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Monetary Policy in Unified Currency Areas:
The Cases of the CAMA and ECCA during 1976-90

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Abstract

The paper compares the performance of monetary policy in the Central African Monetary Area (CAMA) and the Eastern Caribbean Currency Area (ECCA) during 1976-90. Their institutional setup and mechanism for monetary control are examined to explain the opposite trends in the net external position of their banking system during this period. It concludes that monetary policy in the ECCA succeeded by relying on active interest rate management aimed at stemming capital outflows and adhering to stringent rules aimed at limiting credit expansion. The passive policy stance in the CAMA contributed to a significant redistribution of the area's money stock.

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Summary

The paper reviews and compares the performance of the monetary policy of the Banque des Etats de l'Afrique centrale (BEAC) and the Eastern Caribbean Central Bank (ECCB) during 1976-90. Both the BEAC and the ECCB conduct monetary policy under a fixed collective peg--to the French franc in the case of the BEAC and to the U.S. dollar in the case of the ECCB--but under different regimes of external convertibility--liberal in the case of the Central African Monetary Area (CAMA) but fairly restricted in the case of the Eastern Caribbean Currency Area (ECCA). The paper concludes that the two institutions achieved opposite results in their net foreign reserve position because they used different mechanisms for monetary control and because of differences in their institutional setup and their rules for limiting credit expansion.

The ECCB strengthened the net foreign position of the banking system by relying on an active interest rate policy aimed at preventing capital outflows. Its centralized policymaking and stringent monetary rules also contributed to the success of its monetary policy during the study period. In contrast, the banking system of the CAMA suffered massive foreign reserve losses largely as the result of the BEAC's pursuit of an essentially accommodating monetary policy. The inefficiency of the BEAC's mechanism for monetary control is largely responsible for these reserve losses, although adverse exogenous shocks (e.g., a drop in world oil prices) also played a role. Because the BEAC pursued a rigid interest rate policy during most of the study period, it was also unable to stem large capital outflows.

I. Introduction

In recent years, there has been a renewed interest in unified currency areas (UCAs). A number of countries has envisaged to form such arrangements among themselves or join in one of the few existing UCAs. 1/ Presently, there are discussions about the possibility of setting up a UCA among at least some members of the Commonwealth of Independent States. In principle, countries in a UCA at least agree to have a single currency, institutional arrangements governing monetary policy for the whole area, a common exchange rate policy and thus a common pool of reserves. 2/ Much attention on this topic has been devoted to the advantages and disadvantages for a country to join a UCA versus following an independent exchange rate policy. However, few attempts have been made to compare the effectiveness of monetary policy under alternative regimes of external convertibility in a small UCA under a fixed collective peg. 3/

The present paper makes such an attempt by reviewing and comparing the performance of monetary policy in the Central African Monetary Area (CAMA) and the Eastern Caribbean Currency Area (ECCA) during 1976-90. Members of each of these areas share a single currency issued by a common central bank--the CFA franc issued by the "Banque des Etats de l'Afrique Centrale" (BEAC) and the EC dollar issued by the Eastern Caribbean Central Bank (ECCB), 4/ and operate under a fixed collective peg to the French franc (in the case of the BEAC) and U.S. dollar (in the case of the ECCB). 5/ Two key differences between the CAMA and ECCA motivate the choice of these two areas for the comparative analysis attempted in this paper. First, the

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1/ See Appendix I.

2/ See: Allen, Organization and Administration of a Monetary Union, Princeton Studies in International Finance, No. 38, 1976; Corden, Monetary Integration, Essays in International Finance, No. 93, April 1972.

3/ For analytical treatment, see R.P. Allen and Kenen, Asset Markets, Exchange Rates and Economic Integration; Chapter 16, Cambridge University Press, Cambridge, 1980; R.P. Allen "Policies to Correct Cyclical Imbalances in a Monetary Union", Journal of Common Market Studies, Vol. 21, No. 3, 1983; and S.W. Ardnt, "Joint Balance: Capital Mobility and the Monetary System of a Currency Area" in the Economics of Common Currencies, edited by H.G. Johnson and A.K. Swoboda, Harvard University Press, Cambridge, 1973; and P.R. Allen (1983).

4/ The ECCB became a full-fledged central bank on October 1, 1983 when it replaced the East Caribbean Currency Authority. The main functions of the latter institution were to issue the common currency--the EC dollar--and to manage the common pool of reserves.

5/ The exchange rate of the two common currencies are CFAF 50 per FF, and EC$2.7 per US$, respectively. During 1965-75, the EC$ was pegged to the British pound.

CFA franc enjoys external convertibility, unlike the EC dollar. 1/
Second, although the main objective of both the BEAC and the ECCB is to
safeguard the common pool of reserves, so as to defend the fixed parity of
the collective peg, the behavior of the ratio of net foreign assets of the
banking system to broad money differed widely across these two areas during
the study period. While between end-1975 and end-1990 this ratio plummeted
from 4.4 to -8.7 percent in the CAMA, it jumped from 5.3 to 18.0 percent in
the ECCA. The comparative analysis below focusses on the mechanism for
monetary control used by the two common central banks to explain these
diverging trends, given disparities in the regime of external convertibility
of the two common currencies, in the relative size of members between the
two areas, in their institutional setup and environment.

The main conclusion is that the ECCB was successful in safeguarding the
net foreign position of the banking system because it relied on a more
active interest rate policy to correct domestic liquidity imbalances, area-
wide and nationwide. In contrast, due in part to a difficult environment
complicating greatly its conduct of monetary policy, the BEAC was unable to
protect the net foreign position of the CAMA because it followed a rigid
interest rate policy, relying primarily on quantitative credit controls to
regulate area-wide domestic liquidity. As this instrument proved to be less
than effective due to, inter alia, the widespread use of selective credit
controls, the monetary policy of the BEAC was essentially accommodating.
Evidence suggests that the BEAC's policy contributed to causing a
significant redistribution of the stock of money in favor of Cameroon, its
largest member. Only a negligible redistribution took place in the ECCA.

II. The Setting of the Common Monetary Policy

This section discusses the structural and institutional setting of
monetary policy in the CAMA and ECCA during 1976-90. 2/ The discussion on
the structural setting focuses on financial market integration, regional and
international.

1/ Article 2 of the Treaty between the CAMA members and France states that
this cooperation is based on the unlimited guarantee provided by France to the
CFA franc and on deposits of members' foreign reserve assets with the French
Treasury [see B. Vinay (1980)]. The focus in this paper is on the
institutional arrangements governing monetary cooperation among the CAMA
countries, which are in turn members of a wider monetary arrangement: the CFA
Franc Zone. For a description of the institutional setup of the Franc Zone,
see J.M. Boughton (1991).
2/ Institutional changes have taken place in the CAMA in late 1990 and
thereafter (e.g., unification of the refinancing rates; creation of a banking
commission in charge of bank supervision in the CAMA region, etc.). However,
these changes are not the focus of this study which examines the 1976-90
period. Also, the analysis and consolidated data for the CAMA and ECCA exclude
Equatorial Guinea and Montserrat from the respective regions; for Equatorial
Guinea, owing to the late adherence in the CAMA (1985); for Montserrat, owing
to the lack of sufficient data covering the study period.

1. **Financial market integration**

The analysis below looks into the degree of financial market integration within the CAMA and ECCA, as well as between each of these currency areas and the rest of the world. Regional integration prevails if the holding and trading of assets issued by residents of each member country are unrestricted within the currency area and leave the relative price of these assets constant. 1/ International integration prevails if the above conditions hold between assets issued inside the currency area and foreign assets. The next subsection summarizes the main provisions in each area on convertibility for capital transactions which is a key determinant of financial market integration, and the subsequent subsection presents statistical evidence on the degree of integration.

a. **Convertibility on capital transactions** 2/

CAMA countries follow a fairly open regime of currency convertibility on capital transactions. Foreign exchange and payments on capital transactions within the CAMA and with other Franc zone members are generally unrestricted and existing regulations are fairly uniform, both across members and transactions. On capital transactions, CAMA members generally require prior approval from Ministries of Finance for outward transfers to countries outside the Franc Zone (see Table 1). Most inward capital transactions are only subject to declaration. However, CAMA countries apply restrictions on the sale of foreign securities to one another as well as to third countries. Significant restrictions also apply on financial asset holdings. For instance, residents are prohibited from holding foreign currency accounts.

ECCA countries do not follow a uniform regime of convertibility on capital transactions. Each member applies restrictions on these transactions both to other members and nonmembers of the ECCA--though to varying degrees. With no restrictions on foreign exchange as well as payments and transfers of capital transactions, Antigua has the most liberal regime of the area.

1/ Even with restrictions on capital transactions, regional integration still prevails if assets issued in member countries are highly substitutable for the common currency, and are thus liquid and marketable through the currency area. See Allen (1976), Op. cit.

2/ The majority of countries of the CAMA and ECCA do not apply exchange controls on current transactions, although they all maintain trade restrictions on current transactions. The subsequent discussion on currency convertibility refers only to foreign capital transactions.

Table 1. The Regimes of Convertibility on Capital Transactions for CAMA and ECCA Countries, 1989

	CAMA Countries		ECCA Countries
I. Outward Transfers			
1. Direct investment abroad, by R	1.		1. Unrestricted in Antigua subject to prior approval in other member countries.
a. Making of investment 1/		a. Prior approval	
b. Liquidation of investment		b. Prior approval for C.A.R., Chad, Congo; ex-post reporting for Cameroon, Gabon.	
2. Portfolio investment abroad, by R	2.		2. Unrestricted in Antigua; normally prohibited in other member countries.
a. Admission of DSs in FCM		a. Not applicable	
b. Purchase/sale of shares, bonds.		b. Not applicable	
3. Banking operations	3.		3. Same as 1, except for foreign accounts.
a. Trade credit, by R to NR		a. No restrictions in Chad and Cameroon; prior authorization in C.A.R. and Gabon with some exceptions; prohibition for loans in CFA.	a. Same as 1.
b. Financial credits/loans, by R to NR		b. Prior authorization	b. Same as 1.
c. Foreign accounts with CIs (i) Nonresident accounts (ii) Foreign currency accounts		c. (i) Authorized (ii) Prohibited	c. Prior approval in all countries; however, eligibility criteria differ across countries.
4. Other operations	4.		4.
a. Real estate placements abroad, by R		a. Not specified	a. Not specified in Antigua; normally prohibited in all other countries.
b. Personal saving transfers, abroad		b. Unrestricted in Cameroon; not specified in other countries.	b. Not specified in Antigua; prior approval subject to a limit on the amount of transfer in Dominica, St. Vincent and Grenada, authorized in St. Kitts, subject to prior liquidation of taxes due.

(Continued)

Table 1 (Concluded). CAMA Capital Contacts, 1989

	CAMA Members	ECCA Members
II. Inward Transfers		
1. Direct investment, by NR Making of investment Liquidation of investment	1. a. Prior declaration in Cameroon, C.A.R. and Gabon, prior approval in others. b. Ex-post reporting in cameroon, simple declaration in others.	1. No restrictions in Antigua, St. Kitts and St. Vincent; prior authorization in Dominica and Grenada; surcharge imposed on non-residents' acquisitions in St. Lucia.
2. Portfolio investment, by NR Admission of FSs in DMC Purchase/sale of bonds, shares, etc.	2. a. Prior authorization; shares similar to those already admitted in domestic capital markets are exempted. b. Prior authorization.	2. No restrictions in Antigua; not specified in other countries.
3. Banking operations Trade credit, by NR to R Financial credit/loans, by NR to R	3. a. Unrestricted in all countries except Chad which requires prior authorization for all loans greater than CFAF 10 million. b. Prior authorization; loan granted by registered banks and credit institutions are exempted in Cameroon, C.A.R. and Gabon; loans below CFAF 50 million are exempted in C.A.R. and Gabon; the latter limit is CFAF 10 million in Chad and Congo.	3. a. No restrictions in Antigua; prior approval in Dominica, Grenada and St. Vincent; not specified in St. Kitts and St. Lucia. b. Same as a.
4. Other operations Real estate placements, by MR Personal saving transfer	4. a. Not specified b. Not specified	4. a. Authorized with foreign currency funds in Grenada; not specified in other countries. b. Not specified.
III. Asset Holdings		
1. Monetary assets held domestically by R and NR	1. Foreign assets holdings are authoritized for residents but must be deposited with authorized banks in all countries but C.A.R. where no restrictions are specified	1. Residents are not authorized to hold foreign monetary assets. Nonresidents may hold foreign-denominated accounts, domestically, subject to prior approval in all countries except St. Kitts and Grenada.
2. Other asset a. Equity, by NR b. Land, by foreigners	2. a. Not specified in C.A.R., Chad and the Congo; Cameroon limits such ownership to two thirds of the equity capital for banking institutions; in Gabon, this restriction is set at 90 percent. b. Prohibited in Gabon; not specified in other countries.	2. Purchase of foreign securities, including those issued in other ECCA members, is severely restricted.

Source: IMF, Exchange Arrangements and Exchange Restrictions, 1989.
1/ Consists of the creation/extension of a wholly owned enterprise, subsidiary, or branch; of acquisitions in new or existing enterprises; and of long-term loans with a maturity of five years and longer.
2/ For physical/juridical persons with residence or registered office in Cameroon; or branches and subsidiaries in Cameroon; of juridical persons with offices registered abroad.
3/ Loans not exceeding CFAF 500,000; two years maturity and 6 percent interest rate are exempted from prior approval.
Note: Abbreviations: R = resident; N.R. = nonresident; CIs = credit institutions; DSs = domestic securities; FCM = foreign capital market; FSs = foreign securities; DCM = domestic capital market.

b. Degree of financial integration

Statistical evidence suggests that during the period under study (i.e.,
1979-90), the CAMA was financially more integrated--both regionally and
internationally--than the ECCA. 1/ This evidence is based on inspection
of: (i) interest rate differentials--adjusted for nominal effective
exchange rate change--between the region's (as a whole) and foreign markets
for international integration, and (ii) disparities in differentials across
member countries of a UCA for regional integration.

The degree of *international integration* is approximated by the
variability of the area-wide interest rate differential around its average
over the study period. First, this area-wide differential is computed by
taking the (unweighted) average of the differential between each member's
national deposit rates--adjusted for yearly changes in its expected
effective exchange rate--and the foreign interest rate; its period average
is used to measure financial costs associated with trading domestic and
foreign financial assets and risks of holding these assets. Second, the
variability of the area-wide differential is measured by its standard
deviation during the study period; a large (small) standard deviation points
to a low (high) degree of integration of region's market to foreign
financial markets. 2/

Statistical results shown in Chart 1 and Table 2 suggest that, during
1979-90, the CAMA was financially more integrated than the ECCA to the world
market; its standard deviation was 3.4 percent compared to 6.1 percent for
the ECCA [see columns (3)]. Similarly, the financial market of the CAMA was
more integrated to the French financial market compared to the ECCA
financial market relative to that of the United States (see standard
deviations during 1979-90 in column (1)). This result is consistent with
the provisions of the Franc Zone Treaty which calls for unrestricted capital
movements between France and the CAMA members while no such regulations
exist between ECCA members and the United States. However, international
integration of the CAMA lessened during 1983-90 compared to 1979-82 (the
standard deviation in columns (3) increases). Evidence also suggests that,
on average during 1979-90, CAMA and French monetary assets showed a higher
degree of substitutability compared to ECCA relative to US monetary assets.
The area-wide interest rate differential relative to the standard country
was lower for the CAMA compared to the ECCA [Mean; column (1)]. Relative to
the world market though, the opposite was true [Mean; column (3)].

1/ Interest rate data before 1979 were not available for CAMA members. The
study period was thus shortened to 1979-90 in order to carry out a comparative
analysis of integration of the two regions.
2/ Participants in the foreign exchange market are assumed to form their
expectations rationally, implying that changes in the expected and actual
effective exchange rates are equal.

Chart 1 Union Average's Interest Rate Differential; 1979-90
(in percent per annum; period average)
I. CAMA

Percent

Legend: ■ Relative to LIBOR Rate □ Re. to Fr Depst. Rate

II. ECCA

Percent

Legend: ■ Relative to LIBOR Rate □ Re. to US Depst. Rate
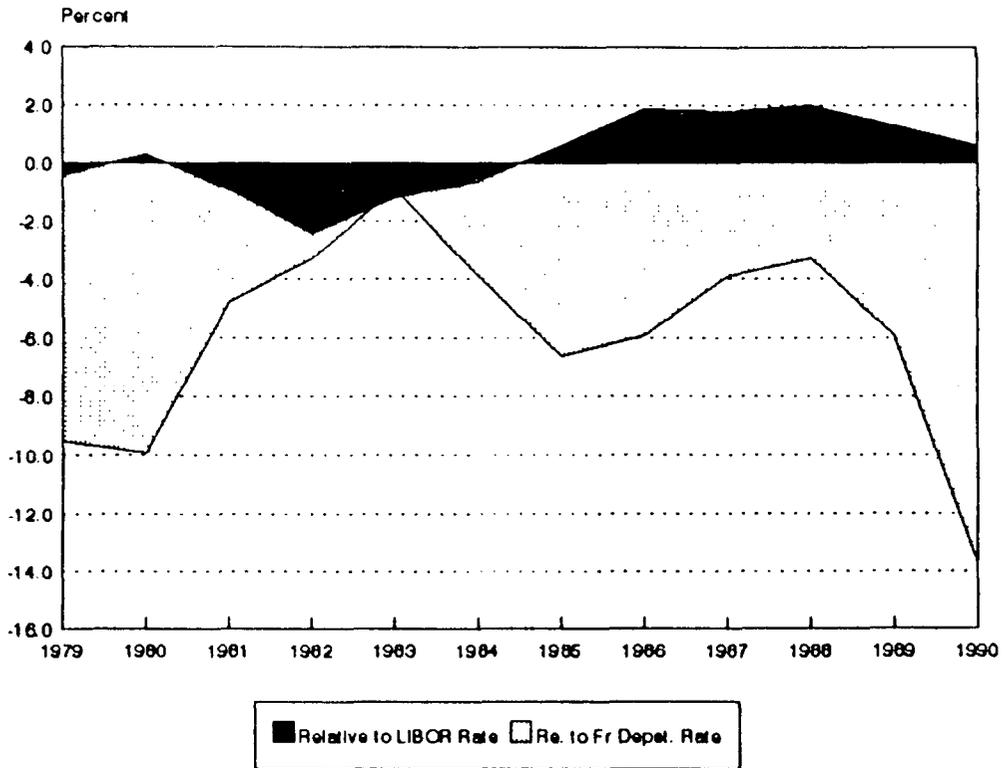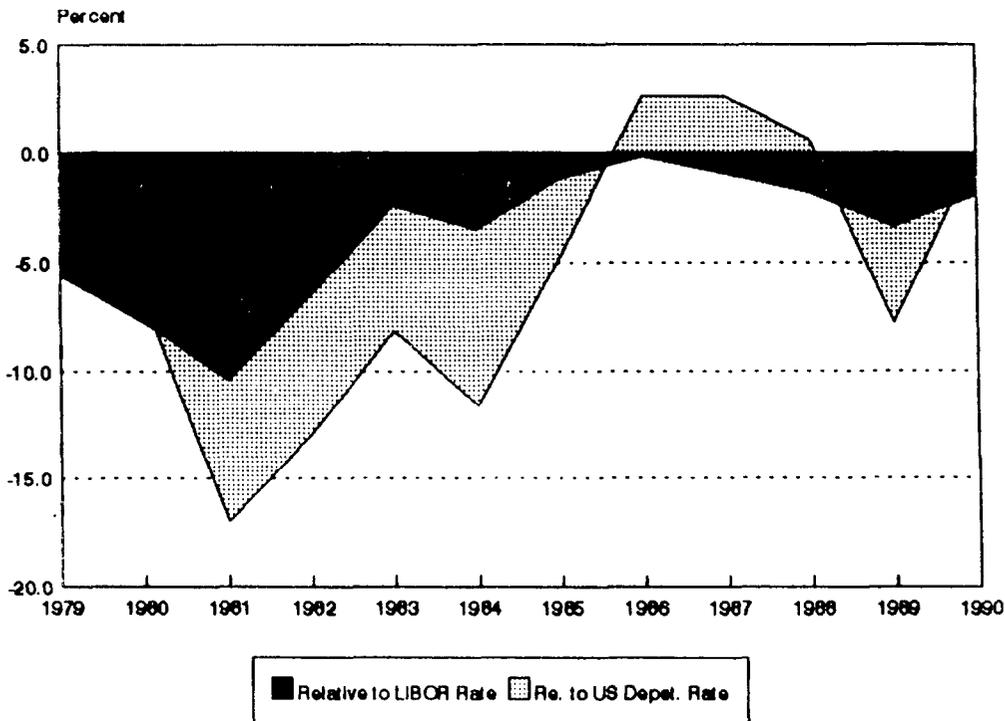
Source: Table 2

Notes: 1. LIBOR rate is the rate on 3 month deposits in U.S. dollars.

2. The interest rate for the CAMA, France, ECCA, and US is the rate on 3 month deposits.

Table 2. Evolution of Interest Rate Differentials: 1979-90 1/

(In percent per annum, period average)

	CAMA			ECCA		
	$(i-i_f)$ (1)	σ (2)	$(i-i^*-e)$ (3)	$(i-i_{us})$ (1)	σ_1 (2)	$(i-i^*-e)$ (3)
1979	-0.4	1.0	-9.5	-5.6	1.1	-3.9
1980	0.3	0.9	-9.9	-7.8	1.0	-6.8
1981	-0.9	0.8	-4.8	-10.4	0.8	-17.0
1982	-2.4	0.8	-3.3	-6.5	1.0	-12.9
1983	-1.2	0.8	-0.9	-2.4	2.0	-8.2
1984	-0.6	0.8	-3.9	-3.5	1.9	-11.6
1985	0.6	1.0	-6.6	-1.2	1.5	-4.7
1986	1.9	0.9	-5.9	-0.2	0.9	2.6
1987	1.8	0.9	-3.9	-1.0	0.7	2.6
1988	2.0	1.4	-3.3	-1.8	0.9	0.6
1989	1.3	1.5	-5.9	-3.4	1.2	-7.8
1990	0.6	1.6	-13.7	-1.9	1.5	0.1

Mean

1979-90	0.2	1.0	-6.0	3.8	1.2	-5.6
1979-82	-0.9	0.9	-6.9	-7.6	1.0	-10.1
1983-90	0.8	1.1	-5.5	-1.9	1.3	-3.3

Standard deviations

1979-90	1.3	...	3.4	3.0	...	6.1
1979-82	1.0	...	2.9	1.8	...	5.1
1983-90	1.0	...	3.5	1.1	...	5.1

Sources: IMF, IFS Yearbook, 1991; countries' reports; and staff estimates.

1/ Adjusted for exchange rate change in columns (3). These changes consist of the annual rate of depreciation (-) or appreciation (+) of member countries' nominal effective exchange rate.

Notes: $(i-i_f)$ refers to the unweighted area-wide average of the deviations between CAMA members' deposit rates—in nominal terms—and the 3-month deposit rate in France (see IFS - line 601). This is a measure of financial integration relative to the standard country.

$(i-i_{us})$ refers to the unweighted area-wide average of the deviations between ECCA members' deposit rates and the U.S. rate on certificates of deposits (IFS - line 60 1c).

σ refers to the standard deviation across the region of the differential between members' deposit rates and the French or U.S. deposit rate (i.e., in the standard country).

$(i-i^*-e)$ refers to the unweighted area-wide average of the deviations between members' nominal deposit rates and a foreign deposit rate adjusted for annual changes in the members' effective exchange rate index. The foreign rate used is the LIBOR rate on 3-month U.S. dollar deposit. This variable is a measure of the UCA's integration to the international financial market.

The degree of *intraregional integration* is measured by disparities among members' interest rate differential across in any given period. These disparities are computed by taking the standard deviation of the differential rates across the UCA. In any given period, a low (high) standard deviation points to a high (low) degree of regional integration. Statistical analysis shows mixed results. During 1979-90, and based on members' differential rate relative to that of the standard country [columns (2)], financial integration was higher in the CAMA than the ECCA, reflecting the uniformity of the exchange regime among the Franc Zone countries (of which CAMA countries and France), unlike ECCA members. From 1979-82 to 1983-90, regional integration experienced a set back both in the ECCA and CAMA as the standard deviation of interest differential rate within the region widened in both CAMA and ECCA. In the CAMA, this situation mirrored the differentiated interest rate policy of the "national monetary" authorities, a policy supported by least financially developed members (e.g., Chad and Central African Republic) and delaying the setting up of a regional money market that would tend to equalize national financial yields. In the ECCA, regional disparities widened despite the setting up of a money market due to: (i) the lack of harmonization of ECCA members' exchange regimes, and (ii) the administration of the money market rate by the ECCB. 1/

2.   The institutional framework for monetary control 2/

The BEAC and ECCB have different institutional framework for monetary control. The common pool is designed differently, although its end purpose is the same, in the two UCAs. Also, decision making is more centralized in the ECCA than the CAMA, owing to the influential role of national authorities in the latter. 3/ Moreover, ECCB's statutory rules to limit credit expansion are more stringent than the BEAC's, while discretionary instruments of the ECCB are more flexible than those of the BEAC.

a.   Common pool of reserves

Strictly speaking, the BEAC does not manage a common pool of reserves. Rather, the build-up or drawdown of the common pool (le "Fonds Commun de Réserves") results from the Franc Zone Accords requirement that proceeds

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1/ However, the ECCB intermediates all offers of, and demands for interbanks funds in this market.

2/ Appendix II summarizes the institutional framework of the two currency areas.

3/ ECCB acquired powers to supervise banks, to regulate their monetary operations and to provide credit to governments in October 1983. Previously, its central banking functions were limited to currency issuance and management of the common stock of reserves. In addition to the latter two functions, the BEAC is empowered to extend credits to governments and act as their fiscal agent.

from (or payments of) foreign exchange transactions of members' residents be converted into French francs in the Paris foreign exchange market and that the daily net positive (or negative) balance of these transactions be credited (or debited) to the single account of the BEAC with the French Treasury ("compte d'opération). 1/ 2/ Thus, members with balance of payments deficits have unrestricted access to the common pool.

ECCB requires members to transfer to--or withdraw foreign reserves resulting from their external transactions from--the common pool which it, therefore, manages directly. The pooled reserves are not apportioned among members, and thus, members with balance of payments deficits have also unrestricted access to the common pool.

b. Policy-making authorities

Policy-making bodies are structured rather differently in the two areas. The *common* governing bodies of the CAMA are the Monetary Committee (MC) and the Board of Directors of the BEAC. Among other responsibilities, the Committee has the power to modify the parity of the common external rate, to admit (or expel) members, and to modify the central bank statutes such decisions require a *unanimous* vote. Statutorily, the BEAC's Board of Directors is responsible for *formulating* monetary policy for the whole area; thus, it sets the discount rates (applicable throughout the region) and approves rediscount ceilings (applicable to individual members). 3/ The weight of members on the Board decisions depends on the size of their representation which reflects the relative size of their economies (see Chart 2 and Table 3). Cameroon, which accounts for half the area's real GDP and nominal money supply, has four seats on the Board; Gabon, accounting for one fourth of the area's real GDP and nominal money stock, has two seats; the remaining countries have one seat each. In addition to the common monetary authorities, the CAMA has national "monetary" authorities--the National Monetary Councils--in charge of implementing the policy guidelines of the Board in each member country. Actually, those Councils have a strong influence on the BEAC's formulation of monetary policy. They also monitor monetary and credit developments in each country.

The common governing bodies of the ECCA are the Monetary Council and the Board of Directors of the ECCB. In addition to making key decisions about membership, exchange rate changes and profit sharing, the Council formulates the common monetary policy. The weight of members on the Board decisions is independent of the economic size of members. Indeed, each country has one seat on the Board of the ECCB. There are no national monetary authorities in the ECCA.

1/ See Vinay (1980).
2/ BEAC can hold 35 percent of its holdings in foreign currency other than the French franc.
3/ The practice is different as regards the setting of rediscount ceilings [see par. 2. (c)].

Table 3. CAMA and ECCA: Indicators of Relative Size of
the Unions' Members, 1976-90

(In percent of the Area's Broad Money Stock)

	1976-90		1976-82		1983-90	
	X̄	σ/X̄	X̄	σ/X̄	X̄	σ/X̄
CAMA						
Cameroon	54.5	10.0	50.3	10.4	58.2	2.4
Central African Republic	5.0	7.1	5.6	7.1	4.6	8.6
Chad	5.4	20.3	5.6	20.3	5.3	11.6
Congo	10.6	15.3	10.4	15.3	10.8	8.5
Gabon	24.4	19.6	28.1	19.6	21.1	3.6
ECCA						
Antigua	22.7	8.2	21.1	6.6	24.1	3.4
Dominica	10.0	7.1	10.3	7.8	9.8	5.5
Grenada	15.8	13.7	17.9	5.2	13.9	5.8
St. Kitts	13.5	8.1	13.7	4.6	13.3	10.1
St. Lucia	24.3	6.2	23.1	1.8	25.3	5.1
St. Vincent	13.7	6.4	14.0	5.4	13.6	7.0

Sources: IMF, International Financial Statistics--Yearbook, 1992,

Note: X̄: arithmetic average over the period.
    σ: standard deviation
  σ/X̄: coefficient of variation.

c. Monetary objectives

Both the BEAC and ECCB have, as their main objective, to safeguard the common pool of reserves in order to preserve the parity of the fixed collective peg. 1/ The BEAC formulates its targets, beginning at the national level. Indeed, National monetary authorities (NMCs) determine

1/ In addition, the ECCB is called upon to assist economic development of member countries. The BEAC is not assigned such objective which falls under the purview of national monetary authorities.

Chart 2   Member Countries' Relative Size; 1976-90 1/
(In percent of the area's aggregate)
I. CAMA
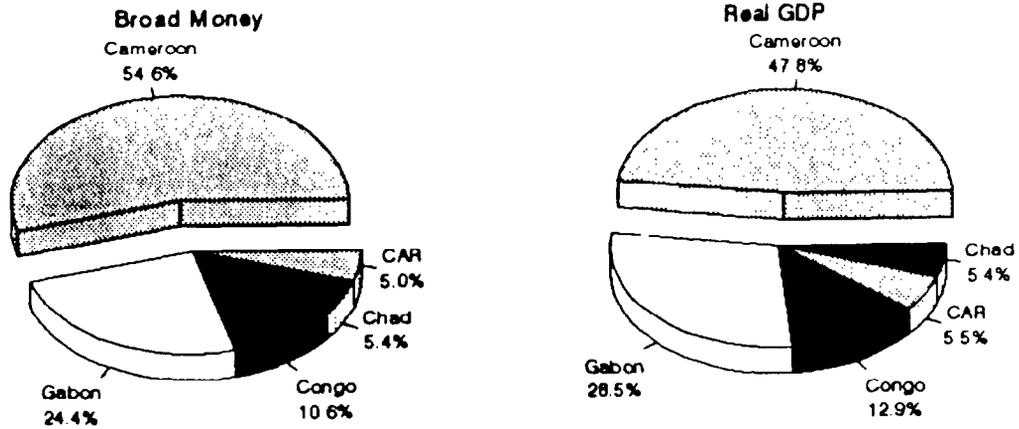
Broad Money
Cameroon
54 6%

CAR
5.0%

Chad
5.4%

Congo
10 6%

Gabon
24.4%

Real GDP
Cameroon
47 8%

Chad
5 4%

CAR
5 5%

Congo
12.9%

Gabon
28.5%

II. ECCA

Broad Money
St. Lucia
24.3%

Antigua
22.7%

Dominica
10.0%

Granada
15.6%

St. Kitte
13.5%

St. Vincent
13.7%

Real GDP
St. Lucia
24.6%

Antigua
22.5%

St. Kitts
9.9%

Granada
16.4%

Dominica
13.2%

St. Vincent
13.3%
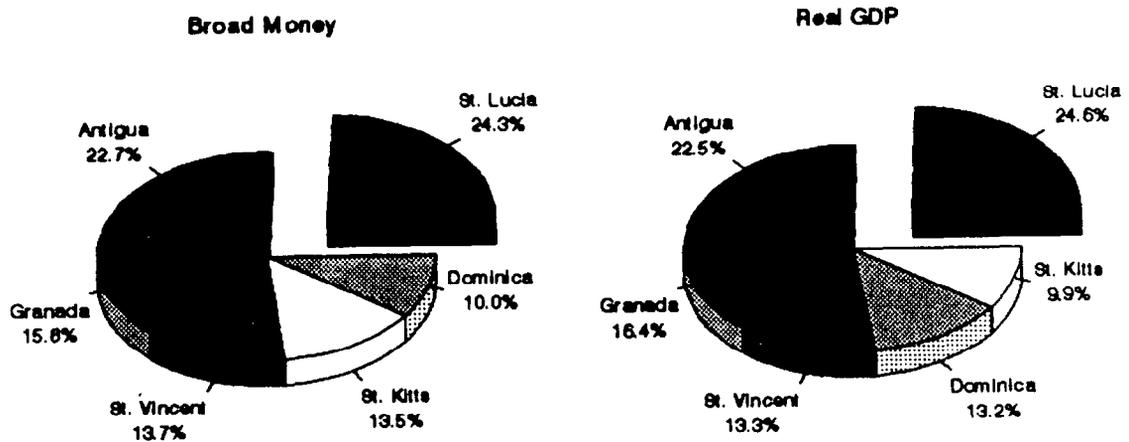
Source: IMF, International Financial Statistics Yearbook, 1992; and staff estimates.
1/ refers to the annual average share of the areas' real GDP and broad money over the entire period.

monetary targets (e.g., foreign reserves; rediscount ceilings), and submit them to the Board for approval. Until the reform of late 1990, the Board had, in practice, accepted the NMC's proposed monetary targets.

The ECCB formulates monetary aggregate (or area-wide) targets. In recent years, it aimed at maintaining a foreign currency cover equivalent to about 75 percent of its own sight liabilities in order to protect the common pool of reserves. The Monetary Council determines monetary targets (e.g., foreign reserves; rediscount ceilings), and submit them to the Board. An administrative rule is then used to impute common foreign reserves among members. The ECCB is also empowered to set *aggregate* bank credit ceilings.

The fact that the formulation of monetary policy is decentralized in the CAMA but centralized in the ECCA reflects a major difference in the mandate of the respective central banks: to harmonize members' monetary policy for the BEAC, but to pursue a common monetary policy for the ECCB.

d. Policy Instruments

Both the BEAC and ECCB use statutory rules to promote monetary discipline and discretionary tools to control monetary expansion (Table 4). However, the rules and design of instruments differ markedly, resulting in discretionary monetary control being more limited in the case of the ECCB compared to the BEAC.

As regards the rules, the BEAC sets a foreign exchange cover and limits on central bank financing of governments. The latter consists of a *single limit* applied uniformly to all governments. Any modification of this limit requires a revision (none so far) of the BEAC statutes.

As regards discretionary tools, the BEAC had at its disposal, during the study period, rediscount ceilings (main tool) and interest rates. The BEAC set rediscount ceilings for various maturities for each member which, in turn, allocate each ceiling per bank. 1/ However, bank credits for marketing, stockpiling and crop exports were not included in these ceilings, thus providing a source of reserve money expansion outside the control of the BEAC; such credits were rediscounted *automatically*, and on *concessional* terms. As regards interest rates, the BEAC set two rediscount rates (a

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1/ These rediscount credit ceilings were applied to the "crédits plafonnés." Once the BEAC sets them by individual bank, the National Monetary Councils set sub-ceilings, per enterprise, within each individual bank rediscount ceiling.

Table 4. BEAC and ECCB: Monetary Policy Instruments during the Study Period

	BEAC	ECCB
I. Statutory Rules		
1. Foreign currency cover 1/	20 percent	60 percent
2. Limit(s) on central bank financing of governments	Single limit on BEAC credit, equal to 20 percent of previous year's budgetary revenues.	Three limits set on: a) holdings of national treasury bills, equal to 10 percent of estimated recurrent budgetary revenues over the current year. b) holdings of other government securities, equal to 15 percent of ECCB's right liabilities. c) temporary advances, equal to 5 percent of governments' annual average recurrent revenues over the 3 preceding years.
II. Discretionary Tools		
1. Rediscount ceilings	Set on short-, medium-, and long-term rediscounts for each member which, in turn, allocates them among banks. 2/	Not used.
2. Reserve requirements	Not used	6 percent of bank's total deposit liabilities.
3. Interest rate	Set: a) 2 rediscounts rates (a normal rate and a preferential rat applied to selective credits) and b) a "reference" deposit rate ("taux crediteur de base").	Set: a) the charge on its overdrafts; b) the rate on bankers' deposits with ECCB; c) the "money market" rate.

1/ Official reserves of the common central bank in percent of its right liabilities (defined in footnote 1, p.12).
2/ Selective credits are rediscountable outside these ceilings.

normal and a preferential rate for selective credits; see Table 4) and a basic deposit rate (*taux créditeur de base*). 1/ These rates applied uniformly to all member countries. Until 1986, the BEAC pursued a rigid interest rate policy, modifying them infrequently. National Credit Councils determined the lending and deposit rates that banks applied to customers by setting margins above the "*taux créditeur de base*." These rates were allowed to differ across CAMA countries. Last, though empowered to so, the BEAC had not used reserve requirements as a policy instrument.

The ECCB policy is constrained by stiffer statutory rules than the BEAC. The level of its foreign exchange cover is three times higher than that of the BEAC. 2/ Also, since October 1983, its Board set *three statutory limits* on its financing of governments; these limits were set at the Board's discretion, which was authorized to revise them each year, for any or all countries. 3/ These limits accounted for the limited expansion of ECCB credit to governments. 4/

The main discretionary tool of the ECCB is interest rates. It sets: (i) the interest rate it charges banks on its overdraft facilities; (ii) the rate of remuneration it pays banks on their ECCB deposits; and (iii) the "money market" rate. 5/ Upon its Board approval, the ECCB is authorized to differentiate these rates among members if money and credit developments in a particular country warrants it. The ECCB has managed its rate on bankers' deposits flexibly, keeping it aligned with foreign rates, particularly the LIBOR. Banks are free to determine their lending and nearly all their deposit rates. 6/

1/ The BEAC also sets a preferential rate on statutory advances to governments and two penalty rates applied to banks and the Treasury, respectively. In October 1990, however, the Board eliminated the preferential rate and unified the above refinancing rates. For the first time, the Governor was also empowered to set the rediscount and penalty rates.

2/ The base of the cover consists of sight liabilities which include currency in circulation and other sight deposits of the area's banks with the common central bank.

3/ During the study period, the Board had not made any such revision.

4/ The annual increase in ECCB credit to government averaged 6 percent of reserve money (at the beginning of the period) during 1976-88. Reserve money expansion averaged annually 14 percent.

5/ The ECCB created an interbank "market" facility in February 1986 to allow surplus banks to place excess funds with deficit banks in the region. All bank members of the Clearing House operated by the ECCB are eligible to participate in the "market." The ECCB acts as the broker by accepting banks' deposits in current account and on lending the funds to other banks for a commission of 0.5 percent above the money market rate of 5 percent per annum. Borrowing banks are required to provide acceptable paper (e.g., treasury bill or private paper) as collateral.

6/ The ECCB has, however, set a minimum interest rate for savings deposits at 4 percent. Banks are required to publicize their interest rates.

The ECCB also used reserve requirements although the required ratio has been not changed since its introduction in 1984. 1/ Finally, though empowered to do so, the ECCB did not use rediscount ceilings, relying instead on moral suasion to implement its credit policy. This has been sufficient, given banks' little dependence on rediscounts. Banks have relied on the money market to meet eventual refinancing needs.

III. Analysis of the Common Central Banks' Monetary Policy

This section compares the effectiveness of monetary policy by the BEAC and ECCB in protecting the external position of their respective UCA during 1976-90. It shows that, after its central banking powers were expanded in 1983, the ECCB relied primarily and rather successfully on interest rate management to achieve its external objective. On the contrary, faced with a difficult environment characterized by protracted real as well as monetary shocks, the BEAC relied mostly and unsuccessfully on quantitative credit controls for that same goal. The ECCB's more stringent statutory rules aimed at limiting central bank financing played a key role in explaining the opposite outcome of the two areas' foreign banking of the broad money stock. Monetary policies of the BEAC and ECCB, in turn, contributed to a redistribution of the aggregate stock of money in each area towards their largest member(s). While negligible in the ECCA, this redistribution was important in the CAMA. The next subsection reviews and explains the behavior of the foreign backing of broad money during 1976-90. The subsequent subsection focuses on the contributing role of the common monetary policy of the BEAC and ECCB in explaining these trends. The last subsection draws the main implications of the common monetary policies on the redistribution of the aggregate money stock among members of each currency area.

1. Foreign backing of broad money

a. Behavior during 1976-90

The ratio of net foreign assets of the banking system to broad money showed widely diverging trends between the two areas. While the two ratios stood at about 5 percent at end-1975, it plummeted in the CAMA while it jumped in the ECCA, during the second half of the 1980s (Chart 3). With broad money of the CAMA and ECCA averaging about the same annual rate of expansion during 1976-90, the diverging trends of the two UCAs' ratios were rooted in disparities of: (i) exogenous shocks patterns buffeting their area-wide economies; and (ii) behavior in their area-wide bank credit expansion. The behavior of these determinants is examined below.

1/ Reserves are not remunerated.

Chart 3   Foreign Backing of Broad Money; 1975-90 1/

(In percent)

I. CAMA
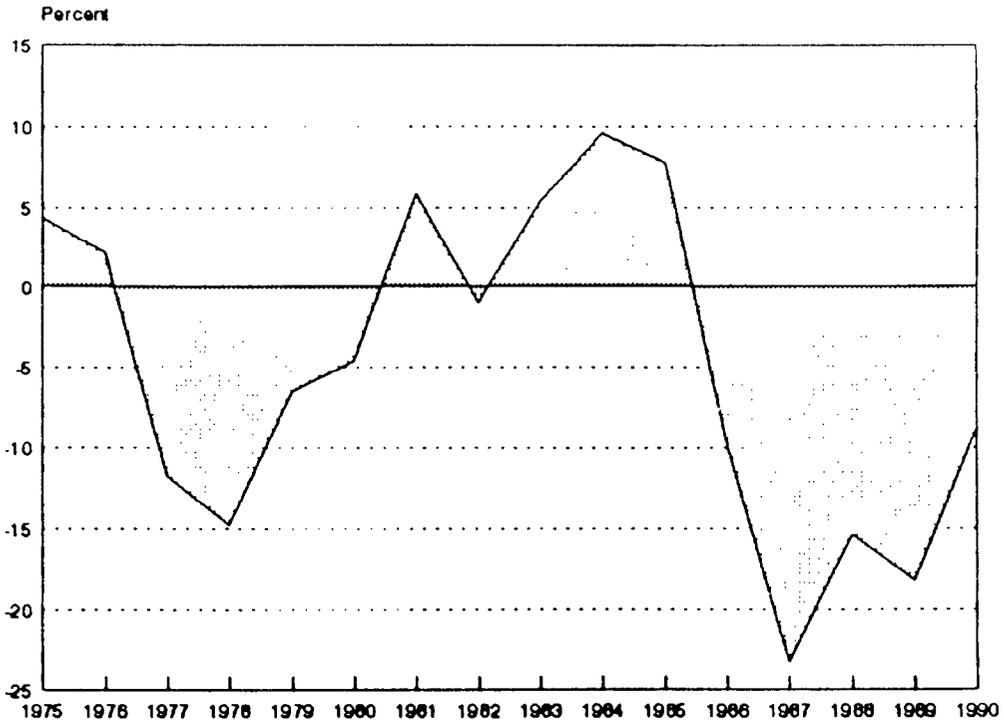
Percent

II. ECCA
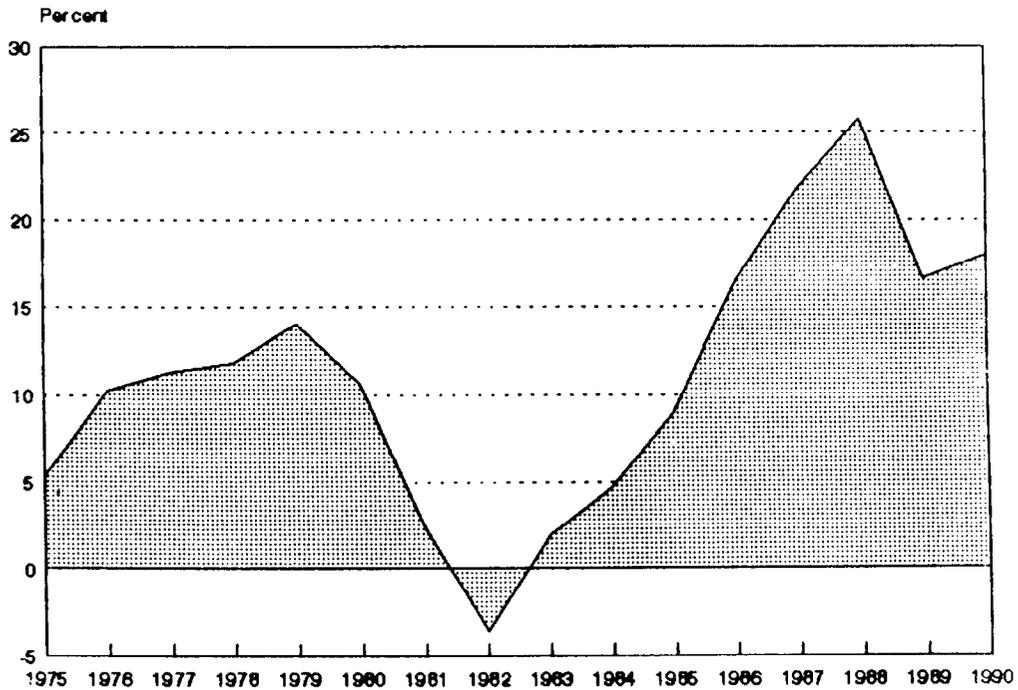
Percent

Source: IMF, International Financial Statistics; and the author's calculations.

1/ Net foreign assets (NFA) of the banking system as a percentage of broad money.
These two aggregates (NFA and M2) are the sum of member countries' NFA and M2.
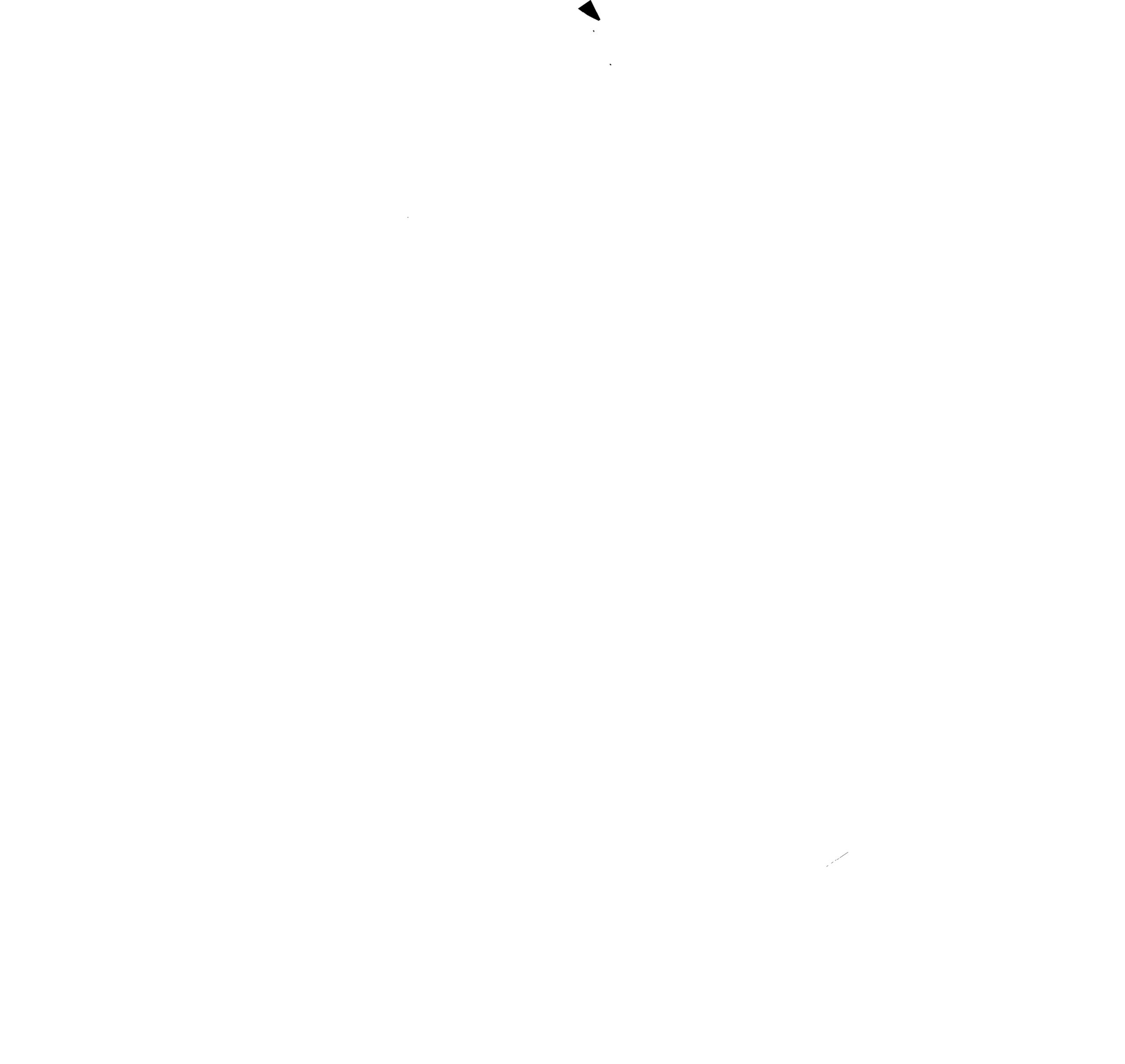
b.   Determinants

CAMA: Oil shocks were the predominant exogenous shocks buffeting the
CAMA region. They were protracted and concentrated, in view of the
predominant role of the oil sector in the three largest members (Cameroon,
Gabon and Congo). Thus, both the cyclical behavior of world oil prices and
relative size of members explained the area-wide real GDP growth and
inflation, although monetary shocks (e.g., expansionary credit policy)
played a major contributing role. Favorable world oil prices during 1976-82
led to a buoyant economic activity as the strong real GDP growth of the
largest and oil-producing members more than offset the weak growth in Chad
and the Central African Republic (CAR) caused by droughts (Table 5).
However, this was accompanied by rapid growth in domestic government
spending which fuelled inflation. As area-wide economic activity weakened
and the world prices of oil as well as other major export commodities (e.g.,
coffee and cocoa) fell during 1983-90, fiscal imbalances widened, compelling
governments to cut back domestic public spending. Inflation subsequently
slowed down.

Despite the cyclical behavior of growth and inflation, area-wide bank
credit outpaced nominal GDP growth markedly and steadily during the whole
study period. In 1976-82, rapid credit expansion stemmed from the strong
demand for private sector credit which was fuelled by negative real interest
rates (Chart 4). Thereafter, increased governments' recourse to bank credit
kept the momentum in rapid credit growth as governments went from a net
creditor to debtor position vis-à-vis the banking system, while a growing
banking crisis entertained a "false" demand for credit from the
nongovernment sector. Bank credit expansion exerted strong pressures on
broad money expansion which was partly offset by substantial foreign
reserves losses. Thus, the cyclical pattern of the oil shocks and excess
bank credit expansion influenced largely the behavior of the foreign backing
ratio.

ECCA: Real domestic shocks which were the predominant shocks
buffeting the ECCA tended to average out over time during 1976-82 and across
members thereafter. During 1976-82, natural disasters hit all Islands every
other year, causing area-wide real growth to go from slump to recovery
although the region averaged a strong annual real growth. Inflation
followed the same pattern, rising sharply as natural disaster increased
scarcity of basic commodities and put strong upward pressures on domestic

Table 5. CAMA and ECCA: Trends in selected
Economic Indicators; 1976-90 1/

	1976-90		1976-82		1983-90	
	x	σ/x	x	σ/x	x	σ/x
National income	(Annual percentage change, per annum)					
Real GDP 2/						
CAMA	2.6	3.2	3.4	3.2	1.8	2.5
ECCA	5.2	0.4	5.0	0.5	5.3	0.3
GDP deflator						
CAMA	8.1	1.1	14.7	0.4	2.2	3.2
ECCA	7.8	0.5	10.3	0.3	5. 6	0.4
CPI 3/						
CAMA	8.5	0.6	11.6	0.2	5.7	0.9
ECCA	7.6	1.0	13.8	0.6	3.0	0.3
Money and banking	(Annual change: in percent of M2 at the beginning of period)					
Net domestic credit						
CAMA	15.4	0.8	23.5	0.5	8.4	1.3
ECCA	13.7	0.4	16.7	0.3	11.0	0.4
of which: to Governments						
CAMA	0.5	16.7	-1.8	-5.6	2.4	1.8
ECCA	1.4	3.5	3.2	1.0	-0.2	-26.9
Broad money (M2)						
CAMA	13.1	1.0	21.1	0.5	6.1	1.8
ECCA	13.6	0.3	13.7	0.3	13.6	0.2

Sources: IMF, International Financial statistics. Yearbook 1992; and staff estimates.

1/ Indicators (except for inflation) for the two unions are derived by consolidating national data of union members. Further details are provided in Appendix I.

2/ Using GDP at factor cost (1980 = 100) for ECCA countries.

3/ The unions' annual rate of inflation, as measured by the CPI, is the unweighted average of national rates of inflation.

Note: x   is the arithmetic average of the union annual series over the corresponding period.

        σ/x   is the ratio between the standard deviation over the period and the annual average mean of the corresponding variable.

Chart 4   Areawide (Unweighted) Lending Rate of the CAMA and ECCA; 1979-90
(In percent per annum; period average)

Nominal
CAMA ECCA

Real
CAMA ECCA
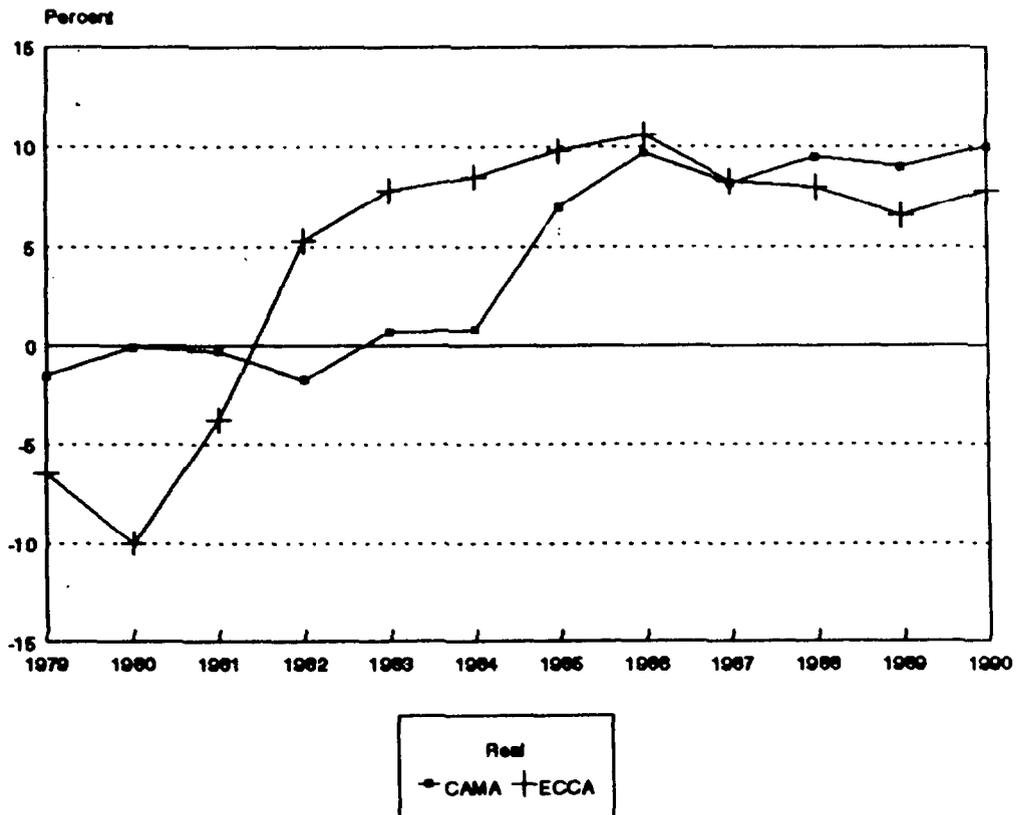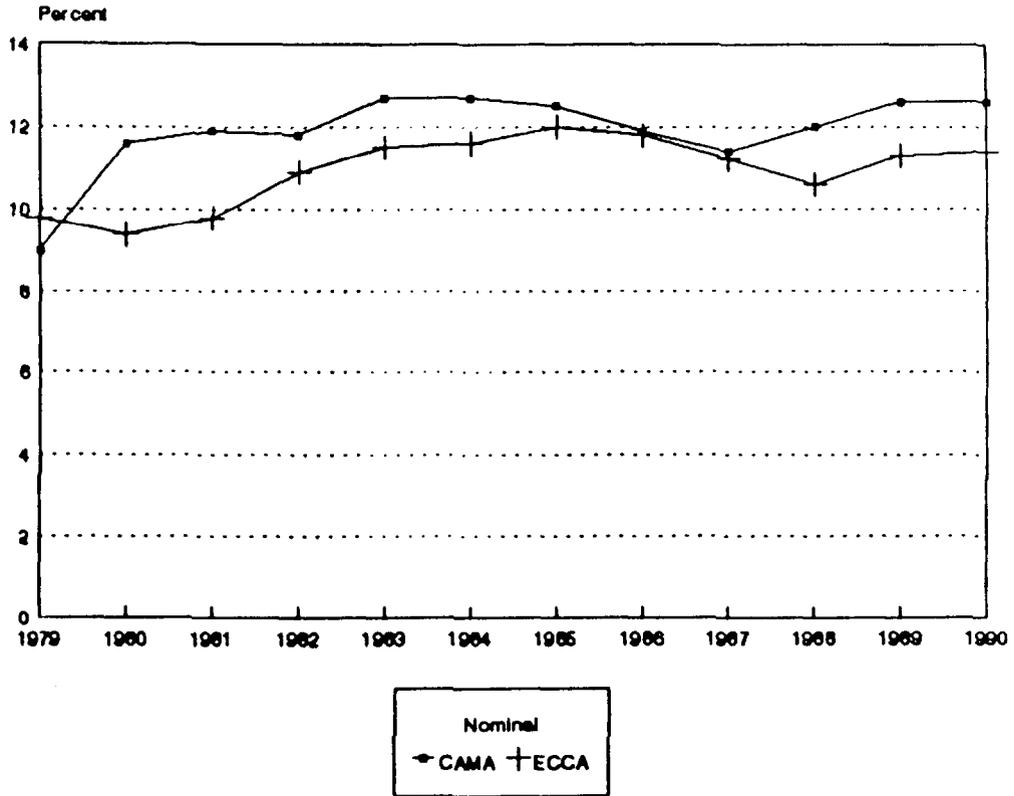
Source: Statistical Appendix Tables 2 & 3.

prices, and declining afterwards. 1/ In 1983-90, exogenous shocks (e.g., slump in tourism) tended to be localized in one member country in a given year, and thus to average out across the region which, as a whole, continued to display strong real economic growth, which was more stable that during the first sub-period. 2/

Area-wide bank credit and nominal GDP averaged about the same growth during 1976-90 as credit expansion originated mostly from private sector credit and was closely related to economic activity and members' lending rate behavior. 3/ During 1976-92, for instance, banks curtailed private sector credit in construction and tourism when economic activity declined and their liquidity position became tight. 4/ As competition among banks became stiffer (e.g., Antigua) beginning 1983, prime lending rates fell and stimulated bank credit expansion and economic growth. Expansionary pressures on broad money from bank credit were more than offset by massive inflows of concessional financial assistance during 1976-82 and by large exports receipts due to buoyant traditional exports and tourism in 1983-90, thus improving the foreign backing ratio accordingly.

2. **Monetary control**

Both the stance and mechanism for monetary control of the BEAC and ECCB determined the behavior of domestic bank credit expansion and, as a result, of the foreign backing ratios of the CAMA and ECCA, although the BEAC's conduct of monetary policy was greatly complicated by a difficult environment. The analysis below shows that excess money and credit expansion in the CAMA stemmed largely from reserve money growth because of the ineffectiveness of the BEAC's quantitative credit controls mechanism, a lack of coordination between monetary and fiscal policy, and growing banking distress. In contrast, money and credit expansion in the ECCA reflected primarily the growth of the money multiplier, and thus banks' behavior which

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1/ During 1976-77, the economic slump stemmed from uncertainty in the economic climate following the shift from a sterling pound to a U.S. dollar peg. During 1978/79, economic activity recovered due to a boom in agricultural output and tourism. During 1979-1980, two hurricanes (David and Allen) depressed the economies of all Islands; this situation was exacerbated by floods in Grenada (1979), a volcanic eruption in St. Vincent and weak tourism activity in all islands. During 1981-82, the region recovered as tourism activity resumed and construction boomed as hotel damaged by the two hurricanes were repaired.

2/In 1983 for instance, economic activity declined in Grenada and St. Lucia due to a slump in construction but boomed in St. Vincent and Antigua due to a strong growth of the tourism sector.

3/Factors such as liquidity position of banks and lending limits set by head office of foreign banks also effected private sector credit expansion.

4/Banks assigned a higher credit risk to loans in these sectors compared to commercial loans.

the ECCB influenced via its active interest rate policy, after its central banking powers were expanded (Chart 5).

a.   **BEAC**

Net domestic credit of the BEAC was largely demand-determined during 1976-90 and thus contributed to the excessive domestic credit expansion by the banking system. 1/ A key problem lay in the design and operation of the rediscount facility. Indeed, rediscount of selective credits was open-ended, which reduced the fraction of rediscount under BEAC's direct control; furthermore, the BEAC did not control the remaining fraction of rediscount (of the "*crédits plafonnés*") since it set too high individual bank ceilings on these rediscounts, leaving access at the initiative of banks; finally, and particularly before 1986, the BEAC administered rediscount rates rigidly, keeping them well below the French money rate.

A second problem was the non-enforcement of prudential ratios (**ratios de liquidité**) that were also used to limit credit expansion. 2/ This situation arose mainly because the BEAC had limited banking supervision powers. 3/ In turn, the situation led to the growth of banks' bad loan portfolio and the erosion of public confidence in the banking system, with both factors in turn complicating BEAC's reserve money managment. 4/

A third problem linked to the coordination with fiscal policy arose from mounting fiscal deficits and the ensuing deterioration of governments' net position vis-à-vis the BEAC both of which complicated reserve money management substantially. Until 1983, governments held a net creditor position because of the large deposits of the oil producing members; afterwards, as fiscal pressures mounted because of an economic downturn and slump in world oil prices, BEAC credits to governments rose rapidly, with their growth rate doubling--on an annual average basis--in 1983-90 compared to 1976-82. Thus, given the smallness and openness of the region's economy under a fixed exchange regime, central bank--and thus bank--credit expansion led to large net foreign reserves losses for the region as a whole, pointing to some degree of endogeneity of the broad money stock.

1/During the 1980s, the growing deterioration of the financial soundness of banks in the area added pressures on banks' demand for rediscount credits.

2/These ratios were dismantled in 1989. The BEAC has since redesigned these ratios which are to be enforced by a newly created regional banking commission in charge of banking supervision in the CAMA.

3/Among others, enforcement of supervisory policy was the responsibility of national authorities, during the period of study.

4/The weakening of banks' loan portfolio originated largely in public enterprises' growing difficulties to service bank debt after the plunge in commodity export prices, and problems inside the banking sector (e.g., management problems).

Chart 5 Sources of Broad Money Expansion; 1976-90
(Annual change; in percent of M2 at the beginning of period)
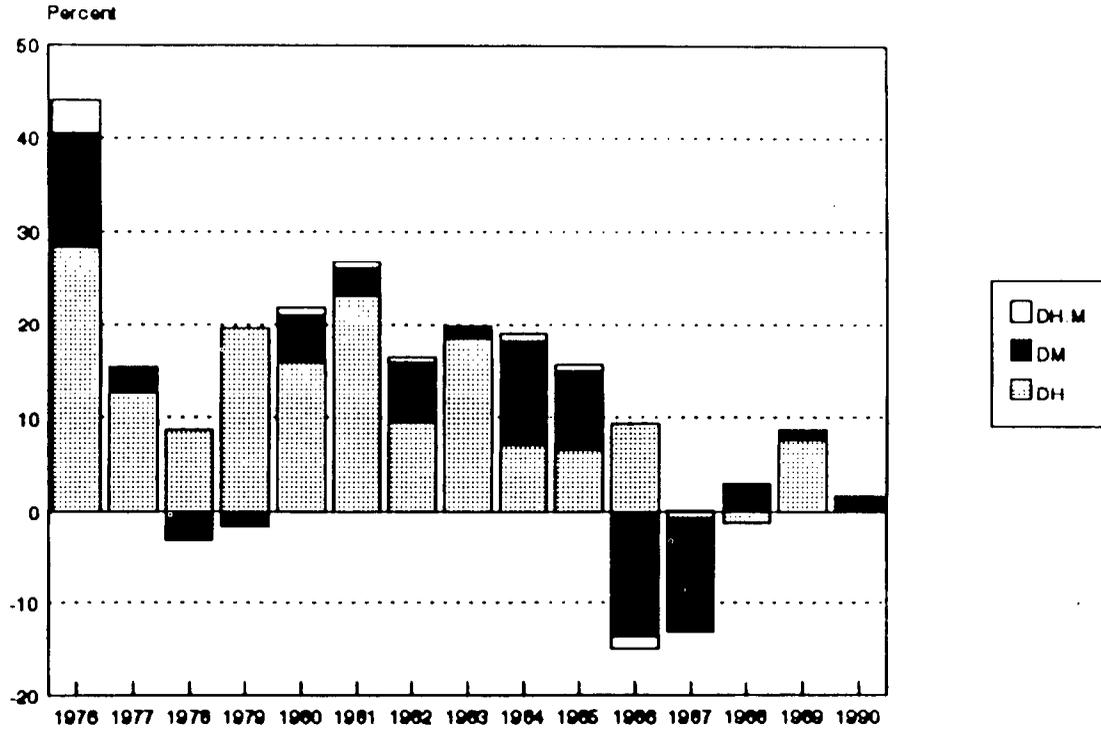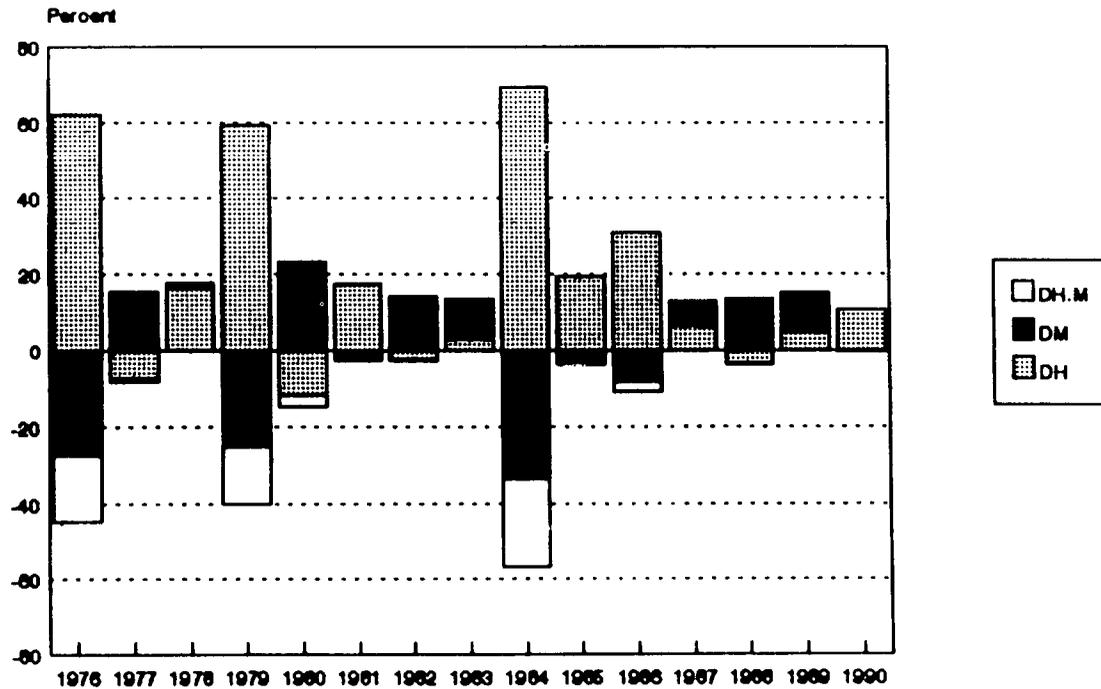
I. CAMA

II. ECCA

Note: DH, DM, DH.M show, respectively, the percentage increase in broad money due to an increase
in the monetary base, the money multiplier, and the interaction between the preceding two.

Table 6. CAMA: Results of OLS Estimation of Monetary
Model; 1979/II - 1990/IV [1]

$$\Delta(\frac{B}{M_{-1}}) = \alpha_0 + \alpha_1.\Delta(eff) + \alpha_2\Delta(\frac{B}{M_{-1}}) + \alpha_3\Delta(i-i^*)$$

with: $\alpha_1 \geq -1$; $\alpha_2 \leq -1$; $\alpha_3 \geq 0$

	α_0	α_1	α_2	α_3	Adj - R^2	DW	Chow-test [2]
CAMA	0.03	-0.59*	-0.47*	-0.24	0.61	1.94	0.57
	(0.08)	(-2.63)	(-12.50)	(-0.87)			
Cameroon	0.14	-0.46	-0.48*	0.08	0.66	2.45	1.09
	(0.02)	(-1.35)	(-10.17)	(0.17)			
Congo	--	1.85*	-0.67*	-0.65	0.27	2.79	0.22
	(--)	(1.92)	(-4.34)	(-1.20)			
Gabon	0.02	-0.72	-0.71*	0.18	0.60	3.00	0.67
	(0.02)	(-1.41)	(-9.67)	(0.22)			

[1] Using deseasonalized data. The dependent variable Δ (B/M$_{-1}$) is the quarterly improvement in the balance of payments (approximated here by the quarterly increase in net foreign assets of the banking, in percent of broad money at the beginning of period. Independent variables are the change in the (unweighted) average nominal effective exchange rate (A eef); the increase in bank credit expansion in percent of broad money at the beginning of period ($\Delta \frac{\Delta D}{(M_{-1})}$); and the change in the differential between the BEAC discount rate and the French money market rate.

[2] Used to test the stability of estimated coefficients, assuming a break point in 1983/III. The computed F-statistics (reported) were not statistically significant; we thus failed to reject the hypothesis of stability of estimated coefficients.

Note: The hypothesis that the estimated "offset" coefficients equalled minus one was tested. The computed F-statistics were 17.2 for the CAMA, /2.2 for Cameroon, 1.02 for the Congo and 2.59 for Gabon. Given the critical F_ value of 2.61 (with 4 degrees of freedom in the numerator and 36 degrees of freedom in the denominator), the hypothesis was rejected for the CAMA and Cameroon, but could not be rejected for Congo and Gabon.

The model of the monetary approach to the balance of payments in developing countries developed by Connolly and Taylor (1976) was used to test these assertions and the effectiveness of monetary policy of the BEAC in protecting the area's foreign exchange position and the collective fixed peg during the 1979/II-1990/IV period. 1/ Empirical results provide limited support for the endogeneity of the CAMA money stock and thus, to the workings of the automatic balance of payments adjustment mechanism during the study period (Table 6). Although the "offset" coefficient of the CAMA was statistically significant, its magnitude (-0.47) was well below--and statistically different from--minus unity. 2/ This indicated that an acceleration in bank credit in the CAMA as a whole led to a less proportionate deterioration of the area's balance of payments in a one-quarter period. 3/ Also, increased nominal exchange rate depreciations (estimated coefficient of -0.59) improved the balance of payments within one quarter, although not as much as expected (slightly more than a one-to-one

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1/ The model specifies an improvement in the balance of payments in terms of a change in the depreciation of the exchange rate (positive sign) and the growth rate of bank credit expansion (negative sign). The magnitude of estimated coefficients provides a test of the monetary approach to the balance of payments. An estimated coefficient of minus one for the credit variable suggests that changes in the balance of payments reflects an adjustment of money supply to its desired level, and thus that money supply is endogenous. The estimated coefficient of the exchange rate variable should be greater than one if permanent income is growing (see Connolly and Taylor (1976)).

Note: The balance of payments and bank credit expansion are respectively expressed as changes in the net foreign reserves and in net domestic credit of the banking system in percent of the stock of money. In this paper, the latter is chosen at the beginning of the period.

2/ This hypothesis was tested, using a F-test for linear restriction and was rejected at a 95 percent interval confidence level.

3/ In comparison, the estimated coefficient found by Connolly and Taylor (though in cross-section analysis) was -0.82 for credit expansion over a two-year period. Estimation of the Connolly-Taylor model in a dynamic specification--assuming a Kyock lag distribution--did not provide any meaningful evidence of a slow adjustment process at work for the CAMA, nor for two of its largest member countries (Cameroon Congo and Gabon); indeed, the estimated speed of adjustment coefficient (the estimated coefficient of the lagged dependent variable minus one) was either not statistically significant or had the wrong sign (negative). It cannot however be excluded that the poor results of the model specified in a dynamic form points to a more complicated adjustment process than assumed under a Kyock distribution lag rather than a adjustment within one quarter. This issue, which is not the main focus of the paper, points to the usefulness for further econometric analysis.

improvement in the balance of payments). 1/ Based on this mixed evidence, the hypothesis that a monetary transfer from the standard country is necessary to preserve a fixed collective parity cannot be rejected in the case of the CAMA. 2/ This is so especially in view of the sharp erosion of the foreign backing of the CAMA money stock in the second half of the 1980s. Evidence for such transfers is reflected in the rise of the ratio of the CAMA money stock relative to that of the French money stock rose during 1978-85.

b. ECCB

Before its central banking powers were expanded in 1983, the ECCB had limited discretion to influence banks' behavior outside the use of moral suasion. After it began remunerating bankers' deposits in the last quarter of 1982, the ECCB embarked on an active interest rate policy to protect the common of pool of reserves only in early 1984. To that end, it adjusted regularly--though with a lag at times--the interest rate at which it remunerated bankers' deposits so as to keep it aligned with foreign interest rates (the LIBOR and US interest rates). This policy enabled the ECCB to prevent bank capital outflows throughout most of the 1983-90 sub-period and, consequently, to build up net foreign reserves substantially. These observations about the behavior and effectiveness of the ECCB policy were tested, using the Connolly-Taylor model which was modified to include changes in the differential between domestic and foreign interest rates as a determinant of the improvement of the balance of payments.

Results for the whole study period show that the ECCB's move toward an active interest rate policy in 1983 played a significant role in strengthening the area's external position (the hypothesis about a structural break in the estimated relationship in 1983 could not be rejected; Table 7). Thus, the Connolly-Taylor model (excluding the effect of the interest policy) was estimated for the sub-period up to early 1983 and the 1983-90 sub-period.

Results for the first sub-period show that increased bank credit expansion had no statistically significant effect on the improvement of the balance of payments, reflecting mainly the conservative lending policy of banks during this period. However, increased depreciations of the nominal effective exchange rate contributed to improving the area-wide balance of payments. Results for the second sub-period (1983/IV-1990/IV) show that the interest rate policy of the ECCB was effective in protecting the net foreign reserves position of the ECCA. The increase in the differential between

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1/ These movements of the region's average (unweighted) nominal effective exchange rate movements arise from fluctuations between major currencies relative to the French franc and of trade outside the Franc zone rather than policy actions.

2/ Macedo (1986) reached a similar conclusion for the West African Monetary Union.

domestic and foreign interest rates (in favor of the region) led to a higher-than-proportionate improvement of the region's balance of payments within one quarter, pointing to the high interest-rate elasticity of the demand for financial assets in the region. In carrying out its interest rate policy, the ECCB seemed to be guided more by the interest rate differential relative to the three-month US treasury bill than the LIBOR rate on three-month deposits in US dollars. That could be expected, due to the close integration of the region's financial market to that of the United States in the 1980s. Statistical results based on the Treasury rate generally turned out better that those using the LIBOR rates. Furthermore, interest rate adjustments more than offset the effect of excess credit expansion on the balance of payments of the region (the "offset" coefficient was -0.19) and thus strengthened the external position of the region during the period spanning from mid-1983 to 1990.

3.   Redistribution of monies

   a.   Overview

   During the whole period under study, in the two areas the broad money stock was redistributed towards the largest countries; this redistribution was much larger in the CAMA than the ECCA. 1/ In the CAMA, the redistribution took place largely from Gabon to Cameroon as their monetary shares (in percent of the area's broad money stock) moved in opposite directions and were highly negatively correlated (r - -0.97; Table 8). On an annual average basis, Cameroon's share jumped by 8 percentage points between 1976-82 and 1983-90 while that of Gabon plummeted by nearly the same magnitude between the two sub-periods. Results of the statistical analysis below point to the neutralization of Cameroon reserve losses as a factor contributing to this redistribution of monies.

1/ See Table 3 showing the annual average monetary share of ECCA and CAMA member-countries in 1976-82 and 1983-90.

Table 7. ECCA: Results of OLS Estimation of
The Monetary Market Model; 1979/IV-1990/IV 1/

		Estimated coefficients			Summary Statistics		
		$\alpha 1$	$\alpha 2$	$\alpha 3$	Adj-R^2	DW	Chow -statistics 2/
ECCA							
	1979/II-1990/IV	-0.62* (-2.78)	- 0.12 (-1.17)	0.34 (1.04)	0.18	3.13	3.20*
	1979/II-1983/I	-1.68* (-2.70)	-0.24 (-0.94)		0.35	2.81	
	1983/III-1990/IV	-0.38* (-2.22)	-0.19* (-2.33)	1.47* (2.44)	0.25	2.72	
Grenada 3/							
	1979/II-1990/II	-0.48* (-1.78)	-0.66* (-3.97)	0.47 (1.10)	0.30	3.05	5.63*
	1983/IV-1990/IV	-0.76* (-1.97)	-0.99* (-7.13)	6.17* (3.07)	0.60	2.79	7.97*
St. Lucia							
	1979/II-1990/IV	-2.38* (-2.75)	0.42 (0.90)	1.37* (1.86)	0.22	3.19	4.13*
	1979/II-1983/III	-6.65* (-2.51)	0.82 (0.75)		0.41	3.00	
	1983/IV-1985/IV	0.22 (1.01)	-0.37 (-1.66)	4.70* (3.53)	0.14	2.15	
	1986/I-1990/IV	-0.91* (3.62)	-0.19 (-1.68)	6.49* (5.64)	0.71	2.34	

1/ Based on deseasonalized money and credit aggregates, derived by regressing seasonal dummy variable on original quarterly data and taking the residuals as deseasonalized series. The estimated relationships are specified as follows. The dependent variable is the improvement in the balance of payments which is defined as the first difference in the quarterly change in net foreign assets of the banking system (an approximation of the overall balance of payments), in percent of broad money at the beginning of the period. Independent variables are: (i) the quarterly changes in the unweighted average nominal effective exchange rate of the region as a whole (A eef); a depreciation (-) of the exchange rate is expected to improve the balance of payments and thus, the coefficient ˜1 is expected to have a negative sign; (ii) the acceleration in the rate of domestic credit expansion by the banking system which is expressed as the change in outstanding credit of the banking system in percentage of broad money at the beginning of the period (its impact measures the offset coefficient); and (iii) the reduction in the differential interest rate (against the domestic economy) which is expected to have a positive effect on the balance of payments. All equations were estimated using either the LIBOR rate as three-month US deposits or the three-month U.S. treasury-bill rate and only the best results are reported.

2/ Used to test the stability of estimated coefficient over two periods. The break point for the whole period is 1983/I (announcement of the setting up of ECCB with full-fledged central banking powers) for ECCA; 1983/IV (when ECCB began operating effectively) for Grenada and St. Lucia; and 1986/I (when they money market was set up). An asterisk indicates that the computed F-statistic was higher than the critical value at a 95 percent interval confidence level, and thus, that the hypotheses of stability of estimated coefficients was rejected.

3/ The interest rate differential is measured relative to the three-month U.S. treasury bill. Results based on the LIBOR were poor and thus, not reported.

Notes: 1. Data in parenthesis are the t-ratios. An asterisk on the
           estimated coefficients indicates that the computed t-ratio was
           higher than the critical value of the t-statistics at a 95
           percent interval confidence level, and thus that the coefficient
           was statistically significant.

        2. The variances and standard errors of the estimated coefficients
           are heteroskedastic-consistent estimates.

In the ECCA, a small redistribution of the region's broad money stock took place mainly from Grenada to Antigua and St. Lucia. Grenada's monetary share was negatively correlated with that of St. Lucia (r - -0.66). The latter's share rose by only 2 percentage points only between the two sub-periods, while that of Grenada fell by 4 percentage points. This redistribution reflected largely the responsiveness of banks in member countries to the ECCB common interest rate policy, although credit expansion played a key role in Grenada. Statistical evidence (below) suggests that the redistribution of monies in the ECCA operated largely through the capital account. The mechanism of redistribution of monies in the two regions is examined below.

Table 8. CAMA and ECCA: Coefficients of Correlation of Selected Members' Monetary shares: 1976-90 1/

	Cameroon	Gabon	St. Lucia
CAMA			
CAMA	-0.83		
Congo	0.43	-0.51	
Gabon	-0.99	1.00	
ECCA			
Grenada	..	..	-0.64

1/ Monetary shares are calculated as the ratio of the country's broad money stock, (in percent of the area-wide stock of broad money calculated as the sum of members' broad money stock).

b. **Within the CAMA**

Cameroon and Gabon's monetary shares moved in opposite directions. This reflected diverging trends in their money and credit expansion relative to that of the CAMA as a whole (Table 9). On average during the 1979-90 period, Cameroon inflated at a faster pace and Gabon at a slower pace than the CAMA region as a whole. As a result, Cameroon's monetary share rose and Gabon's fell. The key issue was whether this diverging trend was induced by BEAC policy or reflected money demand factors.

Table 9. CAMA and ECCA: Selected Economic Indicators
of Selected Members, 1976-90

	Cameroon	Gabon	Congo	Antigua	Grenada	St. Lucia
	(In percent, unless specified otherwise)					
1979-90						
Nominal GDP growth	13.0	9.1	13.0	14.9	12.5	13.0
Domestic credit 1/	17.9	13.1	17.8	14.8	11.2	12.9
Broad Money growth	15.0	11.7	13.4	13.0	12.1	15.3
1976-82						
Nominal GDP growth	20.9	17.0	24.9	16.9	14.2	17.0
Domestic credit 1/	27.6	18.1	29.3	13.4	11.1	15.9
Broad Money growth	24.6	19.1	22.8	10.2	12.1	14.8
1983-90						
Nominal GDP growth	6.1	2.3	2.6	13.2	10.9	9.5
Domestic credit 1/	9.4	8.8	7.7	16.1	11.4	10.4
Broad Money growth	6.7	5.3	5.1	15.5	12.2	15.7

1/ Net domestic credit of the banking system, in percent of broad money at the beginning of period.

Evidence suggests that Gabon's monetary growth was demand-determined. Indeed, due to the net creditor position of Government vis-à-vis the banking system during 1976-82, total bank credit expanded at a pace slightly above nominal GDP growth but below money growth, causing a foreign reserve build-up. 1/ In 1983-90, however, Gabon suffered massive losses of net foreign reserves due to private residents' placements abroad (equivalent to one-third of its money stock at end-1990) from end-1982 to end-1990, and plummeting world commodity prices. Persistent rumors of an exchange rate adjustment and the banking crisis contributed to capital flight. Official reserves losses offset monetary growth due to an expansionary credit policy and caused a decline in its monetary share. Results of the estimation of the Connolly-Taylor model indicate that Gabon's monetary share was

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1/ Gabon built up a large net creditor position vis-à-vis the banking system during the first half of the 1980s.

endogenous and, thus, that monetary expansion was demand-determined. The hypothesis that its "offset" coefficient was minus one was not rejected; this supported the assertion about Gabon's foreign reserves build-up during the first sub-period, and thus to its contribution to the pool of reserves. In contrast, Cameroon's monetary share rose in both sub-periods (1976-82 and 1983-90). During the first sub-period, domestic credit outpaced nominal GDP growth substantially, exerting expansionary pressures on broad money which were offset by foreign reserve losses. However, its share rose, pointing to a monetary transfer from the common pool of reserves. During the second one, and mostly after the reversal in the world commodity markets, particularly the oil market, Cameroon's domestic credit expansion continued to exceed nominal GDP growth, causing foreign reserves losses. Nevertheless, its share continued to rise, pointing this time to a monetary transfer from abroad. The Connolly-Taylor model results support these observations and show that Cameroon's monetary share was not endogenous and that the automatic balance of payments adjustment mechanism did not operate fully during the 1980s; indeed, its "offset" coefficient was well below--and statistically different--minus unity (-0.48). Therefore, evidence suggests that Cameroon money stock was insulated from foreign reserves losses; this insulation was possible owing mainly to monetary transfers to Cameroon from the common pool.

c.   Within the ECCA

During 1976-90, domestic bank credit in St. Lucia expanded at about the same average annual rate as nominal GDP but at a slower pace in Grenada. However, monetary expansion outpaced credit expansion by 2 and 1 percentage points per annum in St. Lucia and Grenada, respectively, reflecting St. Lucia's stronger foreign reserves build-up, and thus, stronger balance of payments performance. Results of the estimation of the Connolly-Taylor model showed that, during the 1980s, St. Lucia's balance of payments improved mainly in response to the increase in the interest rate differential (in favor of the ECCA) and to the increased depreciation of its nominal effective exchange rate. However, statistical tests rejected the hypothesis of the stability of the estimated coefficients for the two countries during the 1979/II-1990/IV period. That suggests structural breaks in the estimated relationships both in the last quarter of 1983 and the first quarter of 1986.

Until 1983, the decline in exports receipts due to low traditional exports and weak economic activity caused the erosion of the foreign backing of the ECCA as well as those of St. Lucia and, particularly, Grenada. Nominal effective exchange rate depreciations in St. Lucia mitigated the impact of exogenous shocks (hurricanes) on its balance of payments, and enabled St. Lucia's monetary share to remain roughly constant while Grenada's declined.

From late 1983 to 1990, St. Lucia's balance of payments improved mainly in response to the closing of the interest rate differential relative to the Libor rate. However, during 1987-1988, the ECCB closed the differential with a one-quarter lag, causing some capital outflows. Outside

that sub-period (1987-88), the ECCB adjusted promptly its rate on bankers' deposits to changes in the LIBOR rate and, thus, succeeded to keep the differential between these two rates, positive (in favor of ECCA countries). Therefore, St. Lucia was able to attract net capital inflows and build up its foreign reserves position substantially, leading its monetary expansion to outpace that of the ECCA region as a whole and thus causing its monetary share to rise.

During this 1983-90 sub-period, Grenada's balance of payments improved also in response to these differential interest rate movements, although this improvement was partly offset by an expansionary credit policy during 1986-90. Indeed, reflecting the realignment of domestic interest rates with foreign rates in 1984-85, Grenada improved its balance of payments position and restored the foreign backing of its broad money stock. In 1986-90, however, the positive effect of interest rate on the balance of payments was partly offset by excess domestic credit--arising mostly from credit to government in reflection of budgetary pressures. Consequently, foreign reserves accumulation slowed down, causing a moderate increase in monetary growth rate. As result, during the whole study period, the broad money stock of Grenada rose at a slower pace than that of the ECCA region as a whole, leading its monetary share to fall.

V. Conclusion

The paper set forth to compare the conduct of monetary policy by the BEAC and ECCB during 1976-88. The two common central banks relied on different mechanism for monetary control to protect foreign reserves and thus, defend the fixed parity of the collective external peg. The main conclusion is that, due to disparities in their institutional and structural setup, the ECCB and BEAC achieved opposite results with regards to controlling the area's domestic credit and thus preserving the area-wide external position. From 1976-82 to 1983-90, the ECCB strengthened the net foreign reserve position of the banking system by pursuing a flexible interest rate policy aimed at preventing capital outflows outside the region. This led to a redistribution of monetary allocations in the ECCA based on members' balance of payments performance and operating largely through their capital account.

In contrast, from 1976-82 to 1983-90, the BEAC was unable to protect net foreign reserves of the banking system. Although real exogenous shocks (e.g., plunge in world price of oil, coffee, cocoa, drought) buffeting the region's economies greatly complicated BEAC's monetary management, the inefficiency of the BEAC's system of monetary control, combined with capital flight due to the erosion of public confidence in banks and with the lack of coordination of fiscal and monetary policy, accounted largely for the massive losses of foreign reserves. In particular, the inadequate design and use of rediscounting--the main monetary control instrument of the BEAC-- precluded the BEAC from tightening domestic credit expansion when necessary. Moreover, the BEAC pursued a rigid interest rate policy which led to significant capital outflows, particularly from Gabon, as public confidence

in banks weakened and rumors of an exchange rate adjustment spread. Thus, exogenous shocks were transmitted to net foreign reserves both through the current and capital accounts. Due to the BEAC's accommodating policy, a redistribution of monies towards Cameroon occurred. Evidence based on the magnitude of the estimated "offset" coefficient of Cameroon suggests that BEAC contributed to this redistribution by neutralizing Cameroon's net foreign reserves losses. Results of the empirical analysis here are based on quarterly effects of interest rate and credit policy. Results for the ECCA support the hypothesis of a speedy external adjustment process when the central bank relies in interest rate management. However, further empirical work would be useful to investigate the pattern and speed of the adjustment process for UCAs, such as the CAMA, which rely on quantitative credit controls as the main tool of monetary policy. Indeed, different speeds of adjustment among members may put different strains of the common pool of reserves, complicating short-term monetary management substantially.

Unified Currency Areas Among Small Countries

(As of December 1990)

	Members	Number
Existing Currency Areas		
1. West African Monetary Union (WAMU)	Benin, Cote d'Ivoire, Mali, Niger, Burkina Faso, Senegal, Togo	7
2. Central African Monetary Union (CAMA)	Cameroon, Congo, Central African Republic, Equatorial Guinea, Chad	6
3. Eastern Caribbean Currency Area (ECCA)	Antigua, Dominica, Grenada, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent	7
Total		20
Envisaged Currency Area		
1. UMA 1/	Algeria, Libya, Morocco, Mauritania, Tunisia	4

1/ L'Union du Magreb Arabe.

Table 1. Institutional Arrangements of the CAMA and ECCA; 1990

		CAMA	ECCA
1.	**Reference Dates**		
	Creation	1960	1965
	Last major reforms	1972; 1990	1983
2.	**Basic Provisions**		
	Currency unit(s)	Common currency (CFA franc) issued by common central bank (BEAC)	Common currency (EC dollar) issued by common central bank (ECCB)
	Monetary policy	Coordinated policy	Common policy
	External exchange rate	Common external rate	Common external rate
	- parity	Collective fixed peg to the French franc (CFAF 50 -- FFI)	Collective fixed peg to the US$ (EC$2.7 - US$1)
	- regime of convertibility	Fully guaranteed under cooperation agreement with France	No external guarantee
	Capital restrictions	None (harmonized) within (outside) the Franc zone	Prevail within and outside the ECCA
	Interest rate policy	Common policy by BEAC	Common policy by ECCB
3.	**Organizational Structure**		
	- Highest body - Policy-making body - Executive body	Monetary Committee composed of finance ministers	Monetary Council composed of finance ministers
4.	**Voting Powers**	Unequal vote among members	Equal vote among members
5.	**Statutory Limits on Central Bank Operations**		
	Foreign currency cover 1/	20% of sight liabilities of the BEAC, at least	60% of currency and other demand liabilities of ECCB, at least
	Claims on government (gross)	20% of previous year's budgetary revenues, at most	10% on T-bill holdings; plus 5% on other securities holdings; plus 5% for advances

1/ Gross official reserves of the common central banks, in percent of liability base defined in the respective columns.

Note: CAMA: Central African Monetary Area
      ECCA: Eastern Caribbean Currency Area

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