>23,025.40</td>
</tr>
</tbody>
</table>

Table 3.2: Summary Statistics for Benin

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Price Index</td>
<td>120</td>
<td>0.001</td>
<td>0.011</td>
<td>−0.021</td>
<td>0.048</td>
</tr>
<tr>
<td>Base Money Supply</td>
<td>120</td>
<td>0.005</td>
<td>0.038</td>
<td>−0.130</td>
<td>0.161</td>
</tr>
<tr>
<td>Commercial Bank Lending</td>
<td>120</td>
<td>0.007</td>
<td>0.044</td>
<td>−0.181</td>
<td>0.163</td>
</tr>
</tbody>
</table>
### Table 3.3: Summary Statistics for Burkina Faso

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Price Index</td>
<td>120</td>
<td>0.001</td>
<td>0.009</td>
<td>−0.025</td>
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### Table 3.4: Summary Statistics for Cote d’Ivoire

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<td>0.013</td>
<td>−0.019</td>
<td>0.042</td>
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</table>
Figure 3.2: Global Food Price Index 2010-2019

Source: IMF Primary Commodity Prices
Figure 3.3: Consumer Price Indices in UEMOA 2010-2019

Source: BCEAO
Figure 3.4: Base Money Supply in UEMOA 2010-2019

Source: BCEAO
Figure 3.5: Commercial Bank Lending in UEMOA 2010-2019

Source: BCEAO
3.6 Results

Estimates of the impact of monetary policy shocks in the eight members of the UEMOA and the aggregate region yield mixed evidence of monetary policy effectiveness. This study finds that changes in policy rates have no statistically significant impact on consumer prices or bank lending in the theoretically expected direction, while changes in the base money supply do affect inflation in the theoretically expected direction in only two UEMOA members, Côte d’Ivoire and Niger.

In Benin, a one-standard deviation increase in the base money supply leads, as anticipated, to an increase in inflation with a one-month lag and an immediate jump in commercial bank loans, but neither effect is statistically significant (Figure C.1). A simulated increase in the minimum bid rate leads to an increase in inflation one month later, instead of the expected decrease, and a fall in bank lending for two months (Figure C.2). Again, neither effect is statistically significant. An increase in the marginal lending facility rate predicts a rise in consumer prices and a decrease in bank lending after one month but neither effect is statistically significant (Figure C.3).

In Burkina Faso, a simulated one-standard deviation increase in the base money supply, of approximately 10%, leads to a statistically significant increase in bank lending of 0.4% and a decrease in inflation two months later that is not statistically significant (Figure C.4). Increasing the minimum bid rate leads to a fall in inflation after two months, and a fall in bank lending with a one-month lag but neither is statistically significant (Figure C.5). Increasing the marginal lending facility rate leads to an increase in inflation and in bank lending with a one-month lag but neither is statistically significant (Figure C.6).

In Côte d’Ivoire, a 4.5% increase in the base money supply leads to a statistically significant increase of 4% in bank lending and 0.15% increase in inflation two months later (Figure C.7). Increasing the minimum bid rate leads to a slight decrease in
consumer prices (less than 0.05%) after one month and an immediate fall in bank lending (Figure C.8). Increasing the marginal lending facility rate leads to a slight decrease in consumer prices and a drop in bank lending for four months (Figure C.9). None of the changes predicted by the simulated increases in policy rates is statistically significant.

In Guinea-Bissau, a simulated one-standard deviation increase in the base money supply, of approximately 8.7%, leads to a statistically significant increase in bank lending of 0.4% and an increase in inflation two months later that is not statistically significant (Figure C.10). Raising the minimum bid rates leads to higher inflation and bank lending two months later but neither effect is statistically significant (Figure C.11). Raising the marginal lending facility rate predicts a slight decrease in inflation two months later and an immediate increase in bank lending that dissipates after three months, but neither effect is statistically significant (Figure C.12).

In Mali, a simulated one-standard deviation increase in the base money supply, predicts an increase in inflation peaking at one month and an immediate rise in bank lending which then falls before the effect dissipates two months later (Figure C.13). Increasing the minimum bid rate leads to an increase in consumer prices after one month and an immediate fall in bank lending that lasts one month (Figure C.14). Increasing the marginal lending facility rate leads to a rise in consumer prices that peaks after one month and an immediate rise in bank lending that is almost entirely offset by a drop over the next month (Figure C.15). None of the predicted effects are statistically significant.

In Niger, a simulated one-standard deviation increase in the base money supply predicts a volatile impact on consumer prices and bank lending. A 5% increase in the base money supply in Niger predicts a statistically significant rise of inflation of 0.2% five months later. It leads to an increase in bank lending of approximately 1.2% in bank lending two months later and a decrease of less than 0.5% the following month.
Increasing the minimum bid rate leads to a decrease in inflation that lasts six months and peaks at two months and a drop in bank lending that lasts six months (Figure C.17). Increasing the marginal lending facility rate leads to consumer prices to fluctuate for four months and an immediate jump in bank lending that lasts two months (Figure C.18). None of the changes predicted by the simulated increases in policy rates is statistically significant.

In Senegal, a simulated one-standard deviation increase in the base money supply, leads to an initial decrease in bank lending and then bank lending fluctuates for another four months. The predicted increases in consumer prices one and four months later are not statistically significant (Figure C.19). Increasing the minimum bid rate leads to a decrease in inflation that peaks at one month and an immediate drop in bank lending that lasts one month (Figure C.20). Raising the marginal lending facility rate leads to increase in inflation that peaks at one month and dissipates after seven months and an immediate jump in bank lending that lasts two months (Figure C.21). None of the estimated effects of monetary policy shocks on consumer prices and bank lending are statistically significant in Senegal.

In Togo, a simulated one-standard deviation increase in the base money supply leads to an increase in prices that peaks at one month. Bank lending immediately rises then falls, continuing to fluctuate around zero for seven months (Figure C.22). Increasing the minimum bid rate leads to an increase in prices for a month. It also leads to a decrease in commercial bank lending for one month before it rebounds (Figure C.23). Increasing the marginal lending facility rate predicts a drop in consumer prices for one month, and an immediate fall in bank lending that lasts for two months before recovering (Figure C.24). None of the predicted effects are statistically significant.

In the region, a simulated increase in the base money supply of approximately 2.5% leads to a statistically significant rise in bank lending of 0.7% that lasts less
than a month (Figure C.25). Inflation also increases for one month, but the effect is not statistically significant. Increasing the minimum bid rate leads to a slight decrease in consumer prices after one month and an immediate fall in bank lending that lasts a month (Figure C.26). Increasing the marginal lending facility rate leads to a slight decrease in consumer prices after two months and an immediate rise in bank lending which is then reversed the next month before the effect dissipates at three months (Figure C.27). None of the changes predicted by the simulated increases in policy rates is statistically significant.

The MTM works as intended only for changes in the base money supply in Côte d’Ivoire and Niger. Only in those two countries does a simulated increase in the base money supply lead to statistically significant higher inflation and bank lending (Figures C.7 and C.16). Côte d’Ivoire has the largest economy and most developed financial markets in the UEMOA therefore it is not surprising that monetary policy there might be more effective. Niger and Benin are the only two UEMOA members where the base money supply stagnated at the end of the sample period (Figure 3.4), so it makes sense that a relatively large increase in the base money supply would have a greater impact on the Nigerien economy.

Moreover, while BCEAO policy rates may not be effective at controlling inflation, the results of this study suggest that does not mean monetary policy is powerless. While altering policy rates had no statistically significant effect on bank lending in any country, increasing the base money supply predicts statistically significant increases in bank lending in Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Niger and UEMOA (Figures C.4, C.7, C.10, C.16, and C.25). This makes sense given how infrequently BCEAO changes its policy rates and how often it holds liquidity auctions. This implies that BCEAO monetary policy may be able to reliably impact output if not prices via the bank credit channel.
3.7 Conclusion

This study finds that BCEAO monetary policy is largely ineffective in controlling inflation in UEMOA. Changes in BCEAO policy rates do not have a statistically significant effect on inflation and commercial bank lending in any of the eight members of UEMOA. Only in Côte d'Ivoire and Niger do simulations of expansionary monetary policy—in the form of higher base money supply—lead to higher inflation and bank lending.

This is the first study of the CFA franc with a sample period long enough to reasonably assess the effectiveness of monetary policy since the adoption of inflation-targeting in 2010. In addition, I contribute to the literature on monetary policy in low-income countries by using a specification based on the history of monetary policymaking in the UEMOA, instead of merely copying models developed for wealthier countries with different institutions.

If undeveloped money markets make indirect monetary policy ineffective, then policymakers have two possible responses: wait for money markets to get larger and more sophisticated or adapt the monetary policy framework to existing financial conditions. In short, wait for the instruments to become more capable of reaching the target or changing the target.

Researchers at the IMF argue that an ineffective MTM should encourage restraint among central bankers. They claim it reinforces arguments against activist policy, and offer an implicit endorsement of the CFA’s fixed exchange rate to the euro. Mishra et al. (2012) develop a formal model where the effects of monetary policy on output is weak and uncertain and find that discretionary monetary policy is less effective under these circumstances. In their view:

a setting in which domestic monetary policy is weak and unreliable is one in which the central bank should restrain activist impulses and should either postpone the adoption of policy regimes that raise the stakes associated with attaining publicly announced price level objectives or modify the design of those regimes to reflect the uncertainty about monetary
policy effects. In addition, this setting strengthens—but by no means clinches—arguments favoring fixed exchange rates and unrestricted capital movements (Mishra et al., 2012, p. 300).

Therefore, they assert central banks should remain independent of political influence and use as little discretion as possible. Instead, central banks should focus on communicating a clear, predetermined rule to manage expectations of future domestic prices.

Critics of IMF orthodoxy advocate for institutional change, a re-orientation in policy that recognizes the qualitative differences between financial systems in high- and low-income countries. The pessimism about the MTM in low-income countries expressed by Mishra and Montiel (2013) and others “stems mainly from studying monetary economics through the prism of models intended for the advanced capitalist economies with deep secondary money and capital markets” (Khemraj, 2014, p. 29). Central banks in low-income countries, according to this view, are not impotent; they simply have chosen an inappropriate policy framework. The findings of this study, that changes in base money do affect inflation and commercial bank lending in some countries while changes in policy rates do not, support the view that BCEAO’s monetary policy could be more effective if it chooses a different set of instruments and targets.

Moreover, not only is inflation-targeting possibly inappropriate for many low-income countries that have inadequate monetary tools to control inflation, but it may also be harmful to development goals. Using monetary policy to control inflation assumes inflation is a monetary, demand-side phenomenon, when in many African countries it is largely due to supply-side shocks. Monetary policy then becomes procyclical, exacerbating negative supply shocks. When prices go up because output decreases, central banks respond by raising interest rates, further reducing output and stimulating greater inflation. In supply-constrained economies, contractionary monetary policy not only reduces demand but may reduce productive capacity by
raising the cost of credit to the private sector. Therefore, “A weakness of the mon-
etarist orientation of monetary policy is that it ignores the effects of contractionary
monetary policy on the supply side of the economy. A shortage of credit constitutes a
constraint on capacity utilization, investment, and employment in the business sector”
(Ndikumana, 2016, p. 26).

If BCEAO can pursue a fixed exchange rate and a domestic policy target, as “dual
anchors” (Khemraj & Pasha, 2012b), and the fixed exchange rate largely assures do-
mestic price stability then why not explore a different domestic policy goal? Instead
of focusing on price stability through inflation-targeting, BCEAO could instead prior-
itize economic development by pursuing a “real” target like employment growth, real
interest rates or the real exchange rate (Heintz & Ndikumana, 2011). Policymakers
in the UEMOA should therefore reconsider the instruments and goals of monetary
policy to more directly address the development challenges of a region that remains
one of the poorest in the world.
CHAPTER 4
CONCLUSION

This dissertation aims to inform the current debate over the CFA franc’s future. It begins with the question of why the CFA franc has been able to survive for so long. In a world where the French franc disappeared 20 years ago with the creation of the euro, why does the old colonial franc still exist?

In the second essay I argue that the CFA franc and its peg to the French franc—and now the euro—has persisted because French elites have sought to maintain their sphere of influence in West and Central Africa while African elites have preferred to safeguard the external value of their wealth to more vigorously pursuing national economic development. Competing theories of the CFA franc’s persistence focus on either political or economic factors, failing to appreciate the interplay between them. In addition, most studies of neocolonialism in West and Central Africa tend to emphasize the role and motivations of the French, while downplaying the choices made by African elites.

The second essay therefore contributes to the literature on theories of imperialism by offering the history of the CFA franc as a case study of modern “informal” empire. Harvey (2013) highlights the dialectical relationship between political and economic motives for imperialism, between what he calls the territorialist and capitalist logics. Unfortunately, many studies of imperialism tend to focus exclusively on the actions of imperialist powers and to ignore the choices available to elites in colonial or peripheral countries. To fill this gap, I re-interpret arguments contrasting “national” and “comprador” bourgeoisies in developing countries to better understand the interac-
tion between central and peripheral states (Amin, 1990). I argue that the national vs comprador distinction is analogous to territorialist vs capitalist logics from the point of view of peripheral elites. They can pursue a state-led development strategy that prioritizes economic development in their national territories or a comprador strategy that emphasizes maximizing returns on their investments regardless of location. The preferences of French elites for territorialist logic and African elites for capitalist logic have determined the prioritization of stability over development in monetary policy in West and Central Africa.

I then use this theoretical framework to explain the shifts in the CFA franc’s structure at three turning points in its history: at independence in 1960, the reforms of the early 1970s and of the 1990s. The close political links between French and conservative African elites in the late colonial period informed the initial choice of territorialist logic in France and capitalist logic in Africa. This led the former French colonies in Africa to keep their colonial currency union unlike all the other newly independent nations of Africa and Asia that quickly created their own national currencies. Growing frustration with the CFA franc’s restrictions led African elites to push monetary policy in a more territorialist/developmentalist direction, to make it easier for the regional central banks to finance government spending and channel credit to priority sectors. The French chose to accommodate these reforms so as to not lose their sphere of influence. The debt crises of the 1980s and 1990s led to a reassertion of capitalist logic in both France and Africa. French officials at the Treasury and IMF criticized the Mitterand Administration for delaying structural adjustment in West and Central Africa, while many African elites questioned the efficacy of state-led development. As a result, the reforms of the 1990s restored the CFA franc’s original, more restrictive structure.

The growing popular opposition to the French military and economic presence in the region indicates that we are at fourth possible turning point in the history of the
CFA franc. Current criticisms of the CFA franc echo those of the 1960s and may signal a return towards greater territorialism/development in West Africa. To shift the emphasis of monetary policy from stability to development, however, will require building and sustaining political coalitions across UEMOA that can successfully challenge the entrenched interests of those African elites that prefer to safeguard the external value of their assets above all, and their French allies.

Many economists contend that an independent monetary policy is necessary for state-led development and that therefore the CFA franc’s peg to the euro hinders economic development (Amin, 1990; Pigeaud & Sylla, 2021; Pouémi, 2000). Accordingly, the third essay focuses on whether the BCEAO has relinquished its monetary policy independence. I find mixed evidence for BCEAO monetary policy independence. The BCEAO minimum bid rate and ECB main refinancing rate are co-integrated, and the estimated Taylor Rule suggests that BCEAO does not respond to changes in either regional inflation or output, both suggesting that BCEAO does not have an independent monetary policy. On the other hand, foreign reserves and the base money supply as well as the ECB and BCEAO marginal lending facility rates are not co-integrated, suggesting monetary policy is independent. Given how infrequently BCEAO changes its policy rates and the low level of international financial integration of most UEMOA members, I conclude that BCEAO monetary policy is most likely only weakly constrained by the peg to the euro.

This study is the first to analyze BCEAO’s balance sheet since its reserve cover fell below 100% in 2013. I also contribute to the literature on monetary policy reaction functions in UEMOA by using a novel method—the difference between GDP and an explicit GDP growth target—to calculate the output gap. This recognizes both the difficulties with estimating an unobservable variable like potential GDP and the fact that policymakers in low- and middle-income countries often aim to increase productive capacity not simply to maximize the utilization of existing capacity.
That the peg to the euro is not a hard constraint on BCEAO monetary policy does not mean that it is not constraining at all or that it does not create other problems. Although the CFA franc’s reserve cover fell below 100% since 2013, there is political pressure to keep it from falling even lower, indicating that BCEAO’s foreign reserve constraint does bind at some point. Furthermore, the peg to the euro may become a harder constraint as countries in UEMOA become more financially integrated with the rest of the world. For now, however, BCEAO seems to have more monetary policy space than predicted by economic theory.

Having an independent monetary policy is irrelevant, however, if that policy is ineffective. The fourth essay therefore addresses this question of monetary policy effectiveness. I find that changes in BCEAO policy rates have no impact on inflation and bank lending in UEMOA. Only increases in the base money supply in Côte d’Ivoire and Niger demonstrate any ability to impact inflation and bank lending, therefore the monetary policy transmission mechanism in UEMOA is weak and unreliable. The results of this study suggest that BCEAO should reconsider its overall monetary policy framework, both its tools and targets.

This is the first study with a sample period long enough to properly evaluate BCEAO’s inflation-targeting regime. It also relies on a careful examination of the history of BCEAO monetary policymaking to specify an empirical model that reflects African realities and is not simply arbitrary or taken from the larger literature on high-income countries.

That the monetary policy transmission mechanism is weak and unreliable does not mean that monetary policy is impotent; regional inflation may simply be the wrong target. BCEAO’s inflation-targeting framework may be doing little to assure price stability, and therefore UEMOA governments should consider shifting the emphasis of monetary policy towards promoting economic growth and development by pursuing a “real” target like employment growth.
Regardless of the target, the weak monetary policy transmission mechanism in UEMOA is likely due to relying on indirect monetary policy tools in a context where the banking sector is oligopolistic and money markets poorly developed. Indirect monetary policy relies on money markets, especially a robust interbank lending market, but money markets in UEMOA are small and segmented. The subsidiaries of large foreign banks in UEMOA tend to be excessively liquid—holding reserves with the BCEAO beyond the requirement—but lend few of these excess reserves to the smaller, domestically-owned commercial banks which tend to borrow them. Instead these deficit banks borrow from BCEAO while those with surplus reserves prefer to use them to buy Treasury bills or simply hold them. The market power of the bigger banks means they do not need to lower borrowing rates in response to lower BCEAO policy rates, further muting the impact of monetary policy on aggregate demand. Market power, segmentation and excess liquidity in the CFA zone’s banking sector all imply the need for broader financial reform.

The empirical analysis in this dissertation therefore suggests that simply eliminating the CFA franc’s peg to the euro may not be enough to improve monetary policy effectiveness and promote economic development in UEMOA. Other West African nations like Nigeria and Ghana have their own domestic currencies with floating exchange rates but their monetary policies are arguably not much more autonomous or effective than in UEMOA. The challenges to monetary policy effectiveness in low- and middle-income countries imply that the problem is bigger than the choice of exchange rate regime.

Consequently, to re-orient monetary policy in UEMOA towards development might require a return to the kind of direct monetary policy framework that existed in the 1970s and 1980s. The growing interest in development banks (Ndikumana et al., Forthcoming) and industrial policy in Africa (Abebe & Schaefer, 2015; Chang, 2015; Lin et al., 2013; Transformative Industrial Policy for Africa, 2016) is indicative of a
trend towards greater state intervention in the economy after decades of neoliberal reforms have failed to promote structural change in Africa (Rodrik, 2015).

Future research will evaluate the other purported costs and benefits of the CFA franc and its peg to the euro. I will assess whether the CFA is overvalued, facilitates capital flight, promotes trade and investment among the 14 members of the CFA zone and between the members of the CFA and euro zones. I will also examine to what degree the rules governing the CFA zone restrain lending by commercial banks, and how individual banks in UEMOA respond to BCEAO monetary policy to directly address the question of the role of the banking sector in affecting monetary policy effectiveness.

A well-functioning financial system is essential for economic development. No country has yet to develop in the modern era without the use of effective monetary policy. As the Cameroonian monetary theorist Joseph Tchundjang Pouémi (2000, p. 263) warns us in the conclusion to his magnum opus “Africa will forge itself through money or it won’t be forged at all.”
APPENDIX A

UNIT ROOT TESTS FOR VAR
### Table A.1: Unit Root Tests for VAR

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<th>Variables</th>
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<td>CPI Benin</td>
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<td>CPI Côte d’Ivoire</td>
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<td>-6.411***</td>
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<td>CPI Mali</td>
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<td>-6.961***</td>
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<td>CPI Togo</td>
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<td>Base Money Benin</td>
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<td>-7.598***</td>
</tr>
<tr>
<td>Base Money Burkina Faso</td>
<td>-2.815</td>
<td>-7.678***</td>
</tr>
<tr>
<td>Base Money Côte d’Ivoire</td>
<td>-5.257***</td>
<td>-6.07***</td>
</tr>
<tr>
<td>Base Money Guinea-Bissau</td>
<td>-3.198*</td>
<td>-8.348***</td>
</tr>
<tr>
<td>Base Money Mali</td>
<td>-2.068</td>
<td>-6.059***</td>
</tr>
<tr>
<td>Base Money Niger</td>
<td>-1.61</td>
<td>-9.879***</td>
</tr>
<tr>
<td>Base Money Senegal</td>
<td>-1.781</td>
<td>-8.735***</td>
</tr>
<tr>
<td>Base Money Togo</td>
<td>-1.551</td>
<td>-9.854***</td>
</tr>
<tr>
<td>Base Money UMOA</td>
<td>-4.289***</td>
<td>-6.382***</td>
</tr>
<tr>
<td>Bank Lending Benin</td>
<td>-2.993</td>
<td>-9.446***</td>
</tr>
<tr>
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<td>-1.145</td>
<td>-5.427***</td>
</tr>
<tr>
<td>Bank Lending Côte d’Ivoire</td>
<td>-2.369</td>
<td>-6.307***</td>
</tr>
<tr>
<td>Bank Lending Guinea-Bissau</td>
<td>-3.376*</td>
<td>-8.477***</td>
</tr>
<tr>
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<td>-1.235</td>
<td>-7.938***</td>
</tr>
<tr>
<td>Bank Lending Niger</td>
<td>-2.261</td>
<td>-7.694***</td>
</tr>
<tr>
<td>Bank Lending Senegal</td>
<td>-1.888</td>
<td>-6.646***</td>
</tr>
<tr>
<td>Bank Lending Togo</td>
<td>-1.092</td>
<td>-8.137***</td>
</tr>
<tr>
<td>Bank Lending UMOA</td>
<td>-1.18</td>
<td>-5.304***</td>
</tr>
</tbody>
</table>

*Note:* Critical Values at 5% -3.43 for logged levels and -1.95 for first differences. 
* p<0.1; ** p<0.05; *** p<0.01
APPENDIX B

GRANGER CAUSALITY TESTS

Table B.1: From World Food Price Index to Domestic CPI

<table>
<thead>
<tr>
<th>Countries</th>
<th>Lags</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>1</td>
<td>0.003</td>
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<tr>
<td>Burkina Faso</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>1</td>
<td>0.383</td>
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<tr>
<td>Mali</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Niger</td>
<td>1</td>
<td>0.014</td>
</tr>
<tr>
<td>Senegal</td>
<td>1</td>
<td>0.189</td>
</tr>
<tr>
<td>Togo</td>
<td>1</td>
<td>0.109</td>
</tr>
<tr>
<td>UMOA</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table B.2: From Domestic CPI to World Food Prices

<table>
<thead>
<tr>
<th>Countries</th>
<th>Lags</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>1</td>
<td>0.7</td>
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<tr>
<td>Burkina Faso</td>
<td>1</td>
<td>0.511</td>
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</tr>
<tr>
<td>Niger</td>
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<td>0.765</td>
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<td>Senegal</td>
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<tr>
<td>Togo</td>
<td>1</td>
<td>0.415</td>
</tr>
<tr>
<td>UMOA</td>
<td>1</td>
<td>0.898</td>
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</table>
Table B.3: From Inflation to Monetary Policy

<table>
<thead>
<tr>
<th>Policy</th>
<th>Lags</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>Minimum Bid Rate</td>
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<td>0.467</td>
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<tr>
<td>Marginal Lending Facility Rate</td>
<td>12</td>
<td>0.027</td>
</tr>
<tr>
<td>Base Money Supply</td>
<td>2</td>
<td>0.037</td>
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</table>

Table B.4: From Monetary Policy to Inflation

<table>
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<th>Lags</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Bid Rate</td>
<td>1</td>
<td>0.665</td>
</tr>
<tr>
<td>Marginal Lending Facility Rate</td>
<td>12</td>
<td>0.966</td>
</tr>
<tr>
<td>Base Money Supply</td>
<td>2</td>
<td>0.035</td>
</tr>
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</table>

Table B.5: From Min Bid Rate to Bank Lending

<table>
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<th>P-value</th>
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<tbody>
<tr>
<td>Benin</td>
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<tr>
<td>Burkina Faso</td>
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<td>0.134</td>
</tr>
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<td>Côte d’Ivoire</td>
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<td>0.002</td>
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<tr>
<td>Mali</td>
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<td>0.096</td>
</tr>
<tr>
<td>Niger</td>
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<td>0.005</td>
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<tr>
<td>Senegal</td>
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<td>0.668</td>
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<tr>
<td>Togo</td>
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<td>0.086</td>
</tr>
<tr>
<td>UMOA</td>
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<td>0.03</td>
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</table>
Table B.6: From Bank Lending to Minimum Bid Rate

<table>
<thead>
<tr>
<th>Countries</th>
<th>Lags</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>Benin</td>
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<td>0.249</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>1</td>
<td>0.838</td>
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<td>Côte d’Ivoire</td>
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<td>Mali</td>
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<td>Senegal</td>
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<td>Togo</td>
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<tr>
<td>UMOA</td>
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Table B.7: From Marginal Lending Facility Rate to Bank Lending

<table>
<thead>
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</thead>
<tbody>
<tr>
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<tr>
<td>Burkina Faso</td>
<td>1</td>
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<td>Côte d’Ivoire</td>
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<tr>
<td>Mali</td>
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<tr>
<td>Niger</td>
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<td>0.289</td>
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<tr>
<td>Senegal</td>
<td>1</td>
<td>0.696</td>
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<td>Togo</td>
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<td>0.373</td>
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<tr>
<td>UMOA</td>
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</table>

Table B.8: From Bank Lending to Marginal Lending Facility Rate

<table>
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<tr>
<td>Burkina Faso</td>
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<td>Mali</td>
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<td>0.592</td>
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<td>Senegal</td>
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<td>0.88</td>
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<td>Togo</td>
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<tr>
<td>UMOA</td>
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<td>0.501</td>
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Table B.9: From Base Money Supply to Bank Lending

<table>
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<tr>
<td>Burkina Faso</td>
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<td>0.463</td>
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<td>Côte d’Ivoire</td>
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<td>Mali</td>
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<td>UMOA</td>
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Table B.10: From Bank Lending to M0

<table>
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<tbody>
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<td>Benin</td>
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<td>Senegal</td>
<td>1</td>
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<td>Togo</td>
<td>12</td>
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<tr>
<td>UMOA</td>
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<td>0.674</td>
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</table>
APPENDIX C

IMPULSE RESPONSE FUNCTIONS
Figure C.1: Shock to Base Money in Benin

95% Bootstrap CI, 100 runs
Figure C.2: Shock to Minimum Bid Rate in Benin
Figure C.3: Shock to Marginal Lending Facility Rate in Benin
Figure C.4: Shock to Base Money in Burkina Faso

95% Bootstrap CI, 100 runs
Figure C.5: Shock to Minimum Bid Rate in Burkina Faso

95% Bootstrap CI, 100 runs
Figure C.6: Shock to Marginal Lending Facility Rate in Burkina Faso
Figure C.7: Shock to Base Money in Côte d'Ivoire
Figure C.8: Shock to Minimum Bid Rate in Côte d'Ivoire
Figure C.9: Shock to Marginal Lending Facility Rate in Côte d'Ivoire
Figure C.10: Shock to Base Money in Guinea-Bissau

Guinea–Bissau

95% Bootstrap CI, 100 runs

139
Figure C.11: Shock to Minimum Bid Rate in Guinea-Bissau
Figure C.12: Shock to Marginal Lending Facility Rate in Guinea-Bissau

95% Bootstrap CI, 100 runs
Figure C.13: Shock to Base Money in Mali
Figure C.14: Shock to Minimum Bid Rate in Mali

Mali

95% Bootstrap CI, 100 runs
Figure C.15: Shock to Marginal Lending Facility Rate in Mali

Mali

CPI

Lending

95 % Bootstrap CI, 100 runs
Figure C.16: Shock to Base Money in Niger
Figure C.17: Shock to Minimum Bid Rate in Niger

95% Bootstrap CI, 100 runs
Figure C.18: Shock to Marginal Lending Facility Rate in Niger

Niger

CPI

Lending

95% Bootstrap CI, 100 runs

147
Figure C.19: Shock to Base Money in Senegal

95% Bootstrap CI, 100 runs
Figure C.20: Shock to Minimum Bid Rate in Senegal

95% Bootstrap CI, 100 runs
Figure C.21: Shock to Marginal Lending Facility Rate in Senegal
Figure C.22: Shock to Base Money in Togo
Figure C.23: Shock to Minimum Bid Rate in Togo

Togo

CPI

Lending

95 % Bootstrap CI, 100 runs

152
Figure C.24: Shock to Marginal Lending Facility Rate in Togo
Figure C.25: Shock to Base Money in UMOA
Figure C.26: Shock to Minimum Bid Rate in UMOA

95% Bootstrap CI, 100 runs
Figure C.27: Shock to Marginal Lending Facility Rate in UMOA
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