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## A balance sheet analysis of the CFA Franc Zone

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**Abstract.** The CFA Franc zone was established in 1945 and linked France's African colonies to the French franc while at the same time allowing for some degree of separation. Reflecting a cleavage that had developed during World War II, the zone consisted of a West African and a Central African component, represented today by two regional central banks, BCEAO and BEAC, respectively. Despite the technical distinction between the currencies, their parities with the French franc and later the euro have remained identical for over 70 years; thus, the zones can be treated together. This paper reviews the history of the CFA franc zone and highlights the major shifts it has undergone. Next, it analyzes the various components of the two central banks' balance sheets, with a focus on each bank's composition of assets and liabilities and how these have evolved over time. Subsequently, it applies statistical approaches to the balance sheets to assess to what extent the CFA franc zone resembles a currency board. An accompanying spreadsheet workbook digitizes certain balance sheet data for the first time.


**Keywords.** Banking; Balance sheet; French Equatorial Africa; French West Africa.  
**JEL.** E58; N 17; N18.

### 1. Introduction

The CFA franc zone is composed of 14 African countries that are mainly former French colonies. These countries in western and central Africa comprise two economic and monetary unions which each have a corresponding central bank. The first is the Union Economique et Monétaire Ouest Africaine (UEMOA), which translates as the West African Monetary Union (WAMU). This monetary union's central bank is the Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO), which translates as the Central Bank of West African States. The second monetary union is the Communauté Economique et Monétaire de l'Afrique Centrale (CEMAC), which translates as the Economic Community of Central African States. This union's central bank is the Banque des Etats de l'Afrique Centrale (BEAC).

While "CFA" originally stood for Colonies françaises d'Afrique (French Colonies of Africa), it now stands for Communauté française d'Afrique (French Community of Africa). Each country in the CFA franc zone uses the CFA franc as its currency and all except Guinea-Bissau and Equatorial Guinea were formerly French colonies. The zone has bonded these countries to each other both economically and culturally, and all countries within the zone other than Guinea-Bissau and Equatorial Guinea continue to use French as an official language and to have strong cultural, economic, and even military ties to France.

The CFA franc zone has a few defining characteristics. First, the zone originally maintained convertibility against the French franc at a pegged rate. The peg is now against the euro. Second, the zone has free capital mobility within the zone and a common trade and financial policy with the rest of the

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world. Finally, the CFA franc zone has an agreement with the French Treasury that the Treasury will back up payments if ever necessary.

Although each monetary union within the zone has a separate treaty with France and uses its own institutions to implement its specific policy objectives, the two unions operate under the same general framework. Theoretically the exchange rates can vary between the zones, though for the duration of the CFA franc's existence this has not been the case. The central bank of each zone has the objective of defining its union's monetary policy, conducting exchange rate policy, maintaining foreign exchange reserves of the member states, promoting payment systems, and ensuring financial stability. While the central banks can issue currency against exchange and credit transactions, they cannot control the production of the local currency against external fund inflows.

## 2. History

### 2.1. Before 1955

We will now briefly discuss the history of the CFA franc zone and its two constituent central banks across some of the major periods in its history. The common currency originated from the Banque d'Afrique Occidentale (BAO), which translates as the Bank of West Africa. It was established in 1901 and was the main financial institution in French West Africa and French Equatorial Africa before 1955. It was based out of Paris and it combined commercial banking and central banking functions, including issuing notes. The colonies used French coins and had no local coins before World War II.

The French Monetary Law of October 1 1936, among other regulation, authorized colonial banks to consider the French bank as foreign exchange in the reserves that they were legally required to maintain.

During World War II, acceptance of colonialism began to diminish across the African continent and the world at large. In 1941 the United States and United Kingdom released the Atlantic Charter. This joint statement presented goals for the postwar status quo, and expressed support for self-determination. At the time, northern and western France were under German occupation, while central and southern France were governed by the collaborationist Vichy regime. A government in exile, calling itself Free France, allied itself with the United States and the United Kingdom and appealed to metropolitan France and its colonies to abandon Vichy and rally to its side. French colonies in Equatorial Africa did so at the Brazzaville Conference in October 1940. At this conference, the colonies moved away from the previous purely subordinate relationship toward more of a partnership. Reflecting that they were no longer aligned with metropolitan France, the colonies of French Equatorial Africa separated monetarily from those of French West Africa. They temporarily took custody of the local branches of the Banque de l'Afrique Occidentale and a Free French body, the Caisse Centrale de la France Libre (loosely translated, Central Financial Fund of Free France), took over the note issue.

Support for decolonization was strengthened by the San Francisco Conference in 1945, where the United Nations charter was written. A notable portion of this charter declared that colonial powers must act with their subjects' best interests in mind. While it would be over a decade before any of

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France's colonies achieved independence, the change in norms set the stage for the shift.

As the Allies turned the tide in World War II, French colonies that had not already switched sides from Vichy to Free France did so. French West Africa switched in November 1942. Currencies in Free French colonies were notionally linked at pegged exchange rates to the U.S. dollar and the pound sterling. After the end of the war, the colonies faced massive inflation and price increases. This is largely since their liquidity had increased at a rate four to five times faster than their gross domestic product. In France, the situation was even worse, because unlike most of the colonies, France suffered severe damage during the war. Accordingly, it made sense to consider breaking the former one-to-one relationship between the French franc and colonial francs.

The CFA franc was created on December 25, 1945. It had a parity of 1 CFA Franc to 1.7 French francs. At the time, the CFA component of the name stood for Colonies françaises d'Afrique (French Colonies of Africa). The original West African colonies using the CFA franc were Ivory Coast, Dahomey (now Benin), French Sudan (now Mali), Guinea, Mauritania, Niger, Senegal, Togo, and Upper Volta (now Burkina Faso). In Central (Equatorial) Africa the initial colonies using the currency were Chad, French Cameroon (now Cameroon), French Congo (now Republic of the Congo), Gabon, and Ubangi-Shari (now Central African Republic).

The currency initially ran into problems because of its tie to the French franc. Between 1945 and 1958 the French franc was devalued seven times before finally stabilizing in December 1958. The French franc was overvalued against many foreign currencies, and fought off devaluations by use of exchange controls. The controls also applied to transactions between the CFA franc zone and countries other than France and its colonies. Overvaluation hurt exporters and helped importers compared to what would have happened had the French franc been at an equilibrium exchange rate.

These frequent devaluations lead the citizens of the zones to realize that the relationship between France and its colonies was beginning to weaken and helped set the stage for independence. Additionally, the devaluations produced broader issues because they led the French to fear that the rising prices would allow wages to rise too quickly which would be difficult to handle and make relations worse between the two entities.

The Banque de l'Afrique Occidentale eventually reassumed control of its branches in French Equatorial Africa that had been cut off from the head office after French Equatorial Africa sided with Free France. However, the Caisse centrale, now renamed the Caisse centrale de la France d'outre-mer, remained the note issuer in French Equatorial Africa and Cameroon, a half-step toward a currency distinct from that of French West Africa.

On October 1, 1955, the Banque de l'Afrique Occidentale lost its position as a note issuer. For some years, the French government had considered making note issue a government monopoly, so the bank was continuing to issue notes under temporary extensions. A government monetary authority, the Institut d'Émission de l'Afrique Occidentale Française et du Togo (IEAOFT), took over note issue from the Banque de l'Afrique Occidentale. In French Equatorial Africa, a similar monetary authority, the Institut d'Émission de l'Afrique Equatoriale Française et du Cameroun (IEAEFC), took over note issue from the Caisse centrale de la France d'outre-mer.

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These new monetary authorities had the right to issue banknotes within their jurisdictions. They also had the ability to grant short-term credit and to rediscount medium-term bills. Their boards of directors were appointed by the French Minister of Finance and the Minister of Overseas Territories. Some members were meant to represent the Bank of France, and others to represent each African territory.

### 2.2. 1955-1962

On October 4, 1958, France established a new constitution aimed at ending the political instability that had been frequent under the previous (1946) constitution. When announcing it, French president Charles De Gaulle spoke to the idea of a “community” between France and its overseas territories, under which there would be room for local self-determination but the members would share common institutions. De Gaulle traveled to Africa to implore the people to join the new community. Most of the colonies did, except for Guinea, which became the first French colony in sub-Saharan Africa to gain independence and the first to withdraw from the CFA franc zone.

Another reform of 1958 was the introduction of the new French franc, at 1 new franc to 100 old francs. The CFA franc therefore changed from being worth 2 old French francs to being worth 0.02 new French francs. The change was simply a redenomination, like converting from pennies to dollars, and did not change any real magnitudes.

In the late 1950s it was apparent that movement toward decolonization in Africa had traction. Ghana, a British colony, became independent in 1957. Guinea became independent on October 2, 1958. To accommodate the changing political situation, on April 4, 1959, the Banque Centrale des Etats de l’Afrique de l’Ouest (BCEAO) was established to succeed the IEAOFT and the Banque Centrale de l’Afrique Equatoriale et du Cameroun (BCEAC) was established to succeed the IEAEFC. They had the goals of ensuring the circulation of cash, ensuring convertibility of the currency issued, and regulating the creation of representative money such as bank deposits. April 4, 1959 also established the enforcement of linking each state in the French community to the French Franc.

The BCEAO and BCEAC differed from their predecessors, which were French publicly-owned institutions. The new institutions were considered to be multinational organizations. This change in composition was reflected by their board of directors, which had far more African representation than the preceding institutions.

By 1960, France had granted independence to most of its African colonies. Following a dispute, Guinea in that year exited the CFA franc zone and established a national central bank. Mali left in 1962 after France gave political support to a party other than the one that gained power. Mali would rejoin the CFA franc zone in 1984 but Guinea remains outside it to this day.

### 2.3. 1962-1973

The exits of Guinea and Mali caused the entire region to fear fragmentation and pressed political leaders who wished to work toward a unified West African market to come together. This acknowledgement of the importance of unity contrasted with the strong desire for national sovereignty arising from the anti-colonial movements at the time. In response, the West African Monetary Union, or WAMU, was established on May 12, 1962 to work in

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tandem with the BCEAO. WAMU serves to protect the value of its common currency and to balance the monetary policy of the region with that of its member states.

Additionally, for the BCEAO many banking regulations were passed from 1965-1966. First was the minimum capital requirement. The minimum was set at 50 million CFA francs for banks and 10 million CFA francs for financial institutions. This holds for all countries outside of Senegal, which has a minimum set at 250 million for banks and 50 million for other financial institutions, and Ivory Coast, which has a minimum of 300 million for banks and 60 million for other financial institutions.

A liquidity ratio was also established during this time. The goal was to limit bank aid that was considered too risky. The ratio was set at 70 percent until September 30, 1966, 71 percent until September 30, 1967, and slowly increased from there until it hit 75 percent. The final major regulation set during this period was banking regulation regarding interest rates and the suppression of counterfeit currency.

### 2.4. 1973-1993

After the currency reform of 1958, the French franc avoided devaluation until 1969, when it was devalued following a political crisis the previous year. The CFA franc followed the French franc in its devaluation against third currencies. In 1971, France established a dual exchange market which divided the operations between an official market and a financial market. The CFA franc zone countries were forced to put these measures into their own regulations to avoid creating arbitrage opportunities for speculators. Annoyance with France's economic policies was compounded with political agitation. The CFA franc zone had become the backbone of France's African policy and did not seem to be too different from colonialism for many of the former states.

Against this backdrop, in November 1972 French president Georges Pompidou gave a speech in Lomé, Togo that mentioned the possibility of reforming the structure of the CFA franc zone. Additionally, Mauritania decided to leave the zone to reduce French influence over it. These events lead to the 1973 reforms.

The goal of these reforms was the Africanisation of the BCEAO. The seat of the bank was moved from Paris to Dakar to lessen French control. The role of the African institutions was also strengthened due to increased allocations to the Council of Ministers of the WAMU. Additionally, the share of French representatives on the board of directors was decreased from one-third of the total to one-seventh. These policies aimed to fully realize the previous independence movements.

The period following these reforms coincided with an international economic downturn. This recession was due to overall productivity slowdown and the oil crisis of the 1970s. In the mid 1970s many countries in the CFA franc zone and in Africa more generally that were exporters of petroleum and other commodities benefited from rising real prices for commodities, but commodity prices then declined in the late 1970s as the United States implemented a tighter monetary policy that induced a recession, made commodities less attractive as inflation hedges, and sent nominal and real interest rates on dollar debt to historically high levels. Commodity exporting countries experienced a reversal of fortune. From 1980-1993 WAMU

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experienced only about a 2 percent annual growth rate in GDP. However, due to the region having a 3 percent population growth rate, the per capita annual growth rate was negative.

In response to the often difficult economic situation of the period from the late 1970s to 1993, BEAC and BCEAO allowed their foreign reserves to drop substantially, as we will see below, replacing foreign assets with domestic assets, particularly claims on governments. The central banks and the governments they served faced a choice between tightening monetary policy to preserve the exchange rate with the French franc and suffering a possibly lengthy period of disinflation and recession, or devaluing the CFA franc with, probably, less severe effects on the real economy.

### 2.5. 1994-Present

On January 12, 1994, the CFA franc was devalued 50 percent to address the low level of foreign reserves. The new parity was 1 CFA franc = .01 French franc. This devaluation caused widespread unrest. During this time, extensive reform was enacted. Countries signed the Treaty of Economic and Monetary Union, which made the zone into not just a monetary union, but also an economic union. The goals of this new economic and monetary union were to create a common market, monitor economic performance, and create region based policies. Additionally, this devaluation was coupled with 4.2 billion dollars in debt relief from France, in return for the union agreeing to stabilization and restructuring measures.

On January 1, 1999, France adopted the euro to replace the French franc. The CFA franc became pegged to the euro at 1 euro = 655.957 CFA francs, unchanged in terms of the French franc. The introduction of the euro raised the question of the CFA franc zone's relationship to the bailout powers of the euro area. A compromise was reached under which France could continue to backstop the CFA franc zone financially, but other members of the euro area and the European Central Bank would not have any financial responsibility for the CFA franc zone.

Date	Event
June 29, 1901	Creation of the Banque de l'Afrique Occidentale (BAO), which issued notes in Africa
December 25, 1945	Creation of the CFA franc, at 1 CFA franc = 1.7 French francs
December 17, 1948	The parity becomes 1 CFA franc = 2 French francs
October 1, 1955	The Institut d'Émission de l'Afrique Occidentale Française et du Togo (IEAOFT) succeeds the BAO as the note issuer in French West Africa and Togo; the Institut d'Émission de l'Afrique Équatoriale Française et du Cameroun (IEAEFC) succeeds the Caisse Centrale de la France d'Outre-Mer as the note issuer in French Equatorial Africa and Cameroon
April 4, 1959	IEAOFT is transformed into the Banque Central des Etats de l'Afrique de l'Ouest (BCEAO); IEAEFC is transformed into the Banque Centrale de l'Afrique Centrale et du Cameroun (BCEAC)
January 1, 1960	The new French franc, worth 100 old francs, enters circulation; CFA exchange rate becomes 50 CFA francs = 1 new French franc
March 1, 1960	Guinea withdraws from the CFA franc zone

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May 12, 1962	Treaty establishing the West African Monetary Union or WAMU
June 30, 1962	Mali leaves the CFA franc zone
November 1, 1962	West African Monetary Union (WAMU) begins operations
November 27, 1963	Togo enters WAMU
Nov 22, 1972	Creation of the Banque des Etats de l'Afrique Central (BEAC) to succeed BCEAC
April 2, 1973	Beginning of BEAC activities
May 30, 1973	Mauritania leaves the CFA franc zone
January 1, 1977	Movement of the BEAC headquarters from Paris to Yaoundé, Cameroon
May 26, 1979	Dakar, Senegal becomes the headquarters of the BCEAO
January 1, 1985	Equatorial Guinea joins BEAC
February 17, 1984	Mali returns to BCEAO and the CFA franc zone
October 16, 1990	Creation of the Banking Commission of Central Africa or COBAC
January 12, 1994	Devaluation to a new parity of 100 CFA francs = 1 French franc
August 4, 1994	WAMU is converted into the West African Economic and Monetary Union (WAEMU)
January 1, 1999	France adopts the euro to replace the French franc, and the CFA franc is pegged to the euro at 1 euro = 655.957 CFA francs, unchanged in terms of the French franc

**Figure 1.** *Chronology: Notable Events in the History of the CFA Franc Zone*  
Sources: BCEAO website, "Dates clé"; BEAC website, "Histoire de la BEAC"

### 2.6. Balance sheet data

With the preceding information in mind as background, let us move on to the novel part of this paper, the analysis of balance sheets. As we have seen, the CFA franc zone has had multiple issuing institutions during its existence. Accordingly, balance sheet data originate from several sources. BCEAO has full downloadable balance sheets on its website extending back until 1962, while BEAC has balance sheets on its website from 2002 onward. Previous balance sheets for BEAC were obtained from paper copies of its annual reports available at the Library of Congress. I also obtained annual reports for the predecessor institutions, IEAOFT and IAFC. Data show no significant difference from figures available in the IMF's International Financial Statistics database, for the years that the IMF has data. For the BEAC which was founded in 1972, the period in the following graphs from 1960-1972, represents its preceding institution, the BCEAC.

## 3. Asset and liability composition

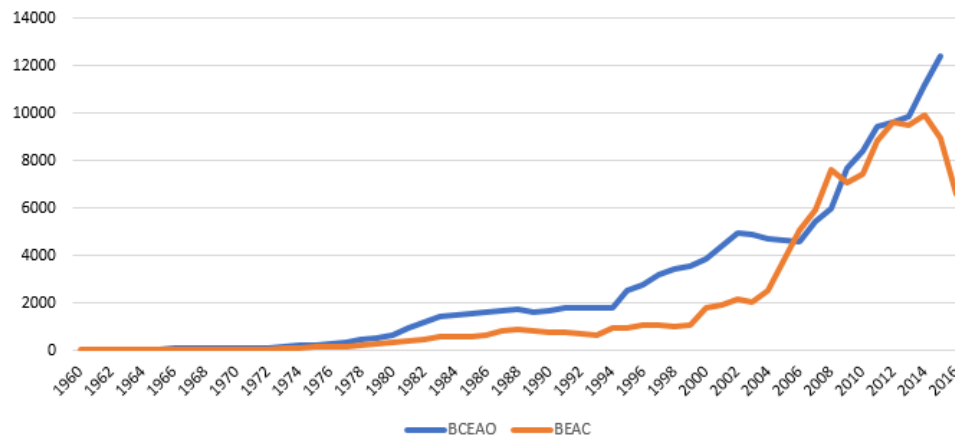
Figure 2 below represent the nominal values of BCEAO's and BEAC's assets and liabilities. During this period, both banks saw their total assets grow substantially. The BCEAO's assets grew from 61.9 billion CFA francs to 12.8 trillion CFA Francs and the BEAC's assets grew from 24.7 billion CFA francs to 6.6 trillion CFA Francs. Note the plateau in assets in the years before the 1994 devaluation and the substantial increase in the years after. This slowdown in growth was due to the international economic downturn which hurt Africa, as commodity prices went down. Additionally, during this time there was only about a two percent increase in GDP per year, a marked decrease from the development period. However, the 1994 devaluation helped kick start a rapidly increasing growth in assets which has not yet subsided for the BCEAO, but has

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recently for the BEAC. Note that this recent contraction in the assets of BEAC, relates to the fact that some members have petroleum as a key export. World petroleum prices have been substantially lower in the last few years than in the preceding several years.

Comparing the two zones, we see that the BCEAO has had more assets than the BEAC for the majority of its history, though from 2006 until the recent downturn in 2014, the BEAC countries' assets had increased to be comparable and even exceed the BCEAO.



**Figure 2.** Total Assets/ Liabilities for BCEAO and BEAC  
(In billions of CFA Francs) from 1960-2016

### 3.1. Asset composition

Figures 3 below shows the asset composition of the BCEAO and BEAC, respectively, by major asset categories. Up until 1973, both banks' assets were almost exclusively comprised of foreign assets and claims on deposit monetary banks, with only a small share of claims being on central governments. BCEAO generally had a higher percentage of foreign assets than BEAC, which had a higher number of claims on deposit money banks.

From 1973 until 1994 for both banks, the share of foreign assets and claims on deposit money banks decreased, as claims on governments became increasingly prominent. This was due to falling commodity prices and the overall economic climate, and forced most of the assets to be claims on central governments. By 1994, claims on deposit monetary banks were under 10 percent of total assets for both banks. Conversely, claims on central governments had grown to over fifty percent of assets for both banks, though the BEAC had a higher percentage. While this devaluation immediately brought the BCEAO's percentage of claims on central banks down to 35 percent, the BEAC's continued to grow until its peak in 1998, and would not fall below 50 percent until 2004.

Finally, up until the present, there has been a huge increase in foreign assets. Foreign assets now represent the majority of both banks' total assets. However, though it is still a very large component, since 2007, the foreign asset component has been decreasing relative to the other two.

Other assets that are less significant and fluctuate throughout the periods are claims on nonbank financial institutions and claims on other banking institutions.



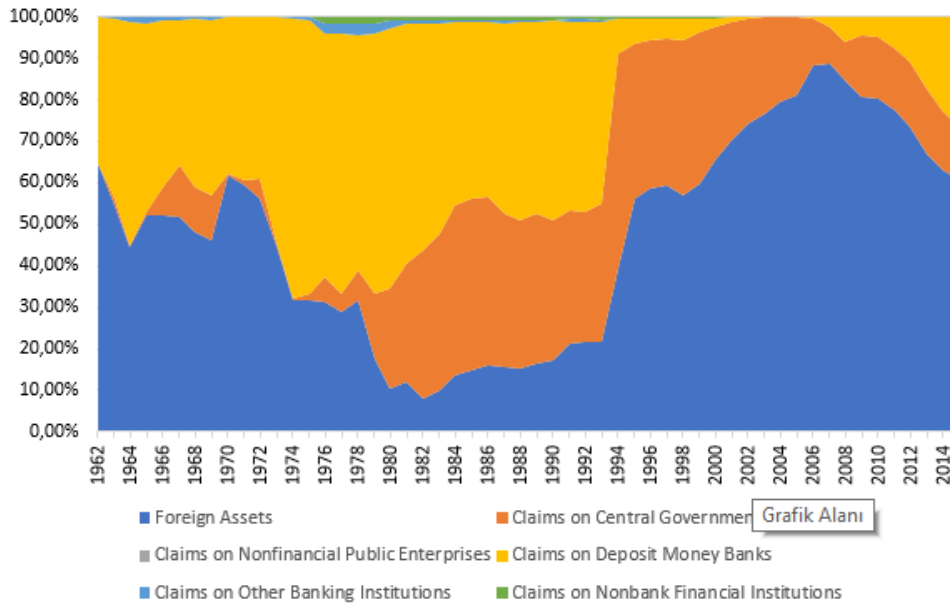


Figure 3. BCEAO, Composition of Major Assets, 1962-2015

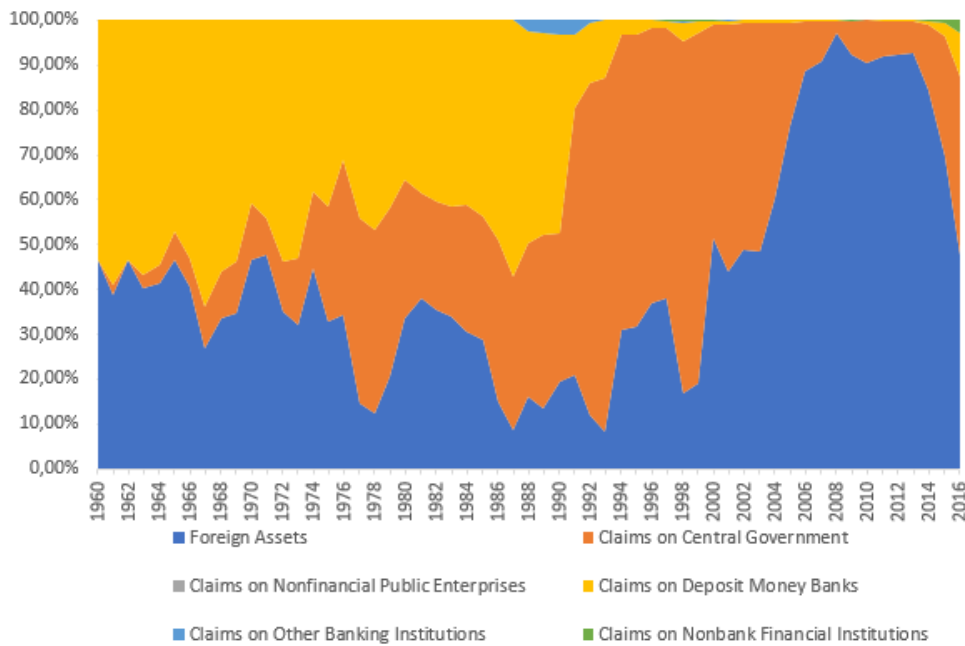


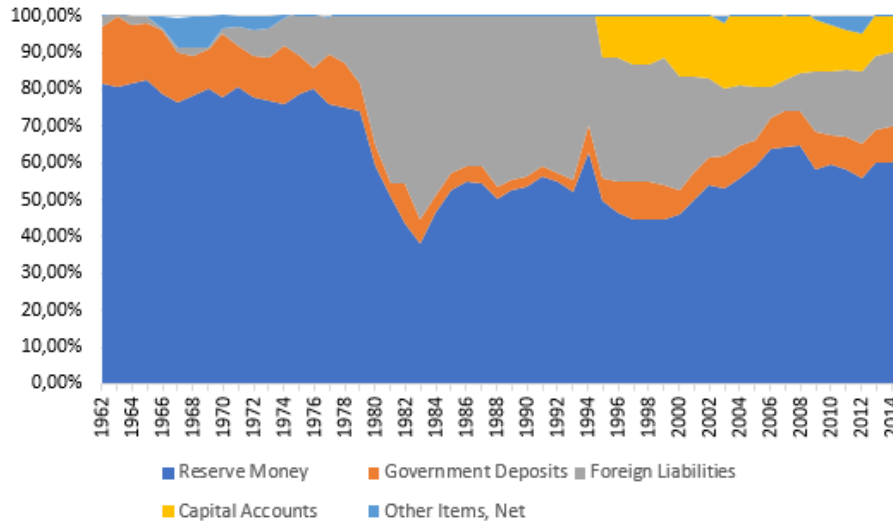
Figure 4. BEAC, Composition of Major Assets, 1960-2016

### 3.2. Liability composition

Figure 5 below shows the composition of major liabilities for BCEAO and BEAC, respectively. Up until 1973, both BEAC and BCEAO had most of their liabilities in reserve money and government deposits. Both banks had about 80 percent of their total liabilities as reserve money. The BEAC has more money in government deposits during this period, and the BEAC fluctuates far more than the BCEAO.

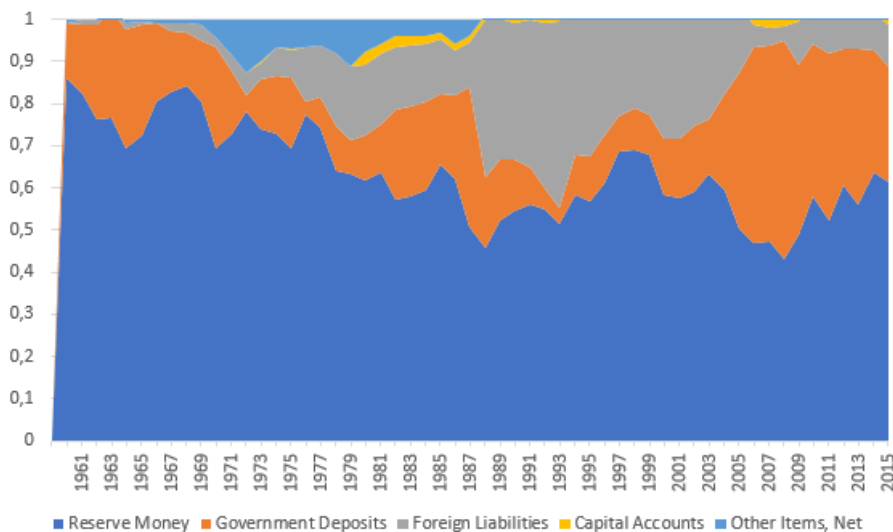
From 1973-1994, reserve money declined for both and foreign liabilities became a significant component of the total liabilities. The BCEAO experienced a precipitous drop in reserve money in 1978, while the BEAC featured several large drops throughout this period.

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**Figure 5.** BCEAO, Major Liabilities, 1962-2015

Finally, from 1994 until the present government deposits increase for the BEAC, while the BCEAO features a significant increase in capital accounts. The BCEAO experienced a minor increase in reserve money right at the 1994 devaluation, although this number quickly decreases before the steady increases leading up to 2004.



**Figure 6.** BEAC, Major Liabilities, 1960-2016

### 3.3. To what extent does the CFA Franc Zone operate like an orthodox currency board?

The final section of this paper will use statistical tests to determine whether the CFA franc zone resembles a currency board, as observers have occasionally claimed. The following passage from Steve Hanke and Kurt Schuler's book *Currency Board's for Developing Countries* details the definition of a currency board.

As reserves, a currency board holds low-risk, interest-earning securities and other assets payable in the reserve currency. A currency board holds reserves equal to 100 per cent or slightly more of its notes and coins in circulation, as set

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by law. The simplest type of currency board accepts no deposits and issues no securities; if a currency board does accept deposits or issue securities, they too must be backed 100 per cent or slightly more by assets payable in the reserve currency. A currency board earns profits from the difference between the return on the reserve-currency securities it holds and the expense of maintaining its notes and coins in circulation. It remits to the government (or to its owner, if not the government) profits beyond what it needs to pay its expenses and to maintain its reserves at the level set by law. A currency board does not have discretionary control of the quantity of notes, coins, and deposits it supplies. Market forces determine the quantity of notes, coins, and deposits it supplies, and hence the overall money supply in a currency board system.

As such, the three defining characteristics of an orthodox currency board are a fixed exchange rate with an anchor currency, full convertibility with that anchor currency, and 100 percent net foreign reserves (at least at the margins). An orthodox currency board will also have 0 percent of its total assets consisting of domestic assets, or at the very least close to it. Currency boards exist to stabilize a country's currency. Limiting the potential for discretionary monetary policy helps to achieve this goal.

The following tests will determine the extent to which the CFA franc zone adheres to those conditions. These tests were completed for the balance sheets of BEAC and BCEAO separately. The data for the BEAC go from 1960 until 2016. For the BCEAO, the data go from 1962 until 2015.

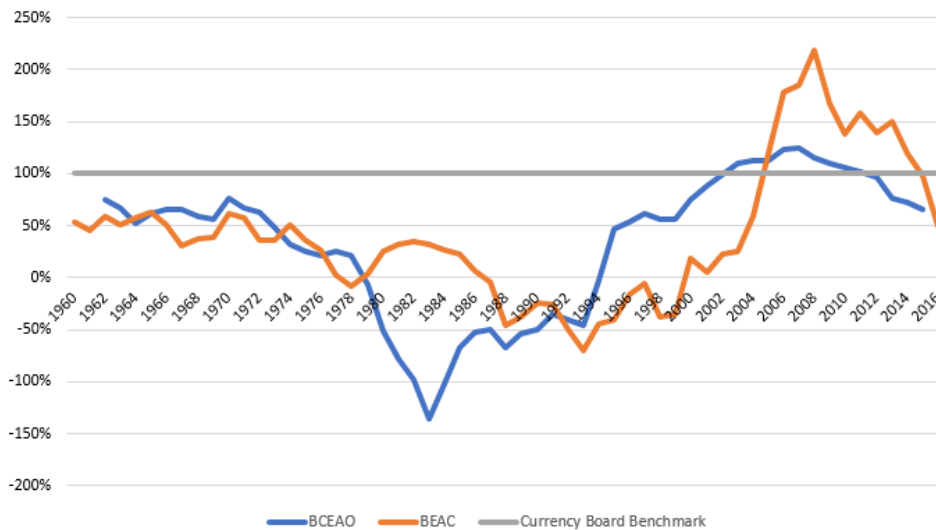
### 3.4. Test One: Foreign assets and the monetary base

The first statistical test is net foreign reserves as a percentage of the monetary base. Net foreign reserves consist of foreign assets minus foreign liabilities. As previously stated, an orthodox currency board will back its monetary base with 100 percent or slightly more net foreign assets, and this test shows how closely the CFA zone central banks have adhered to that standard. Figure 7 shows that for most of its history, BCEAO and BEAC have had well below 100 percent of their monetary base backed up in net foreign assets. In the early period of BCEAO up until the late 1960s, BCEAO had about a 50 percent ratio. Throughout the 1970s, foreign liabilities increased dramatically and passed foreign assets in 1979. This caused the ratio of net foreign reserves to become negative throughout the entirety of the 1980s. In 1983 the ratio reached its low point (that is, the ratio of net foreign liabilities to the monetary base was greatest). After 1983 the ratio increased, due to a shrinking foreign reserve deficit and growing monetary base. In 1994 the ratio became positive again due to a massive increase in foreign assets, while foreign liabilities and the monetary base remained relatively stable. Recall that the CFA franc was devalued by 50 percent against the French franc in 1994, instantly doubling the CFA franc value of French franc foreign reserves. The BCEAO looks something like a currency board from 2002 until 2013.

Figure 7 also depicts the corresponding percentage for BEAC. It behaved similarly to BCEAO during these periods, though the scale and the exact moment where the change occurred varied. In the early 1960s BEAC was in a similar position to BCEAO, with net foreign reserves at around 50 percent of the monetary base. However, while foreign liabilities then increased for BEAC, they increased far more slowly than for BCEAO and net foreign reserves did not become negative until 1987. Additionally, while BCEAO's net foreign reserves increased after 1982, BEAC's declined until 1993 and did not become

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positive until 2000. From 2005 to 2015 BEAC's reserve ratio was above 100 percent due to huge increases in foreign assets.



**Figure 7.** BCEAO's and BEAC's Net Foreign Reserves as a Percentage of the Monetary Base

### 3.5. Test Two: Reserve pass-through

Another statistical test is the reserve pass-through test. It measures the change in the monetary base divided by the change in net foreign reserves. An orthodox currency board will have a rate close to 100 percent. For BCEAO, aside from a handful of years, the central bank does not meet this criterion, as shown in Figure 8. Due to the rapid changes in the monetary base and net foreign reserves, the pass-through rate fluctuates rapidly before hitting its lowest point in 1973. It then has a massive increase due to the huge increase in the monetary base. Other than jumps in 1983, 1989, and 1997, the rate stays consistent.

The BEAC likewise does not mimic a currency board, though it often does not behave like the BCEAO either due to differences in when they expand their monetary bases. For the BEAC, the large fluctuations occur at periods when the monetary base changes much faster than the net foreign reserves. Thus, even relatively small changes can lead to massive spikes in the graph, as in 1962 when a small and normal change in monetary base lead to over a 1000 percent change in the ratio, due to an even smaller change in reserves. However, the largest change for the BEAC corresponds to the devaluation in 1994, when the amount of reserves increased dramatically.

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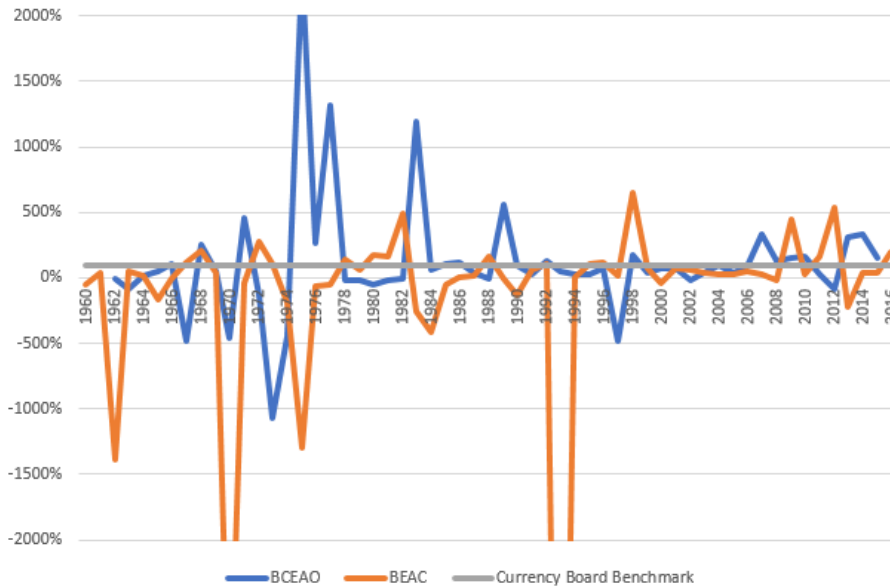


Figure 8. BCEAO's and BEAC's reserve pass-through rate

### 3.6. Test 3: Foreign assets as a percentage of total assets

The final test looks at what percentage foreign assets comprise of the total assets of each bank. An orthodox currency board should in principle be 100 percent foreign assets and 0 percent domestic assets, though in practice, many currency boards have held small amounts of domestic assets as a buffer for paying salaries and local expenses. For the BCEAO, the foreign asset percentage is much lower than 100. Especially after 1970, the value drops dramatically as foreign liabilities become a larger and larger component of total assets. The situation changes after 1982 and significantly after 1993 and the upward trend continues until 2008. The share of foreign assets then declines until the present. While BEAC's behavior varies from BCEAO's on a yearly basis, it exhibits the overall same trends. Neither approach the level necessary for designation as a currency board.

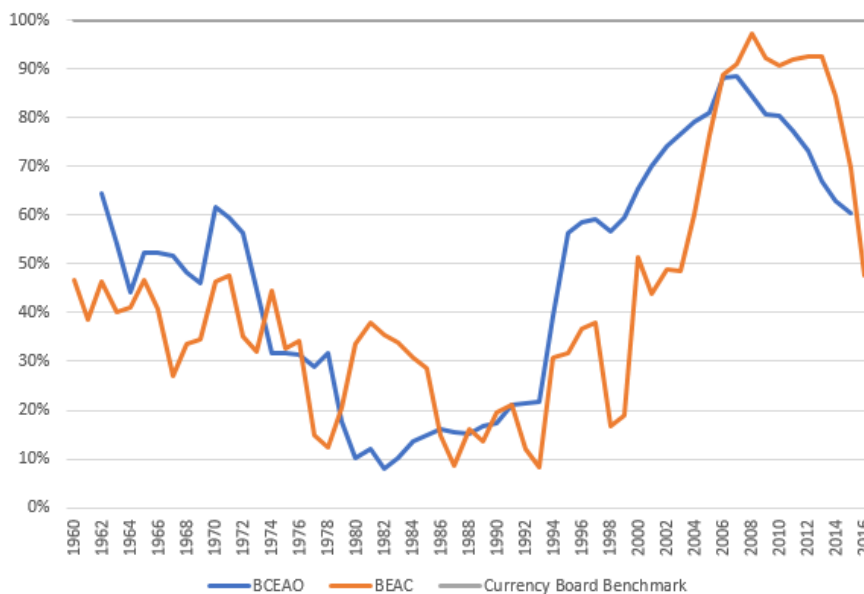


Figure 9. BCEAO's and BEAC's foreign assets as a percentage of total assets

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### 4. Conclusion

The preceding analysis reveals that neither of the CFA Franc zone's central banks resemble currency boards. While, especially in the early 2000s, both boards' percentages of foreign assets and net foreign reserves as a percentage of the monetary base approached the amount necessary to be considered a currency board, this period was only temporary. The reserve pass-through rate, in particular, at times approached 30 times the amount designated for currency boards, showing rapid changes in certain areas and currency board unorthodoxy.

Additionally, the balance sheet analysis reveals the differences between the two boards. Despite often being considered in tandem and having similar laws inherent to their structure, analyzing their balance sheets reveals that they often diverge, whether due to discretionary monetary economics or due to how they respond to global economic downturns. This discrepancy reveals that despite a similar colonial history, the two regions have been able to in part chose their own paths and diverge from their colonial past.

### Appendix

#### Data Appendix

An accompanying spreadsheet workbook contains the balance sheet data and calculations discussed in the paper. It includes data from the early years of the CFA franc zone previously not available in digital form.

#### Legal Appendix

This list contains some of the important laws and decrees made by the French and later African heads of state that impacted the activities of the CFA Franc zone central banks and monetary unions. Many of these laws can be found in the BCEAO's History of the West African Monetary Union. See also Legifrance, the official Web site for French legislation.

France, decree of 29 June 1901 – Established the Banque de l'Afrique Occidentale (BAO).

France, act of 29 January 1929 – Granted the BAO a renewal of its exclusive issuing right.

France, decree of September 1939 – Imposed a common set of exchange controls on France and its colonies at the start of World War II, in effect creating the franc zone.

Title VIII of the French Constitution of 1946 (Articles 60-82) – Reorganized the colonies into the AEF and the AOF, while giving them the status of decentralized collectivities.

France, Decree No. 45-0136 of 25 December 1945 – The CFA franc was created and had a value of 1.7 metropolitan francs.

France, act of 30 April 1946 – Set up FIDES (Fonds d'Investissement pour le développement économique et social des territoires d'outre-mer or Investment Fund for the Economic and Social Development of the Overseas Territories). Created a social and economic development plan for the territories.

France, Ministry of Finance and Economic Affairs, Avis No. 352 de l'Office des Changes of 17 October 1948 — The CFA franc was in effect revalued against French franc to offset almost all the French franc's devaluation from 214.392 to 264 French francs = US\$1 on 17 October 1949. The new exchange rate was 1 CFA franc = 2 French francs.

France, Decree No. 55-103 of 20 January 1955 – Created the Institut d'Émission de l'Afrique Occidentale Française et du Togo (IEAOFT) or the Issuing Institute of French West Africa and Togo to replace the BAO as the primary note issuer.

France, France Decree No. 55-104 of 20 January 1955 – The Caisse Centrale de la France d'Outre-Mer was replaced by the Institut d'Émission de l'Afrique Équatoriale Française et du Cameroun (IEAEFC) as the primary note issuer in French Equatorial Africa and Cameroon.

France, Decree No. 55-939 of 15 July 1955 – Established the capital of the IEAOFT at 1 billion French francs.

France, Decree No. 55-940 of 15 July 1955 – Approved the statutes of the IEAEFC.

France, Decree No. 55-941 of 15 July 1955 – Established the capital of the IEAEFC at 1 billion French francs.

France and IEAOFT, convention of 20 September 1955 – Established the relationship between the French Treasury and the new monetary authority of French West Africa and Togo.

France and Guinea, memorandum of agreement concerning modalities for the Republic of Guinea's entry into the Franc Area, January 7, 1959 - Signed following Guinea's decision to not join the new French community. This agreement laid out terms for continuing technical and cultural cooperation,

France, Ordinance No. 58-134 of 27 December 1958 – As part of a currency stabilization plan, created a new monetary unit in France, known as the new franc, which was established at 1 new franc = 100 old francs.

France, Ordinance No. 59-491 of 4 April 1959 – Transformed the IEAOFT into the foundation for the BCEAO.

France, Decree No. 59-1450 of 22 December 1959 – Established the date at which the new French franc would enter circulation as 1 January 1960. The exchange rate of the CFA franc became 50 CFA francs = 1 new French francs.

France and Mali, Co-operation Agreement signed on 22 June 1960 - Signed by French Prime Minister Michel Debré and President of the Government of the Federation of Mali, Modibo Keita, this agreement outlined plans for economic cooperation between France and the BCEAO, with Mali.

Mali, Act no. 63-54 AN/RM and Decree no. 174 AN/RM on Thursday 28 June 1962 – Established the Bank of the Republic of Mali.

Agreement of 12 May 1962 – Established WAMU.

Act no 63/16 of 21 November 1963 – Authorized Togo to join WAMU.

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- France and Guinea, agreement of 22 May 1963 – Articles 5 and 6 ended the financial dispute between the two countries and forced Guinea to recognize certain financial obligations to France.
- Agreement of 23 November 1972 – Monetary cooperation agreement between France and Central African countries.
- Mauritania, Act no. 73 118 of 15 May 1973 – Created the Central Bank of Mauritania.
- Agreement of 14 November 1973 – The WAMU countries established the West African Development Bank (French initials BOAD) to increase economic integration and ensure the development of all its members.
- Act no. 74-626 of 2 July 1974 – Signed in France and gave approval to the cooperation between France and WAMU States.
- Conseil des Ministres de l'Union Monétaire Ouest Africaine, decision of 28 July 1993 announced 2 August 1993, and Banque des États de l'Afrique Centrale, decision of 2 August 1993 – BCEAO and BEAC ceased redeeming notes in circulation outside the CFA franc zone.
- Déclaration commune des chefs d'État et de gouvernement des pays africains membres de la zone UMOA et BEAC – Both CFA francs were devalued to 100 CFA francs = 1 French franc.
- Council of the European Union, Regulation (EC) No. 974/98 of 3 May 1998 – France became one of the countries that would initially use the euro upon its adoption on 1 January 1999.
- Council of the European Union, decision of 23 November 1998 – Made determinations concerning the CFA franc and the Comorian franc applying to the forthcoming introduction of the euro to replace the French franc.
- Conseil des Ministres de l'Union Monétaire Ouest Africaine, Communiqué de la Banque Centrale des États de l'Afrique de l'Ouest sur le taux de conversion du franc CFA par rapport à l'euro of 21 December 1998, and Conseil des Ministres de l'Union Économique de l'Afrique Centrale, decision of December 1998 – Confirmed that upon the introduction of the euro on 1 January 1999, it would become the anchor currency for the CFA franc
- Council of the European Union, regulation of 31 December 1998 – Established the fixed conversion rates between the euro and its predecessor currencies, including a rate of 6.55957 French francs = 1 euro, thereby indirectly establishing the exchange rate of the CFA franc as 655.957 CFA francs = 1 euro.

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