IMF Working Paper

The CFA Arrangements—More than Just an Aid Substitute?

Etienne B. Yehoue

IMF Working Paper

INS

The CFA Arrangements—Just an Aid Substitute?

The CFA Arrangements—More than Just an Aid Substitute?

Prepared by Etienne B. Yehoue[1]

Authorized for distribution by Marc Quintyn

January 2007

Abstract

| **This Working Paper should not be reported as representing the views of the IMF.** |
| The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate. |

The CFA franc zone has had one of the longest experiences with a fixed exchange rate for a convertible currency and regional integration of any group of developing countries. France, the anchor country, provides aid to support the zone. This paper asks whether the arrangements are more than just an aid substitute. The paper addresses this issue by evaluating the overall performance of the zone over the period 1960-2004. The analysis reveals that when the zone is hit by a negative shock, France increases its aid, thereby acting as a shock absorber. However, it also finds that the zone displays strong performance in two areas—price stability and fiscal policy. Thus the paper concludes that the arrangements are not an aid substitute; they have real macroeconomic value for the zone and complement aid.

Contents   Page

I. INTRODUCTION

One key characteristic shared by most small open economies, and relevant for their exchange rate arrangements, is that the immense volume of their international commerce and finance must be undertaken using the currencies of the world's advanced industrial nations rather than their domestic currencies. Thus the choice of an appropriate exchange rate regime is particularly important for small open economies: it influences fiscal policy, monetary policy, trade policy, and the financial market. For less developed countries with a predominance of agricultural commodities in their exports, many structural adjustments are largely due to wide fluctuations in world prices of primary commodities, which cause serious disturbances in the terms of trade. Ultimately, the exchange rate regime is a key instrument in agricultural adjustment. How and whether this instrument is used depends on the type of regime the country chooses.

The export earnings of countries in the CFA franc zone rely heavily on some agricultural commodities, ranging from cocoa to cotton and natural resources. Member countries adopted a peg to the French franc since 1948, and have devalued only once, in 1994. Specific details about the arrangements are provided in the next section. Their common currency, the CFA franc, has been pegged to the euro since the introduction of the latter. Meanwhile, the CFA member countries have suffered frequent shocks in their terms of trade with wide variations in their output due to the fixed regime. Standard shock absorbers such as labor mobility, capital mobility, and fiscal transfers, have not been effective in absorbing shocks in the zone. It is conceivable that an adjustable peg or even floating regime may have possibly lessened the costs on output due to external shocks.

Why have the member states stuck to a fixed regime in the face of major price fluctuations? Member countries receive substantial aid from France, the anchor country, which helps to back the arrangements. As it will become clear below, even though aid is not explicitly part of the arrangements, empirical evidence suggests that when the zone is hit by a negative terms of trade shock, France increases its financial support, thereby acting as a shock absorber. For example, over 1986-93, when the zone was experiencing high negative terms of trade shocks, France intervened and provided substantial non-project aid, especially budgetary support, which amounted to about 44 percent of total bilateral aid.[2] A recent study (Yehoue, 2005) has also highlighted the crucial role of France's financial support in helping to absorb shocks or to smooth consumption in the zone. Without such aid buffer from France, a country hit by severe negative external shocks may have an incentive to leave the zone, jeopardizing the zone's sustainability. Thus, France's aid seems essential in sustaining the zone, and this leads one to ask whether the arrangements are just an aid substitute. In other words, I ask whether the arrangements just boil down to aid.

---

[2] Terms of trade shocks is defined as (trade/GDP)*(change in terms of trade). The cumulative deterioration in terms of trade over that period is estimated to around 40 percent (see Hadjimichael and Galy, 1997).

The goal of this paper is to address this fundamental question. This is done by assessing the overall performance of the zone. A failure to uncover independently of aid any positive achievements by the arrangements would be interpreted as the arrangements being just an aid substitute. The choice of this criterion can be justified by the fact that France's hegemon role in helping to absorb shocks or to smooth consumption in the zone via aid is clear, as highlighted above. And a failure of the zone to achieve on its own any macroeconomic performance would be an indication that the arrangements simply boil down to aid. This is because it would suggest that the duration of the zone is not explained or justified by the performance of the arrangements, rather by aid from France. In other words, aid from France would be substituting for the performance of the arrangements. In addition to this criterion, uncovering any channel of mutual benefit between the zone and France would provide a further evidence that the arrangements are not just about aid, because it would suggest that France's backing is not without reciprocal benefits from the zone.

Now if one uncovers strong performance of the zone, especially about price stability, which is the key performance one expects from a peg, and at the same time France is still providing aid, then this would suggest that in fact the arrangements complement France's aid. The idea is that this strong performance would have not come at the cost of France's aid, rather it complements France's aid by making it more effective. The criteria just described will help to address, after the overall assessment of the zone, the key issue raised in this paper.

In order to assess the overall performance of the zone, it is worthwhile to explore the factors influencing the choice of exchange rate regime. The choice of an appropriate exchange rate regime has been analyzed on the basis of two major criteria: "Which system will provide the most efficient allocation of resources and which system best protects the domestic economy from foreign or domestic shocks?" (Edison and Melvin, 1990). This analysis has led to profound academic debates.[3] The debate essentially draws on four areas of the economics and political economy literature, and what determines an optimal choice varies from one group of scholars to another.

The theory of optimum currency areas points to size, degree of market integration, origin, and nature of economic disturbances as the key determinants of the choice of an optimal exchange rate regime. This has grown out from the seminal contributions by Mundell (1961), Mckinnon (1963), and Kenen (1969). Recent studies[4] have added, to these usual optimal currency area determinants, mechanisms for risk sharing among member countries of a

---

[3] See Talvas (1993) for a useful survey.

[4] See, for example, Sala-i-Martin and Sachs (1992); Obstfeld and Rogoff (1996); Sorensen and Yosha (1998); and Yehoue (2005).

currency union. The idea is that without mechanisms of risk sharing such as fiscal buffer, capital markets, and credit markets, countries in recession will have an incentive to leave the union. In other words, mechanisms for risk sharing are essential for the sustainability of currency unions.

A second area is the optimal peg theory. Williamson (1982) provides a survey of this literature, which is based on Black (1976). Investigating the issue of which currency to use as a peg, this theory points to trade diversification as the key determinant of the choice. The anchor currency inflation rate is also an important determinant, as some countries may choose to peg their currencies to an external anchor in other to import low inflation. In that sense, an external peg may be viewed as a substitute for domestic credibility.

The third area, based on Eichengreen (1992 and 1996), identifies factoral (class) tensions as a determinant for parity setting. Eichengreen (1996) argues that the maintenance of the fixed exchange rate-Gold Standard in a world with capital mobility can be explained by the absence of domestic policies aimed toward full employment due substantially to the non-enfranchisement of the labor force. And the decline of fixed regimes (with the exception of the EU) in a world with capital mobility is substantially explained by the enfranchisement of the labor force. Typically, as labor parties receive more representation in parliament, it is no longer possible for the government to sacrifice domestic policies pushing for full employment, in favor of defending the currency peg.

The fourth and last area, based on Frieden (1994), points to sectoral cleavages as more important than factorial tensions for exchange rate regime setting. The idea is that, as depreciation helps producers of tradable goods, these producers have a strong preference for it, and are opposed to any substantial real appreciation. On the other hand, internationally-oriented investors, financiers, and traders oppose any substantial currency volatility as this increases uncertainty for cross-border economic activity and thereby is costly for them.[5]

This debate is largely unresolved and there are no clear answers for an optimal choice. As Frankel (1999) asserts, "no single currency regime is right for all countries or at all times." Countries choose specific exchange rate arrangements based on the tradeoff between *credibility* and *stability* on one hand, and *flexibility* on the other. Some governments may seek to enhance *credibility* in fighting inflation by pegging their currency to an external anchor. A fixed exchange rate also provides *stability* by eliminating exchange rate volatility. In very open economies, this stability may be valued highly, since exchange rate volatility can adversely affect the level of international transactions. On the other hand, fixed exchange rates force governments to sacrifice *flexibility* – the ability to adjust the nominal exchange

---

[5] For details, see Frieden (1994).

rate in response to economic shocks. Countries facing adverse economic conditions—particularly developing ones—may be unwilling to forego the use of monetary policy as a macroeconomic adjustment tool. Ultimately, the choice of an exchange rate regime is determined by the economic and political goals of a government and by the country's economic and political situation.

With this overview in mind, I provide an assessment of the economic performance of the CFA arrangements, and of the importance of aid in backing the arrangements. Such an assessment helps to infer in light of the criteria spelled out earlier whether the arrangements are just an aid substitute.

The analysis reveals that with regard to intra-zone trade, capital markets integration, and labor mobility, which are important for the sustainability of the zone, the arrangements' performance has been weak. It also shows that aid from France is crucial for the sustainability of the arrangements, as it has been key to absorb shocks. However, the analysis uncovers that the arrangements have helped achieve strong performance at least in two areas—price stability and fiscal discipline. I find that the zone performs better compared to other similar non-CFA members as far as credibility and stability are concerned. Concerning fiscal discipline, the arrangements also perform well, especially after 1994 when the surveillance criteria were put in place.

I also find that over 1960-2004, France has been the biggest exporter to the zone, with its exports representing on average 44 percent of the world exports to the zone. Though this may not be substantial, as it amounts to only 3 percent of France's total aid, it does suggest a commercial component to the arrangements, and hence an indication of some mutual benefit. Thus, in light of the definition of the arrangements being an aid substitute spelled out earlier, I infer that the arrangements are not an aid substitute; they have real macroeconomic value for the zone and complement France's aid.

The rest of the paper is organized as follows. The next section presents the overview of economic performance of the zone. Section III examines the different exchanges between the zone and France. Section IV presents a discussion of the findings of the previous sections and addresses the key question of the paper. The last section concludes.

II. AN OVERVIEW OF ECONOMIC PERFORMANCE IN THE FRANC ZONE

The choice of a specific exchange rate regime trades off credibility and stability against flexibility. Thus, I propose to analyze the economic performance of the Franc zone by looking at inflation, intra-zone trade, and fiscal discipline. In addition, mechanisms for risk sharing are essential for the sustainability of a currency union, otherwise a country in recession would have less incentive to commit to the union. Thus, I also explore the pattern

of cross-country risk sharing within the CFA franc zone. Before tackling the economic performance per se, I first briefly present the CFA franc zone.

The CFA franc zone consists of fifteen sub-Saharan African countries.[6] The zone is made up of two separate unions: one in West Africa—the West Africa Economic and Monetary Union (WAEMU)[7] with a unique Central Bank (BCEAO), and the other in Central Africa—the Central Africa Economic and Monetary Union (CEMAC) with the BEAC as its Central Bank. Each union issues its own currency, but both are the CFA. Hence the two unions are called the CFA-zones. Set up in its modern form in 1948, the CFA franc zone is an extension of the monetary system that has prevailed in the former French colonies since before their independence.

The union membership has gone through a series of changes over time as countries exercised some freedom to join or to leave the two central banks. For instance, Guinea abandoned the Franc zone when it gained its independence, while Mauritania joined the zone and left in 1973. Mali left the zone after independence and rejoined it in 1967. Togo joined the union only in 1963. Equatorial Guinea and Guinea-Bissau (non-French colonies) joined the zone in 1985 and 1997, respectively.

Since its inception, the CFA franc had been pegged to the French franc at a fixed parity (1 French franc = 50 francs CFA) until it changed to "1 French franc = 100 francs CFA", following the 1994 devaluation. The CFA has been pegged to the euro since its emergence, with a parity of 1 euro for 655.96 francs CFA. In addition, the zone is governed by certain rules, which aimed at monetary stability and external balance. First, government borrowing from the Central Bank is not allowed to exceed 20 percent of the previous year's fiscal revenues. Since 2001, this rule has changed, and any country in need of financing has to go to the regional market and issue bonds. Second, the French government guarantees the convertibility of the CFA franc. Each central bank is required to deposit 65 percent of its foreign asset holdings converted into French francs in the appropriate operation accounts created in the French treasury. This ratio was modified for WAEMU in September 2005 when it became 50 percent.[8] Since 1973, the operation accounts have been guaranteed compensation for any eventual devaluation of the French franc. In the case of a depreciation of the French franc (now the euro), the French Treasury pays compensation corresponding to

---

[6] Benin, Burkina Faso, Guinea-Bissau, Côte d'Ivoire, Mali, Niger, Senegal, Togo (in West Africa) and Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon (in Central Africa). The fifteenth country is Comoros. The analysis in this paper will focus on the fourteen countries in West and Central Africa, as they form two groups, and each has its own common central bank.

[7] Previously, it was called the West Africa Monetary Union (WAMU), but was transformed into the WAEMU in 1994.

[8] This change in ratio has not become effective for CEMAC.

the extent of the depreciation.[9] I now turn to the analysis of the economic performance of the zone.

A. Inflation

One of the key objectives of having a currency union with anchorage is price stability by importing low inflation from the anchor (here France with the French franc which became the euro). In this section, I evaluate whether the CFA arrangements were successful in delivering price stability for the Franc zone.

To do this, I extract data on the GDP deflator from the *World Development Indicators* (WDI) covering the period 1960-2004. I compute the average inflation for each member country over this period and also the average inflation for the zone. The results are reported in Table 1a in order ranging from countries with high inflation to countries with low inflation. Over the study period, if one excludes Guinea-Bissau which joined the zone only in 1997, average inflation for the zone is about 6.5 percent. Once Guinea-Bissau is included, average inflation over the same period stands at 8 percent. The average inflation for Guinea-Bissau after joining the Zone has substantially declined as the average for the period 1997-2004 is about 6 percent while the average over 1960-2004 is about 28 percent. With the exception of Guinea-Bissau and Equatorial Guinea, none of the zone member had average inflation rates exceeding 10 percent.[10]

In order to carry out a comparative analysis, I also compute average inflation for similar non-CFA zone African countries. Table 1b reports the results for this group of countries. The average inflation for this group over the same period is 76 percent. Out of 29 countries in this group, 20 had an average inflation rate higher 10 percent.

Since inflation variability is also a good indicator for price stability, Table 2a and 2b report inflation variability of the two groups in the same order. Average inflation variability for the Franc zone over the study period is about 12 percent. After excluding Guinea-Bissau, this variability declines to about 10 percent. At the same time, average inflation variability for the non-Franc zone group is about 240 percent. Clearly, as far as inflation is concerned, the CFA member countries outperform the non-CFA countries. In other words, the CFA arrangement seems very successful in bringing about price stability and credibility for low inflation. I now turn to investigate whether the same is true for trade within the zone.

---

[9] This compensation is to upset the decrease in value of the operation account reserve holdings due to the depreciation of the French franc (now the euro). Thus, the real value of the operation account reserve holdings will always be maintained.

[10] Note that Equatorial Guinea joined in 1985.

B. Intra-Franc Zone Trade

It has been argued in the literature that currency unions have a strong and positive impact on trade (see for example Rose, 2000 and Frankel and Rose, 2002). The Franc zone has had one of the longest experiences with a fixed exchange rate for a convertible currency and regional integration, including both common currency areas and preferential regional trade arrangements, of any group of developing countries. Thus, it is worth investigating how important intra-zone trade is relative to the total trade of each member country.

In order to do this, I extract data on bilateral trade from the International Monetary Fund's *Direction of Trade Statistics*.[11] These data are expressed in real terms. In fact, I deflate the original nominal values of trade by the U.S. consumer price index and express trade values in 2000 U.S. dollars.[12] These data cover the period 1960-2004, and I use shorter periods where data are missing.

For each of the CEMAC member countries, I compute the ratio of trade with the remaining CEMAC members to the country's total trade, and compute the average of these ratios over the period 1960-2004. I perform the same exercise for the WAEMU member countries. Finally, the same exercise is performed for the two groups together to form the Franc zone. Tables 3a, 3b, and 3c report the results. It appears that the average ratio of within CEMAC trade to total trade is about 4.7 percent. This figure stands at about 12 percent for WAEMU, while for the Franc zone (CEMAC and WAEMU), it stands at about 9.6 percent. Intra-regional trade is apparently very low for the zone, especially when one compares it to that of Europe or ASEAN (Association of South East Asian Nations) where it is about 50 or 60 percent. After more than half a century of existence, the intra-zone trade performance has been disappointing. This might be due to a lack of product diversification of the zone. Clearly, more needs to be done to promote trade within the Franc zone. I now turn to analyze the Zone's performance with regard to fiscal discipline.

C. Fiscal Discipline

This section assesses the performance of the Franc zone in terms of fiscal discipline. This is done by looking at the evolution of the fiscal deficit of the zone over 1965-2004 and conducting a comparative analysis with a group of non-CFA zone countries with similar

---

[11] The analysis here is based on recorded trade. It is conceivable that there might be unrecorded trade which is likely to be high in some countries.

[12] Notice that it does not matter here whether one uses data in real or nominal terms since I am using trade ratios. I use real data simply for conformity with other sections where all the data are expressed in real terms.

characteristics and for which data are available.[13] I first present a brief overview on the link between monetary unions and fiscal discipline.

The potential ability of monetary unions to induce fiscal discipline has been the subject of policy as well as academic debates. The conventional wisdom suggests that monetary unions (especially with anchorage) will lead to more fiscal discipline. The intuition is that monetization of excessive deficits will lead to the exhaustion of reserves and the collapse of the peg, with potential political consequences for the policymaker. These political costs would deter the policymaker and lead him ex ante to be disciplined.[14] Also, by joining a monetary union, a country surrenders its monetary policy to a supranational institution, which may resist pressures from national authorities to finance their deficit. Tornell and Velasco (2000) challenge the first argument by arguing that under flexible rates lax fiscal policies also have costs, which manifest themselves immediately through movements in the exchange rate. This may induce policymakers to provide more fiscal discipline. Masson and Pattillo (2001) address the question of the impact of a monetary union on fiscal policies by asking whether such a union can be an agency of restraint on fiscal policies for an eventual monetary union in ECOWAS.[15] They provide a nice survey on the issue, pointing out that a monetary union might create an incentive for less conservative fiscal policies through prospects of a bailout, or costs diluted through the membership.

In light of this brief overview, I now examine the experience of the Franc zone. To assess the fiscal performance of the Franc zone, I compute five-year average ratios of total revenue, current expenditure, and total deficit as a percentage of GDP over 1965-2004.[16] I compute these ratios for the CEMAC, the WAEMU, the consolidated Franc zone (CEMAC and WAEMU), and the group of the non-CFA zone countries.[17] Tables 4a, 4b, 4c, and 4d report

---

[13] The group of the non-CFA Zone countries comprises: Angola, Botswana, Burundi, Cape Verde, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Gambia The, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mauritania, Mauritius, Mozambique, Nigeria, Rwanda, São Tomé & Príncipe, Seychelles, Sierra Leone, Somalia, Sudan, Tanzania, Uganda, Zambia, Zimbabwe. These countries have adopted a flexible exchange rate regime. Note that data for fiscal performance are not available for Liberia and Somalia, so these two countries are dropped for the fiscal analysis.

[14] See Frenkel et al (1991) and Giavazzi and Pagano (1988).

[15] ECOWAS stands for the Economic Community of the West African States.

[16] I start from 1965 simply because of data availability.

[17] The aggregate deficit as a percentage of GDP for each regional group is computed as

$$\frac{\sum_i (Expenditure + Lending)_i - \sum (\text{Re} venue + Grants)_i}{\sum_i GDP_i}$$

the results. A comparative analysis of the two groups (CFA and non-CFA) reveals that the evolution of the fiscal deficit exhibits three different episodes.

Over the period 1965–1984, the CFA franc zone displayed higher performance compared to the non-CFA group. Over this period, the Franc zone's five year average fiscal deficit decreased from about 4.9 percent of GDP over 1965–69 to about 3.3 percent over 1980–84. At the time, the non-CFA group deficit steadily increased from about 5.2 percent of GDP over 1965–69 to about 7.6 percent over 1980–84. Clearly, the CFA zones perform better than the non-CFA group during this episode.

During 1985-94, a reversal of fiscal performance occurred for the two groups. Over this period, the non-CFA zone countries took steps to cut their deficit, which went down from its previous level of 7.6 percent of GDP to about 3.6 percent of GDP over 1990-94. Over this same period the Franc zone's deficit steadily deteriorated, as it increased from its previous 3.3 percent level to more than 6 percent over 1990–94. The results of this second episode clearly show that the non-CFA group outperform the CFA group.

Finally, over the period 1995–2004, both groups show strong performance, though the CFA group's performance is stronger. Over this period, the CFA zones significantly cut its previous deficit of more than 6 percent to about 2.3 percent of GDP in 1995–99 and even further to about 0.1 percent in 2000–04. During that period, the non-CFA group also continued its deficit cut bringing it down to about 2.7 percent in 1995–99, and even further to about 1.8 percent of GDP in 2000–04. While the two groups were successful in bringing down their deficit over this episode, one should note that the success of the CFA group is more pronounced than that of the non-CFA group. This success might be attributable to the adjustment measures taken by the zone in 1994 by devaluating its currency by 100 percent, and by transforming its former monetary unions into monetary and economic unions, where the coordination now goes beyond monetary policy to encompass fiscal policy as well.

From this apparently successful fiscal discipline, one might ask what comes from the peg and what comes from the monetary and economic union per se. To elaborate on this point, I compute the average fiscal discipline for the CFA franc zone over 1965-94 before the fiscal policy surveillance criteria have been put in place, and found it to be about 4.8 percent of GDP. Clearly, fiscal discipline was not rigorously followed before the 1994-devaluation. This may be due to a moral hazard issue, since France usually intervenes to support the arrangements. After the fiscal policy surveillance criteria have been put in place in 1994, the average deficit is about 1.2 over 1995-2004 period. Thus, as far as fiscal discipline is concerned in the CFA zone, it seems that little is coming directly from the peg, instead most seem to be coming from the union via the surveillance criteria.

At a disaggregated level, one observes that the Franc zone's fiscal discipline is coming more from the CEMAC than from the WAEMU. For the CEMAC, over 1965-2004, the average

deficit is about 2.9 percent of GDP, while for the WAEMU it is about 4.6 percent of GDP. Over 1995-2004, after the fiscal policy surveillance have been put in place, the CEMAC's average deficit is about 0.3 percent of GDP, while over the same period, the WAEMU has an average deficit of about 2 percent. This high performance in the CEMAC may be explained by the fact that with the exception the Central Africa Republic, all the CEMAC member countries are oil producers and enjoy some windfalls when oil price is high. As an evidence of this, one observes that the CEMAC displays a fiscal surplus over 1980-84 and over 2000-04 (see Table 4a). Over these same periods, the price index of the crude oil was substantially higher as indicated in Figure 1, leading on average to a positive terms of trade shocks of respectively 11.4 percent and 1.1 percent, and contributing to the strong fiscal performance.[18]

In summary, there are periods when the CFA arrangements outperformed the non-CFA group in terms of fiscal discipline, and periods when they fell short to outperform the non-CFA group. In other words, it is not clear that one regime is superior to the other in delivering fiscal discipline. This is in line with the two schools of thoughts, which stress the link between monetary union and fiscal discipline highlighted earlier. Notice however, that when a set of fiscal restraints was added to the initial CFA arrangements in 1994 to ensure fiscal policy coordination, the augmented arrangements were more successful in delivering fiscal discipline. The performance of the zone over 1995-2004 compared to that of the previous period is good evidence. This provides support to the Masson and Pattillo argument that a West African monetary union could promote fiscal discipline only if the hands of the fiscal authorities were tied by a set of fiscal restraints. Finally, it appears that the CEMAC bloc contributes more to the CFA franc zone's high fiscal performance than does the WAEMU, and this might be due to oil revenue.

D. Pattern of Risk Sharing

It has been argued that mechanisms of income insurance and shock smoothing (or risk sharing) are important for the sustainability of currency unions (Sala-i-Martin and Sachs, 1992; Obstfeld and Rogoff, 1996; and Sorensen and Yosha, 1998). Without such mechanisms, countries in recession would have an incentive to leave the union. Central fiscal institutions can provide income insurance via grants and tax-transfer systems. Market institutions, in particular capital and credit markets, can also provide risk sharing. For example, member countries of a union can share risk through a pooling of savings and cross border credit allocation, and via cross-ownership of productive assets. Thus, they can smooth consumption by adjusting the size and composition of their asset portfolio in response to shocks in a particular country.

---

[18] Terms of trade shocks is defined as (trade/GDP)*(change in terms of trade). In absolute terms, these numbers respectively correspond to 10.4 and 0.9 of positive terms of trade shocks.

Yehoue (2005) explores the pattern of risk sharing through these standard channels for the CFA zones. His findings suggest that only about 15 percent of shocks to GDP are smoothed via credit markets, capital markets, and remittances combined in the CEMAC. For the WAEMU, the proportion is only about 13 percent. The methodology used for the estimation of the amount of shocks absorbed through different channels appears in appendix.

In order to put these findings in perspective, I compare them to the pattern of risk sharing in the euro zone. Kalemli-Ozcan, Sorensen, and Yosha (forthcoming), analyzing the pattern of risk sharing in Europe, find that for the euro zone there are 2 percent of shocks smoothed over 1972-82 via the capital markets. Over this same channel, they find a dis-smoothing of 8 percent over 1983-92, while the proportion of shocks smoothed over 1993-2000 is 9 percent. Clearly, capital markets in the euro zone appear to becoming more integrated over time.

Marinheiro (forthcoming), using the same methodology as in Sorensen and Yosha (1998) also analyzes the degree of risk sharing via different channels in the euro zone. He finds that over the longer period 1970-99, 25 percent of shocks are smoothed via the capital markets, 21 percent via the credit markets, and observes a dis-smoothing of 2 percent via transfers. In other words, these channels combined provide 44 percent of shocks smoothing. The euro is introduced only in 1999, yet the pattern of risk sharing is by far better than that in the franc zone where the CFA franc has been in place for over half a century. The pattern of risk sharing over these standard channels is likely to become even better in the euro area as impressionistic evidence suggests that capital and credit markets are becoming more integrated in EMU after the introduction of the euro. Comparing this with the franc zone where only about 15 percent of shocks are smoothed via the standard channels combined together, suggests that the CFA franc zone has performed poorly in terms of risk sharing through the standard channels.

This is not surprising because credit markets and capital markets are not well integrated in the CFA zones. For example, for many years there was no common stock exchange in the WEAMU. It is only in 1998 that the Côte d'Ivoire's stock exchange was extended to serve the entire WAEMU market. An examination of the listed firms reveals that a bulk of them is from Côte d'Ivoire, confirming the weak integration of capital markets in the WAEMU.[19] One observes a similar situation in the CEMAC where the common stock exchange based in Libreville (Gabon) has had difficulties becoming fully operational. Given the quasi inexistence of risk sharing through the standard channels, one might ask what other mechanisms smooth shocks in the zone and contribute to its sustainability. In the next section, I address this issue by exploring the extent of shocks smoothed via aid from France.

---

[19] See Yehoue (2005) for more details.

III. EXCHANGES WITH FRANCE

In this section, I examine the different exchanges between the Franc zone and France. In particular, I examine to what extent aid from France might contribute to consumption or shock smoothing in the zone. In order to better assess whether the arrangements are just about aid, I also evaluate to what extent the arrangements might be mutually beneficial for both France and the CFA zone member countries by exploring the relative importance of France's exports to the zone.

A. Aid

From a historical perspective, a close look at past examples of formal monetary unions among sovereign states reveals that the fate of currency unions crucially depends on the presence or absence of a powerful state—a hegemon—capable and willing to push for and keep the arrangements functioning effectively in terms agreeable to all.[20] France, the anchor for the CFA franc zone, has been very effective in playing such a role for the zone. It has kept a special relation with the zone member countries and has provided them generous aid and technical assistance. An examination of the composition of France's aid reveals that it varies according to the evolution of the economic outlook of the zone. For example, over the period 1986-93 when the zone was running high fiscal deficits of about 6 percent of GDP, France's non-project aid, especially budgetary support, was quite substantial as it represented on average about 44 percent of total bilateral aid.

In order to assess the importance of aid in the zone, and especially given the low proportion of shocks smoothed through the standard channels as highlighted earlier, Yehoue (2005) has analyzed the proportion of shocks smoothed via aid from France. His estimates, which are based on 1980-2000 data, suggest that the proportion of shocks smoothed via aid is quite high, about 44 percent for the CEMAC and 63 percent for the WAEMU.[21] While these estimates may appear high, they can be justified, especially when one looks at the very weak economic performance of the zone in the 80s and early 90s with negative terms of trade shocks. Over these periods, aid from France to the zone was particularly higher. Figures 2a and 2b display the evolution of aid from France to CEMAC and WAEMU. From the figures, it is easy to see that aid from France was higher in the 80s and early 90s, reaching its peak over 1990-94 for both CEMAC and WAEMU.

In order to corroborate this shock absorption role by France, I investigate the evolution of aid from France with respect to the dynamics of terms of trade. To do this, I compute the

---

[20] Cohen (1993) and (2003) provide detailed discussions on this point.

[21] See appendix for the methodology used for the estimation of shocks absorbed via aid from France.

correlation between terms of trade shocks and aid from France over 1970-2004. For the consolidated franc zone (CEMAC and WAEMU), this correlation stands at -11 percent. The negative correlation clearly supports the claim that France is playing a crucial role of shock absorption. For the WAEMU, the correlation is -4 percent and still confirms France's absorption role. For the CEMAC, I find a positive correlation of 3 percent, which might, at first glance, suggest that the negative overall correlation is primarily driven by the WAEMU. However, after a careful analysis of data, I find that over 1980-1984, the CEMAC experienced a positive terms of trade shocks of 11.6 percent on average and at the same time there was a modest increase in France's aid of about 0.3 percent. If one isolates this particular period, the correlation becomes negative at 6 percent. Thus, overall there is a negative correlation between terms of trade shocks and France's aid. More likely, it is not an increase in France's aid that triggers negative shocks in the zone, rather the other way around. In other words, though these correlations appear low, their negative signs do suggest that in general, negative shocks in the zone seem to be accompanied by an increase in France's aid, highlighting the shock absorber role by France's aid.

For further evidence about the importance of aid to the zone, I compute aid from France per capita for all the independent nations receiving France's aid. I ranked them in order to assess whether the Franc zone countries enjoy some privilege compared to other non-Franc zone countries. Table 5 presents the results. The evidence shows that out of 160 independent nations receiving aid from France, the CFA zone member countries are among the top twenty-six. The only exception is Guinea-Bissau, which ranks 31. This might be due to the fact that it joined the zone only in 1997. Over 1960-2004, for the CFA zone member countries (except Guinea-Bissau), the annual average aid per capita expressed in 2000 U.S. dollar varies from $91 (Gabon) to $10.5 (Mali). At the same time, France's annual average aid for the non-CFA group (except Seychelles, Mauritius, and Madagascar) varies from about $3 (Rwanda) to $0.1 (Nigeria). Clearly, the CFA zone member countries seem to enjoy some privilege compared to other France's aid recipients. Also, if one looks at the real flows of official development assistance (ODA) to CEMAC and WAEMU from major donors such as France, the European Union (France excluded), the United States, and Japan during 1960-2004, it is easy to see that overall ODA from France has been the most important, as shown in Figures 3a and 3b.

Overall, aid from France seems to have been crucial for shock absorption and thus for the sustainability of the CFA arrangements. I now turn to examine whether France might have any economic interests in such arrangements. In particular, I examine France's commercial interests with the zone by focusing on its exports to the zone.

B. Trade

Monetary stability between France and the Franc zone member countries through a peg of the CFA franc to the French franc, which later became the euro, could strengthen commercial

relationships between France and the zone. It will not only facilitate trade between France and the zone, but will also ease financial transactions of French investors operating in the zone.

Here, I simply look at the importance of France's exports to the Franc zone relative to the world's exports to the zone. Table 6 reports the results. Over 1960-64, France's exports to the Franc zone represent more than 73 percent of world exports to the zone, suggesting that a bulk of the imports of the zone were from France.

From Table 6, it is also worth noticing that, in recent years, the zone has been diversifying its sources of imports as the ratio falls from more than 73 percent over 1960-64 to about 25 percent over 2000-04. As a result, the overall average of France's exports to the zone during 1960-2004 is about 44 percent of the world's exports to the zone. Given the declining trend of France's exports to the zone, it appears that France's initial quasi monopole over the zone for commercial relationships seems to be phasing out. However, with France's exports representing about 44 percent of the world's export to the zone over 1960-2004, the CFA arrangements seem to have some commercial components and might not boil down just to aid.

IV. SUMMARY AND DISCUSSIONS OF THE RESULTS

A country's suitability for entry into a currency union depends on a number of economic conditions, usually referred to as optimum currency areas criteria. These include capital and labor mobility, the intensity of trade with other potential members of the currency union, the extent to which domestic business cycles are correlated with those of the other countries, and fiscal transfers. Examining the performance of the CFA arrangements in light of these criteria as well as others reveals mixed results.
The arrangements consistently deliver superior results in terms of price stability compared to other similar non CFA members. With regard to fiscal discipline, the arrangements deliver superior results in some periods and fall short in others, suggesting that no single currency regime is right at all times for all countries when it comes to fiscal discipline.

However, as far as intra-zone trade, capital mobility, and labor mobility are concerned, the arrangements show weak performance. As mentioned earlier, intra-CFA zone trade is only about 9.6 percent of total trade, while it is about 50 or 60 percent in Europe or ASEAN. Factor mobility is also very weak as evidenced by the pattern of risk sharing. Only about 15 percent of shocks are smoothed via capital markets, credit markets, and remittances combined, leading to investigate other factors that might contribute to the sustainability of the zone.

Here I examine the exchanges with France, the zone anchor country. On one hand, the analysis reveals that assistance from France has been crucial for the sustainability of the

zone. On the other hand, the analysis suggests that there might be a commercial component to the arrangements as France is the biggest single exporter to the zone, with a share of about 44 percent of world exports to the zone over the period 1960-2004. However, this represents only about 3 percent of France's total exports. Since France's export to the Franc zone is so low, it is conceivable that the motivation for France's support might go beyond economic.

To sum up, the analysis in this paper reveals the upside and the downside of the CFA arrangements. It uncovers at least two areas where the arrangements have shown strong performance. The arrangements have been successful in delivering price stability, which is important in promoting economic growth. They have also been successful in delivering fiscal discipline especially after the surveillance criteria have been put in place. In addition, the analysis shows that France is the biggest exporter to the zone, with a share of about 44 percent of world exports to the zone, suggesting a commercial component to the arrangements. In other words, there seems to be some mutual benefit for both France and the CFA group, though the benefit for France might not be substantial. Thus, in light of the benchmark laid out in the introduction, I infer that the arrangements are not an aid substitute, they have real macroeconomic value for the zone, and complement France's aid. It is worthy noticing however, that the CFA franc zone faces some challenges; there is a need to deepen its capital and credit markets, and make them more integrated. This is essential to strengthen the risk sharing mechanisms among member countries of the zone and to assure the sustainability of the zone.

V. CONCLUDING REMARKS

The Franc zone has suffered frequent shocks in its terms of trade with wide variations in its output due to the fixed regime. Yet, it has had one of the longest experiences of currency union with anchorage of any group of developing countries. Since its establishment in the aftermath of the world II, the Franc zone has survived decolonization, the collapse of the Bretton Woods exchange rate system, the debt crises, and the cold war. France's special relationship—via aid and other technical assistance—with the zone member countries has been key for the sustainability of the arrangements.

This paper investigates whether the CFA arrangements are more than just an aid substitute. The paper addresses this question by evaluating the overall performance of the CFA franc zone over 1960–2004. The paper finds that the zone falls short in promoting intra-zone trade. It has less integrated capital and credit markets, and has enjoyed strong backing from France for shock absorption, leading one to think at first glance that the zone boils down to aid or is simply an aid substitute.

Despite these shortcomings about the zone, however, the analysis reveals that the zone displays a strong performance as far as price stability is concerned. The zone has also performed well in terms of fiscal discipline, especially after 1994 when fiscal policy

coordination was added to monetary policy coordination. The paper also finds that over 1960–2004, France has been the biggest exporter to the zone with its exports representing on average 44 percent of the world exports to the zone. Though this commercial component is not substantial as it amounts to only 3 percent of France's total exports, it provides an indication that the zone might be a potential market for France's exports. Thus, the paper concludes that the CFA arrangements are more than just an aid substitute, and have real macroeconomic value for the zone. In order to strengthen the arrangements, the paper recommends the deepening of capital and credit markets in the zone.

REFERENCES

Black, Stanley, 1976, "Exchange Rate Policy for Less-Developed Countries in a world of Floating Rates," *Princeton Essays in International Finance*, December, 119.

Cohen, Benjamin J., 1993, "Beyond EMU: The Problem of Sustainability," *Economics and Politics*, Vol. 5 (July), No. 2, pp. 187–202.

Cohen, Benjamin J., 2003, "Monetary Union: The Political Dimension," in *The Dollarization Debate,* ed. by James W. Dean, Dominik Salvatore, and Thomas D. Willett (Oxford: Oxford University Press).

Edison, Hali, and Michael Melvin, 1990, "The Determinant and Implications of the Choice of an Exchange Rate System" in *Monetary Policy for a Volatile Global Economy,* ed. by W.S. Haraf and T.D. Willett (Washington, DC: American Enterprise Institute Press).

Eichengreen, Barry, 1996, *Globalizing Capital: A History of the International Monetary System* (Princeton, NJ: Princeton University Press).

Frankel, Jeffrey, 1998, "No Single Currency Regime is Right for all Countries or at all Times," *Essays in International Finance*, December, 215.

Frankel, Jeffrey, and Andrew K. Rose, 2002, "An Estimate of the Effect of Currency Unions on Trade and Growth," *Quarterly Journal of Economic*, Vol. 117, pp. 437–66.

Frenkel, Jacob, Morris Goldstein, and Paul Masson, 1991, "Characteristics of a Successful Exchange Rate System," IMF Occasional Paper No. 82 (Washington DC: International Monetary Fund).

Frieden, Jeffrey, 1994, "Exchange Rate Politics: Contemporary Lessons from American History," *Review of International Political Economy*, Vol. 1, No. 1.

Giavazzi, Francesco, and Marco Pagano, 1988, "The Advantage of Tying One's Hands: EMS Discipline and central bank credibility," *European Economic Review*, Vol. 32, No 5. pp. 1055–75.

Kenen, Peter, 1969, "The Theory of Optimal Currency Areas: An Eclectic View," in *Monetary Problems of the International Economy,* ed. by Mundell R. and Swoboda A (Chicago, IL: University of Chicago Press).

Marinheiro, Carlos F., 2005, "Output Smoothing in EMU and OECD: Can We Forego government Contribution? A Risk Sharing Approach" in *Prospects for Monetary Unions after the Euro,* ed. by Paul De Grauwe and Jacques Mélitz (Cambridge, MA: MIT Press).

Masson, Paul, and Catherine Pattillo, 2001, "Monetary Union in West Africa – An Agency of Restraint for Fiscal Policies?" IMF Working Paper 01/34 (Washington DC: International Monetary Fund).

McKinnon, Ronald, 1963, "Optimum Currency Areas," *American Economic Review*, Vol. 53, No. 4, pp. 717–25.

Mundell, Robert A., 1991, "A Theory of Optimal Currency Areas," *American Economic Review*, Vol. 51, No. 4, pp. 657–65.

Obstfeld, Maurice, and Kenneth Rogoff, 1996, *Foundations of International Macroeconomics* (Cambridge, MA: MIT Press).

Rose, Andrew K., 2000, "One Money One Market: Estimating the Effect of Common Currencies on Trade," *Economic Policy*, Vol. 15, No. 30, pp. 9–45.

Sala-i-Martin, X., and J. Sachs, 1992, "Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States," in *Establishing a central bank: Issues in Europe for Lessons from the US,* ed. by M. B. Canzoneri, V. Grillli, and P. R. Mason (Cambridge: Cambridge University Press), pp. 195–220.

Sebnem, Kalemli-Ozcan, Bent Sorensen, and Oved Yosha, "Asymmetric Shocks and Risk Sharing in a Monetary Union: Updated Evidence and Policy Implications for Europe," in *Who will Own Europe? The Internationalization of Asset Ownership in the EU Today and in the Future* (forthcoming; Cambridge University Press).

Sorensen, Bent E., and Oved Yosha, 1998, "International Risk-Sharing and European Monetary Unification," *Journal of International Economics*, Vol. 45, No. 2, pp. 211–38.

Talvas, George, 1993, "The New Theory of Optimum Currency Areas," *World Economy*, Vol.16, No 6, pp. 663–85.

Tornell, Aaron and Andrés Velasco, 2000, "Fixed versus Flexible Exchange Rates: Which Provides More Fiscal Discipline?" *Journal of Monetary Economics*, Vol.45, No. 2. pp. 399–436.

Williamson, John, 1982, "Survey of the Literature on the Optimal Peg," *Journal of Development Economics*, Vol.11, Aug. pp. 39–61.

Yehoue, Etienne B., 2005, "International Risk Sharing and Currency Unions: The CFA Zones," IMF Working Paper 05/95 (Washington DC: International Monetary Fund).

Appendix: Methodology for Estimating the Degree of Risk Sharing via Different Channels

The idea of risk sharing is derived from the principle that when risk is fully shared within a group of countries (say the world), the consumption of a country co-moves with the world consumption, but not with country specific shocks, that is, $c_{x_t}^i = k^i c_{x_t}^W$, where k^i is a constant which is specific for country i, $c_{x_t}^i$ and $c_{x_t}^W$ are respectively country i and world consumption given the state of the nature x_t at time t (Sorensen and Yosha, 1998 and Yehoue, 2005). Based on this, to estimate the amount of output shock absorbed or smoothed at different levels, I follow Asdrubali and others (1996) and Sorensen and Yosha (1998), and decompose the cross-sectional variance of GDP.

To be more precise, consider the following accounting identities: $GNP = GDP + $ net factor income from abroad, $NI = GNP - $ capital depreciation, $DNI = NI + $ international transfers, $C + G = DNI - $ net saving, C and G stand for private and public consumption, respectively. Now consider the following identity for a given country i:
$GDP^i = \frac{GDP^i}{GNP^i} \frac{GNP^i}{NI^i} \frac{NI^i}{DNI^i} \frac{DNI^i}{C^i + G^i} \left(C^i + G^i \right)$, where all the magnitudes are in per capita terms. If there is shock smoothing through net factor income flows, then $\frac{GDP^i}{GNP^i}$ should vary positively with GDP^i. By the same token, if depreciation of capital further contributes to income insurance, then $\frac{GNP^i}{NI^i}$ should positively vary with GDP^i. Taking the logs and difference, multiplying both sides of the identity by $\Delta \log GDP^i$ (minus its mean), and taking the cross-sectional average lead to the following variance decomposition:

$$
\begin{aligned}
var\left[\Delta \log GDP^i \right] = &\ cov\left[\Delta \log GDP^i, \Delta \log GDP^i - \Delta \log GNP^i \right] \\
&+ cov\left[\Delta \log GDP^i, \Delta \log GNP^i - \Delta \log NI^i \right] \\
&+ cov\left[\Delta \log GDP^i, \Delta \log NI^i - \Delta \log DNI^i \right] \\
&+ cov\left[\Delta \log GDP^i, \Delta \log DNI^i - \Delta \log\left(C^i + G^i \right) \right] \\
&+ cov\left[\Delta \log GDP^i, \Delta \log\left(C^i + G^i \right) \right]
\end{aligned}
\tag{1}
$$

Dividing by $var\left[\Delta \log GDP^i \right]$, one gets $1 = \beta_f + \beta_d + \beta_\tau + \beta_s + \beta_u$, where β_f is the ordinary least squares estimate of the slope in the cross-sectional regression of $\Delta \log GDP^i - \Delta \log GNP^i$ on $\Delta \log GDP^i$, β_d is the slope of the regression of $\Delta \log GNP^i - \Delta \log NI^i$ on $\Delta \log GDP^i$, and similarly for β_τ and β_s. β_u is the slope of the regression of $\Delta \log\left(C^i + G^i \right)$ on $\Delta \log GDP^i$. The β coefficients are interpreted as the proportion of smoothing achieved at each level, and β_u is the percentage of shocks not

smoothed. If there is dis-smoothing at some level, it will be reflected in a negative value of β. This empirical strategy results in the following regressions:

$$\Delta \log GDP^i - \Delta \log GNP^i = \upsilon_{f,t} + \beta_f \Delta \log GDP^i + \in_{f,t}^i$$

$$\Delta \log GNP^i - \Delta \log NI^i = \upsilon_{d,t} + \beta_d \Delta \log GDP^i + \in_{d,t}^i$$

$$\Delta \log NI^i - \Delta \log DNI^i = \upsilon_{\tau,t} + \beta_\tau \Delta \log GDP^i + \in_{\tau,t}^i \qquad (2)$$

$$\Delta \log DNI^i - \Delta \log\left(C^i + G^i\right) = \upsilon_{s,t} + \beta_s \Delta \log GDP^i + \in_{s,t}^i$$

$$\Delta \log(C^i + G^i) = \upsilon_{u,t} + \beta_{u,t} \Delta \log GDP^i + \in_{u,t}^i$$

Where $\upsilon_{.,t}$ are time fixed effects. Following this, the generic equation for estimating the amount of shocks smoothed via a channel represented by a generic variable x, is :

$$\Delta \log GNP^i - \Delta \log\left(GNP^i + x\right) = \upsilon_{aidf,t} + \beta_{aidf} \Delta \log GDP^i + \in_{aidf,t}^i$$

Hence, the amount of shocks smoothed via France's aid is estimated using the regression

$$\Delta \log GNP^i - \Delta \log\left(GNP^i + AIDF^i\right) = \upsilon_{aidf,t} + \beta_{aidf} \Delta \log GDP^i + \in_{aidf,t}^i \ .$$

Table 1a. CFA Franc Zone Countries' Mean Annual Inflation Rate, 1960–2004 1/
(In percentage)

CFA: High Inflation Countries (Ranked by Inflation)	
Guinea-Bissau	27.90
Equatorial Guinea	11.63
Gabon	8.10
Mali	7.10
Central African Rep.	6.74
Congo, Republic of	6.68
Côte d'Ivoire	6.50
Cameroon	6.15
Benin	5.67
Chad	5.58
Togo	5.52
Niger	5.33
Senegal	5.20
Burkina Faso	4.76
Average Inflation for the CFA Franc zone	8.06
Average Inflation without Guinea Bissau 2/	6.54

Source: WDI 2005.
1/ Based on GDP Deflator.
2/ Guinea-Bissau joined the CFA Franc zone only in 1997.

Table 1b. Non-CFA Franc Zone Countries' Mean Annual Inflation Rate, 1960–2004 1/
(In percentage)

High Inflation Countries (Ranked by Inflation)	
Congo, Dem. Rep. of	966.02
Angola	662.87
Liberia	99.35
Uganda	46.11
Zimbabwe	35.21
São Tomé & Príncipe	35.07
Somalia	32.99
Mozambique	32.87
Zambia	32.78
Sudan	31.95
Ghana	30.28
Sierra Leone	29.48
Nigeria	19.05
Tanzania	17.22
Malawi	16.05
Madagascar	12.89
Guinea	11.39
Eritrea	10.97
Rwanda	10.75
Gambia, The	10.24
Botswana	9.36
Kenya	9.23
Burundi	8.13
Mauritius	7.57
Mauritania	6.89
Seychelles	6.58
Ethiopia	5.66
Cape Verde	3.98
Djibouti	3.52
Average Inflation	76.02

Source: WDI 2005.
1/ Based on GDP Deflator.

Table 2a. CFA Franc Zone Countries' Inflation Rate Variability, 1960–2004 1/
(In percentage)

CFA: Inflation Variability (Ranked by Standard Deviation of Inflation)	
Guinea-Bissau	32.46
Equatorial Guinea	24.37
Gabon	16.23
Congo, Republic of	13.51
Côte d'Ivoire	10.18
Chad	9.50
Niger	9.12
Central African Rep.	8.74
Mali	7.96
Benin	6.83
Cameroon	6.14
Burkina Faso	5.67
Senegal	5.62
Average Inflation Variability for the CFA Franc zone	12.03
Average Inflation Variability without Guinea-Bissau 2/	10.32

Source: WDI 2005.
1/ Standard Deviation of Annual Inflation Rates, based on GDP deflators.
2/ Guinea-Bissau joined the CFA Franc zone only in 1997.

Table 2b. Non-CFA Franc Zone Countries' Inflation Rate Variability, 1960–2004 1/
(In percentage)

Non-CFA: Inflation Variability (Ranked by Standard Deviation of Inflation)	
Congo, Dem. Rep. of	4250.18
Angola	1314.61
Liberia	598.42
Zimbabwe	70.69
Uganda	60.75
Somalia	46.78
Zambia	39.10
Mozambique	36.62
Sierra Leone	36.06
Sudan	31.85
São Tomé & Príncipe	26.25
Ghana	22.98
Nigeria	19.70
Rwanda	16.94
Malawi	14.90
Gambia, The	10.01
Madagascar	9.85
Guinea	9.62
Ethiopia	9.26
Tanzania	9.09
Seychelles	8.93
Kenya	8.50
Burundi	8.02
Eritrea	6.10
Botswana	5.79
Mauritania	5.03
Mauritius	2.39
Cape Verde	2.31
Djibouti	1.94
Average Inflation Variability	230.44

Source: WDI 2005.
1/ Standard Deviation of Annual Inflation Rates, based on GDP deflators.

Table 3a. Average Ratio of Trade with CEMAC-to-Total Trade, 1960–2004 1/
(In Percentage)

Countries	Average Ratio of Trade within CEMAC-to-Total Trade
Cameroon	3.45
Central African Rep	5.57
Chad	8.78
Congo, Republic Of	1.86
Equatorial Guinea	6.87
Gabon	2.04
Average within CEMAC Trade	4.76

Source: Based on data from the Direction of Trade, IMF.

1/ Trade as reported by the World.

Table 3b. Average Ratio of Trade with WAEMU-to-Total Trade, 1960–2004 1/
(In Percentage)

Countries	Average Ratio of Trade within WAEMU-to-Total Trade
Benin	6.82
Burkina Faso	26.95
Côte d'Ivoire	6.22
Guinea-Bissau	6.87
Mali	27.60
Niger	8.32
Senegal	7.25
Togo	5.49
Average within WAEMU Trade	11.94

Source: Based on data from the Direction of Trade, IMF.

1/ Trade as reported by the World.

Table 3c. Average Ratio of Trade with CFA-to-Total Trade, 1960–2004 1/
(In Percentage)

Countries	Average Ratio Trade within CFA-to-Total Trade
Benin	7.16
Burkina Faso	27.21
Cameroon	4.74
Central African Rep.	6.82
Chad	10.11
Congo, Republic of	2.66
Côte d'Ivoire	7.19
Equatorial Guinea	7.96
Gabon	3.48
Guinea-Bissau	6.15
Mali	27.71
Niger	8.52
Senegal	9.17
Togo	5.97
Average within CFA Franc zone Trade	9.63

Source: Based on data from the Direction of Trade, IMF.

1/ Trade as reported by the World.

Table 4a. CEMAC's Fiscal Performance (5-Year Average Percentage of GDP)

	1965–1969	1970–1974	1975–1979	1980–1984	1985–1989	1990–1994	1995–1999	2000–2004	Overall Deficit (1965–2004)
Revenue and Grants	20.62	20.62	21.49	23.85	19.34	16.55	19.14	22.14	
Expenditure and Lending	25.36	25.42	24.62	22.14	24.19	23.05	21.85	20.12	
Deficit	4.74	4.81	3.13	-1.71	4.85	6.50	2.71	-2.01	2.88

Source: Based on data from the World Economic Outlook, IMF, 2006.

Table 4b. WAEMU's Fiscal Performance (5-Year Average Percentage of GDP)

	1965–1969	1970–1974	1975–1979	1980–1984	1985–1989	1990–1994	1995–1999	2000–2004	Overall Deficit (1965–2004)
Revenue and Grants	20.46	20.42	24.24	23.03	22.91	18.08	18.17	18.07	
Expenditure and Lending	25.47	25.35	29.12	30.36	28.24	23.91	20.29	19.98	
Deficit	5.01	4.92	4.88	7.33	5.33	5.83	2.12	1.91	4.67

Source: Based on data from the World Economic Outlook, IMF, 2006.

Table 4c. CFA Franc Zone's Fiscal Performance (5-Year Average Percentage of GDP)

	1965–1969	1970–1974	1975–1979	1980–1984	1985–1989	1990–1994	1995–1999	2000–2004	Overall Deficit (1965–2004)
Revenue and Grants	20.52	20.49	23.23	23.43	21.19	17.38	18.57	19.89	
Expenditure and Lending	25.44	25.38	27.53	26.74	26.29	23.52	20.91	20.03	
Deficit	4.92	4.89	4.30	3.32	5.11	6.13	2.34	0.13	3.89

Source: Based on data from the World Economic Outlook, IMF, 2006.

Table 4d. Non CFA's Fiscal Performance (5-Year Average Percentage of GDP)

	1965–1969	1970–1974	1975–1979	1980–1984	1985–1989	1990–1994	1995–1999	2000–2004	Overall Deficit (1965–2004)
Revenue and Grants	15.72	16.43	15.78	14.10	16.60	18.23	19.13	23.69	
Expenditure and Lending	20.94	22.38	22.85	21.72	20.09	21.84	21.90	25.53	
Deficit	5.22	5.95	7.08	7.62	3.49	3.60	2.77	1.84	4.70

Source: Based on data from the World Economic Outlook, IMF, 2006.

Table 5. Ranking of Annual Average Aid from France per capita, by Recipient, 1960–2004
(In 2000 U.S. dollars)

High France's Aid Recipients (Ranked by Aid per Capita)	
Djibouti	181.73
Seychelles	101.46
Vanuatu	99.18
Gabon	91.00
Comoros	49.34
São Tomé & Príncipe	45.14
Congo, Republic of	30.61
Algeria	29.59
Senegal	28.69
Central African Rep.	27.53
Equatorial Guinea	24.83
Mauritania	23.42
Mauritius	22.82
Côte d'Ivoire	22.63
St. Lucia	17.37
Cape Verde	16.90
Tunisia	16.06
Cameroon	15.13
Chad	14.30
Dominica	14.17
Niger	12.68
Madagascar	12.39
Togo	11.89
Burkina Faso	10.99
Benin	10.65
Mali	10.51
Morocco	9.97
Grenada	9.92
Lebanon	7.88
St. Kitts and Nevis	6.90
Guinea-Bissau	6.36

Source: Based on OECD Statistics Online and WDI 2006.

*Top 31 countries with highest annual average per capita aid received from France.

Table 6. 5-Year Average Ratio of France's Exports to CFA-to-World's Export to CFA, 1960–2004
(In Percentage)

Year	France's Export to CFA as Percentage of World's Export to CFA
1960–64	73.58
1965–69	57.29
1970–74	49.43
1975–79	45.70
1980–84	39.07
1985–89	37.53
1990–94	33.45
1995–99	31.00
2000–04	25.40

Source: Based on data from the Direction of Trade, IMF.
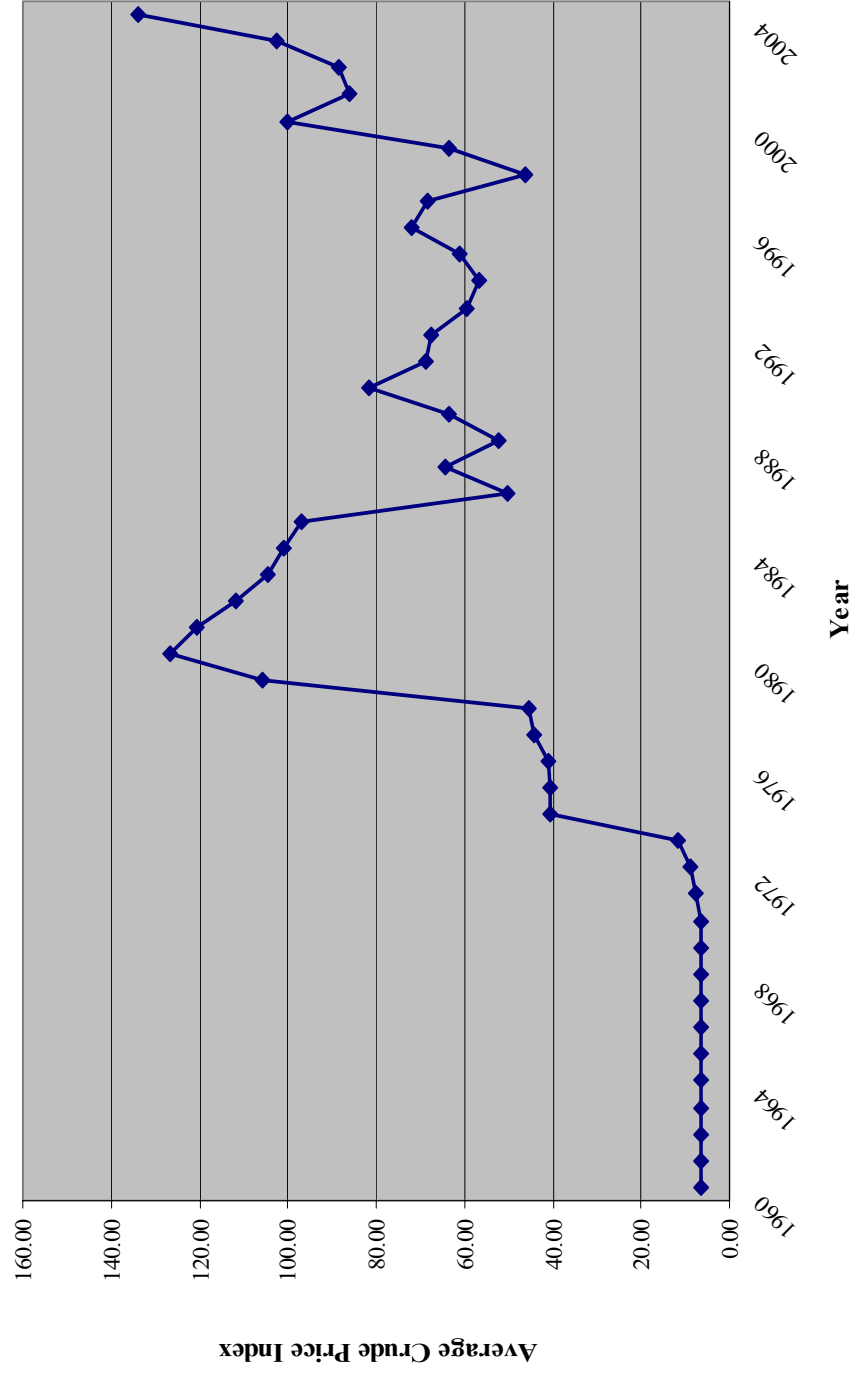
Figure 1. Petroleum, Spot - Average Crude Price Index
(Base year 2000)

Figure 2a. 5-Year Average of Aggregate Aid from France to CEMAC
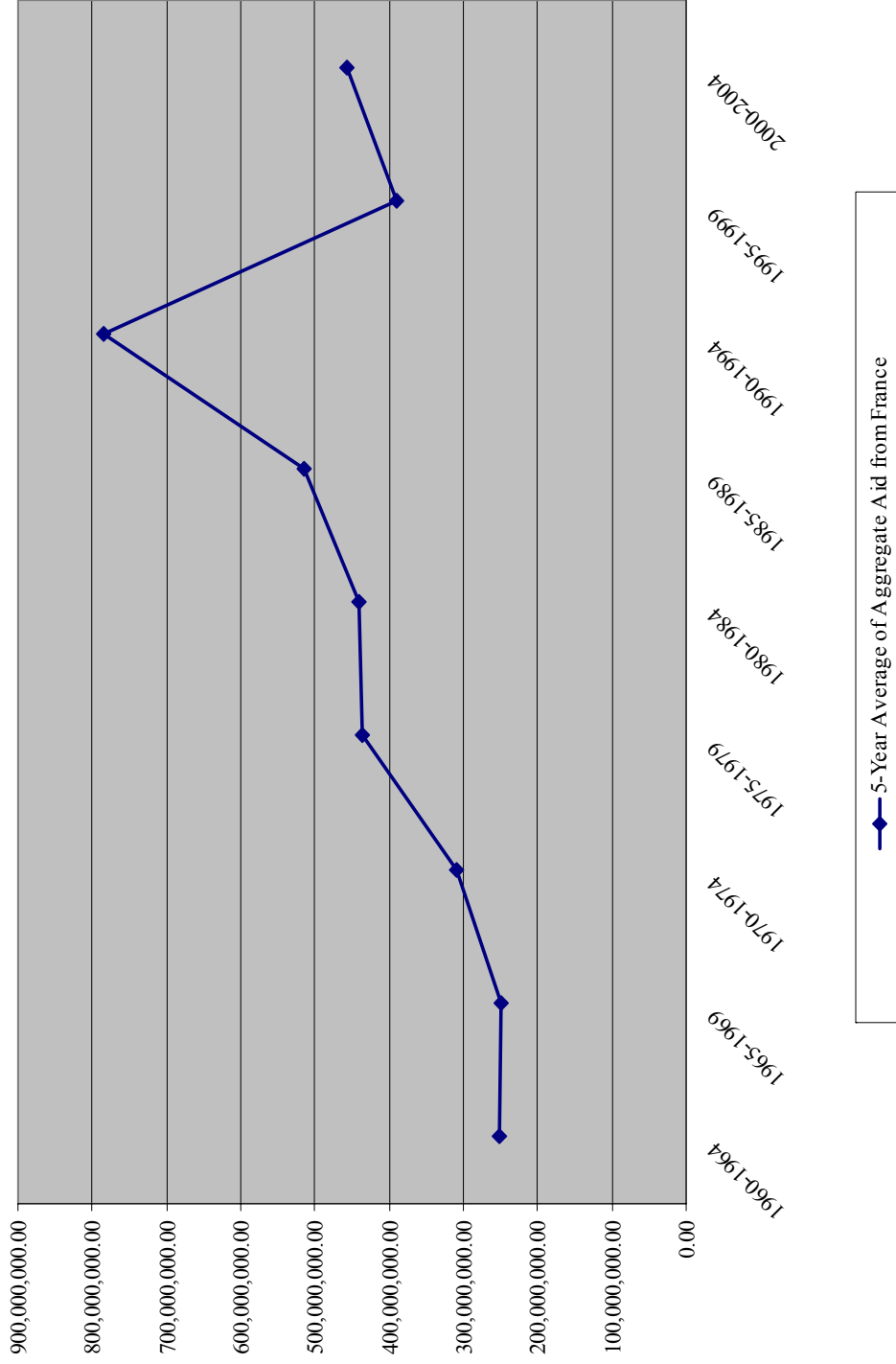(In 2000 U.S. dollars)

Figure 2b. 5-Year Average of Aggregate Aid from France to WAEMU
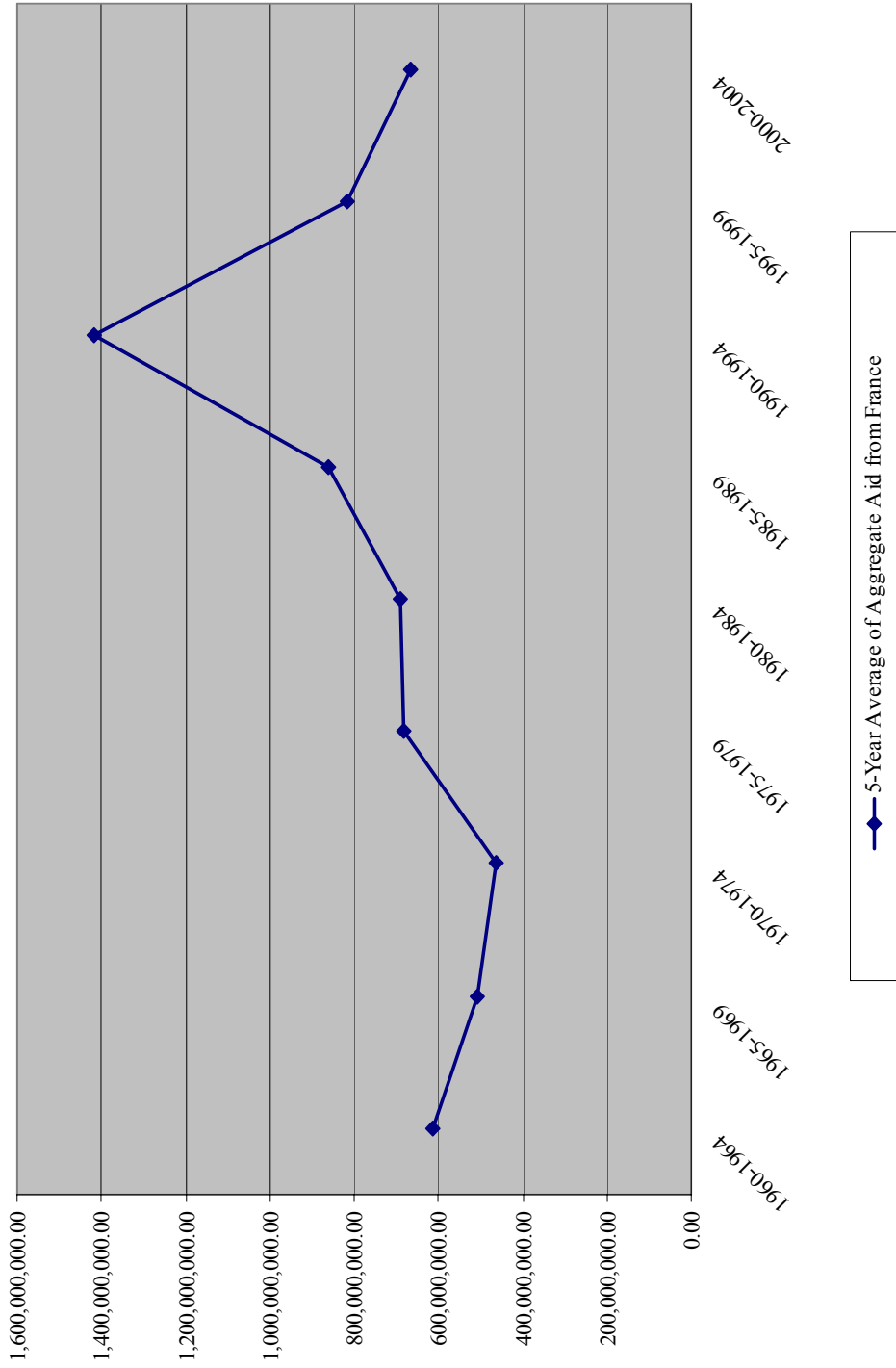(In 2000 U.S. dollars)

Figure 3a. Real Flows of Official Development Assistance to CEMAC, 1960–2004
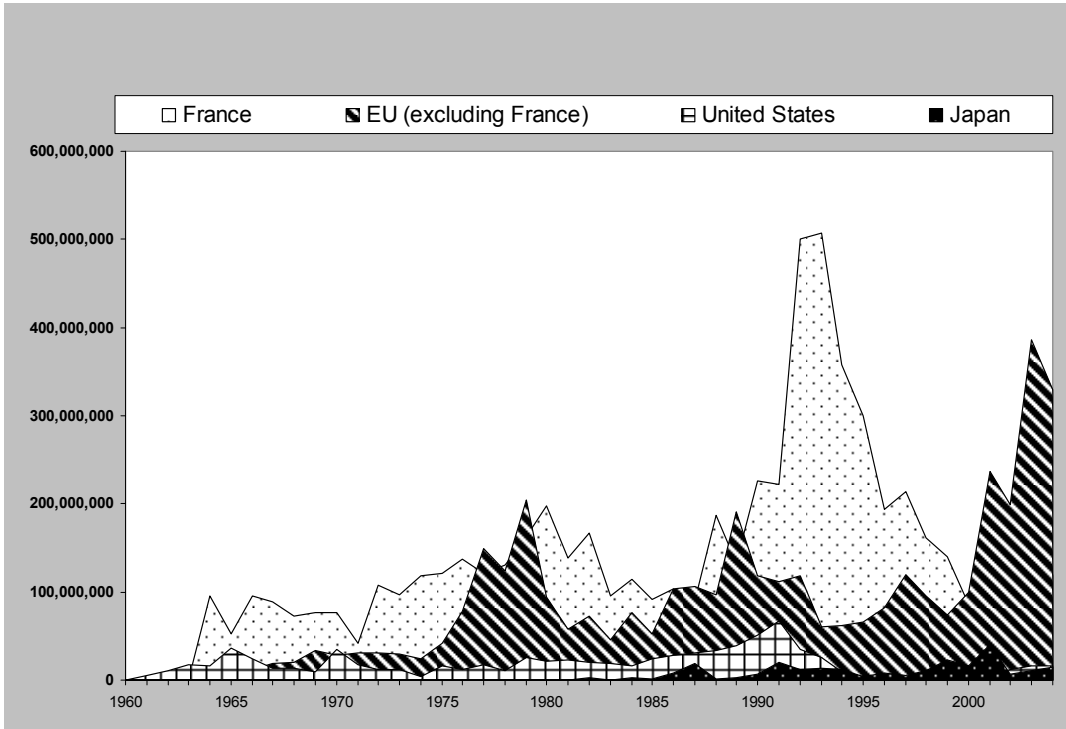(In 2000 U.S. dollars)

Figure 3a. Real Flows of Official Development Assistance to WAEMU, 1960–2004
(In 2000 U.S. dollars)