

WEST AFRICAN MONETARY AGENCY (WAMA)



Report on trends in exchange rates of ECOWAS
currencies at end of December 2007

Freetown, June 2008

Acronyms and Abbreviations

AFD	Agence Française de Développement
BAD	African Development Bank
BCEAO	Banque Centrale des Etats de l'Afrique de l'Ouest
CFA	Communauté Française d'Afrique
ECB	European Central Bank
ECOWAS	Economic Community of West African States
EMCP	ECOWAS Monetary Cooperation Programme
GDP	Pound Sterling
GDP	Gross Domestic Product
GNF	Guinean franc
IMF	International Monetary Fund
REIR	Real Effective Interest Rate
SDR	Special Drawing Rights
UEMOA	West African Economic and Monetary Union
USA	United States of America
USD	United States Dollar
WAMA	West African Monetary Agency
WAMZ	West African Monetary Zone
WAUA	West African Unit of Account

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INTRODUCTION

For some years now, there has been a flurry of literature on exchange rate trends in countries that are seeking to join a monetary union. In fact, the use of direct criteria such as exchange rate volatility is in response to weak empirical validation of traditional criteria on optimum monetary zones.

Economists that have worked on this approach think that countries are likely to form a monetary union if the exchange rate variability observed between their currencies is stable (Poloz 1990; DeGrauwe and Heens, 1993; Hagen-Neuman, 1994). Proponents of this approach stress on the fact that exchange rate stability is the result of stable fundamentals in line with the theory of optimum monetary zones.

This concern was largely shared by those promoting the ECOWAS Monetary Cooperation. Indeed, as part of creating the necessary conditions for the adoption of a single currency, governments in the region adopted as far back as 1999 a macroeconomic convergence pact.

This macroeconomic convergence is sought mainly through price stability, limiting public deficit, restrictions on monetary financing of budget deficit by central banks and holding of adequate external reserves.

Beyond this convergence programme, the West African Monetary Agency (WAMA) which is steering the programme has to reflect on the implementation of strategies aimed at ensuring increased use of the region's currencies in sub regional transactions.

In this regard, economic operators need to rely on strong and stable currencies. This presupposes the availability of dynamic and liberalized exchange markets.

The medium term objective of WAMA is to ensure the convertibility of the region's currencies. In fact, this is an important step in the establishment of a single currency.

In this perspective, fluctuations in exchange rates remain a major source of concern. Indeed, excessive volatility of exchange rates affects the competitiveness and macroeconomic base of countries. Economies that record excessive fluctuations become more risky for both local and foreign investors.

Hence the need to have a regular detailed report on developments in exchange rates.

This report falls within this perspective. It will provide a review of trends on the international exchange market and focus on currencies that make up the Special Drawing Rights to which the West African Unit of Account is pegged through a fixed parity¹.

It will then provide a detailed analysis of nominal exchange rates of ECOWAS currencies in relation to the WAUA during the period under review before indicating the economic policy implications necessary to control fluctuations in the exchange rate of these currencies.

¹ 1 WAUA = 1 SDR

The analysis will cover both official and parallel markets which sometimes play an important role in the sub-region.

For a better appreciation of recent developments, trends in exchange rates between 2001 and 2007 will be reviewed.

I- DEVELOPMENTS IN EXCHANGE RATES IN 2007

As part of the analysis of trends that affected exchange rates of ECOWAS currencies, it is worthwhile to provide a quick overview of trends in the world

economy in general and the international exchange market in particular.

1- Trends in the international economic and financial environment in 2007

Trends in the world economy will be captured through developments in economic activity, exchange and prices

as well as major decisions in terms of monetary policy.

a.- Trends in world economic activity

World growth declined from 3.9% in 2006 to 3.6% in 2007. This decline is attributed to the high level of commodity prices especially energy and the financial crisis that affected mostly developed countries.

Thus, real GDP growth rate in OECD countries fell by 0.3 percentage point to settle at 3.6% in 2007.

On the other hand, growth remained **firm** in developing countries. Indeed, developing economies recorded a real growth rate of 7.4% in 2007, representing almost the same level achieved in 2006 (7.5%).

This buoyant growth is to a large extent due to the vibrancy in South East Asian countries. Growth rate in developing countries excluding China and India stood at 5.7% in 2007.

The analysis of the pace growth in the major regions brings out the following results:

In the USA, the downturn in the pace of growth was very pronounced. In fact, after several years of growth, the US economy is on the verge of recession. In 2007, economic activity in the US grew by only 2.2% against 2.9% the previous year. Economic activity was adversely affected by unfavourable trends on the real estate market which resulted in significant reduction of investment in the housing sector. Besides, upheavals on capital market following the sub prime crises led to a credit crunch, especially in the second half of the year.

In Latin America, a strong domestic demand helped in sustaining the vibrancy in economic activity. There was vigorous economic growth in most countries of the region especially in Mexico, Argentina and Brazil.

In the Euro zone, economic activity continued to be vibrant. Even though real GDP growth rate dropped slightly to settle at 2.7% in 2007 against 2.7% in 2006, economic growth in the euro zone exceeded that of the USA for the first

time since 2001. Growth in the region was sustained by good performances in the Netherlands and Spain. On the other hand, the slowdown was very marked in Germany and France.

On its part, the UK recorded a growth rate of 3.1%, exactly the same level recorded the previous year. Household consumption which recorded a strong growth as a result of an improvement in the job market was behind the renewed dynamism in economic activity.

Japan's economic growth declined from 2.4% in 2006 to 2.1% in 2007. This slow down in economic growth in Japan is mainly attributable to the review of the law on construction in June 2007. The adoption of this new law reflected in a significant reduction of housing and office construction projects. However, the economy benefited from substantial investments in other sectors and a good performance in the export sector.

In other Asian countries, economic growth remained vibrant, especially in China and India.

b.- Trends in international trade

The volume of international trade in goods and services grew by nearly 8.7% in 2007 against 10% in 2006. Trade in commodities (oil, metal and minerals) benefited from the vibrancy in Asia and particularly in China which maintained a high level of economic growth.

The upsurge in commodity prices had a major impact on the upward trend in the world prices and flows of many commodities.

Thanks to additional revenue, oil, metals and minerals exporting countries and regions increased their imports.

On the contrary, prices of manufactured products which account for three quarters of trade in goods continued to slump. The geographical reorientation of investments towards newly industrialized countries stimulated exports of equipment in producing countries such as Germany and Japan.

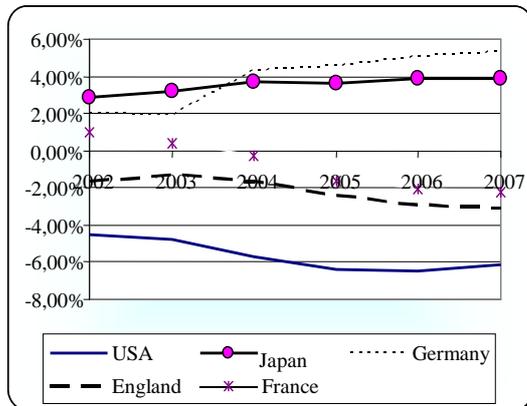
On the whole, the champions of exports were Asian countries, excluding Japan, with a growth in their volume of exports (+18%) two times higher than the growth in world trade, as well as countries of Central and Eastern Europe. China has become the second leading exporter behind Germany, over taking the US. In five years, Chinese exports have quadrupled and account henceforth for nearly double the exports from France.

Generally, the consistent growth in world trade stems from developing countries. Developing countries' share in world trade expanded from 20% in the 90s to 35% today.

With regard to current transactions, the US deficit shrunk in 2007 as a result of an improvement in the trade balance. In relation to GDP, the US current deficit stood at 5.5% in 2007 against 6.2% in 2006.

For Japan, its surplus grew sharply to settle at 4.9% of GDP. The significant growth in exports to neighbouring countries accounted for this growth. The same trend was observed in China and major oil exporting countries.

Graph 1.1: Trends in the current account of major industrialized countries (% of GDP)



Source: IMF

c.- Trends in monetary policy and inflation

The year 2007 was marked by persistent inflationary pressures due mainly to soaring crude oil and food prices.

Following **the trail** of crude oil prices, commodity prices also increased considerably. The level of demand in emerging countries coupled with a moderate growth in supply explains the hike in commodity prices.

On the whole, the increase in consumer price was significant in 2007. Prices were up by about 3.5% in OECD countries in the course of 2007. With energy product excluded, prices recorded an increase of about 2%.

Inflation in the Euro zone stood at 2.1% in 2007 against 2.2% in 2006. The increase in prices is largely attributable to the rise in crude oil prices.

In the USA, inflation measured by the consumer price index recorded a marginal decline in 2007 and stood at 2.8% against 3.2% in 2006.

Table 1.1: Inflationary trends in major industrialized countries in %

	2003	2004	2005	2006	2007
USA	2.3	2.7	3.4	3.2	2.8
Japan	-0.3	-	-0.6	0.3	0.0
Euro zone				2.2%	2.1%
UK	1.4	1.3	2.0	2.3	2.1

Source: FMI

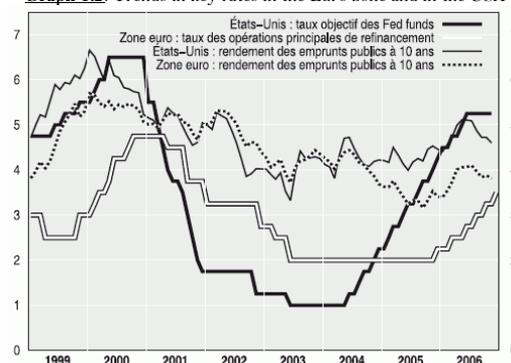
In spite of the risks of worsening pressures on prices due to the escalation of crude oil and commodity prices in general, monetary policy decisions were sometimes dictated by the desire to stem the risks of economic recession.

Thus, the US Federal Reserve was more concerned about a possible recession rather than rising inflation especially in the second quarter of 2007. While key rates were maintained at 5.25% in the first half of the year, the Federal Reserve reduced significantly its intervention rate specifically from September 2007. On September 18, 2007, the Federal Reserve decided a 50 points cut in its key rates. This decision which came after four years of restrictive monetary policy was followed in subsequent months by further cuts. At the end of the year, the US key rate was 4.25%.

In the euro zone, the ECB raised twice by 25 percentage points its key rate which settled at 4% at the end of 2007. The Central Bank indicated that it could have raised the rate further but for the slow down in growth and the significant appreciation of the euro. In fact, the European Central Bank was of the view that inflation in the zone hovered around the upper limit of inflation target it has set for itself.

On its part, the Bank of Japan ended in March 2006, its quantitative relaxation policy put in place as far back as 2001. As a result, the key rate was set at 0.25% against 0% previously. In 2007, this rate was raised to 0.5%.

Graph 1.2: Trends in key rates in the Euro zone and in the USA



Source : Bank of France

2- Trends in exchange rates of major hard currencies

Trends in the major hard currencies on the international market in 2007 were marked by a significant appreciation of the euro and a continuous depreciation of the dollar.

In 2007, the euro appreciated against the three major international currencies. This appreciation was particularly pronounced against the dollar.

As at 31st December 2007, one euro was exchanged for 1.47 dollars, which is 11.8% above the level at the beginning of the year. The appreciation of the euro is due to more promising economic prospects in the zone as well as a favourable turnaround in interest rate

differentials. Besides, a persistently high level of current deficit contributed to the weakening of the dollar.

The euro also appreciated against the Japanese yen. At end of December 2007, the value of one euro was 164.93 yen, representing a 5.1% appreciation compared to the previous year. Low interest rates in Japan coupled with the

low patronage of carry-trade operations explains the appreciation of the euro against the Japanese currency.

Table 1.2: Trends in the exchange rate of the euro

	2002		2005		2007	
	Fin Pde	Moy	Fin Pde	Moyen.	Fin Pde	Moy.
USD	1,0487	0,9449	1,1797	1,2556	1,4721	1,3706
YJP	124,39	118,0646	138,9	146,02	164,93	161,2406
GDP	0,6505	0,6288	0,6853	0,6817	0,7334	0,6846

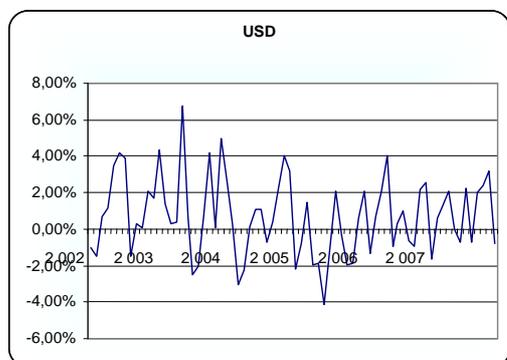
Source: Banque de France

In 2007, the Euro witnessed a net reversal in trends against the British Pound. In fact, the European currency appreciated by 9.2% against the British Pound after a decline of 2% in 2006. The weakening of the Pound is mainly linked with projections by operators on the deterioration of economic and financial prospects in the United Kingdom.

With regard to average monthly fluctuations, the dollar appeared to be more stable in 2007. Indeed, trends in

the US dollar were contained within the +/-2% band in the course of 2007.

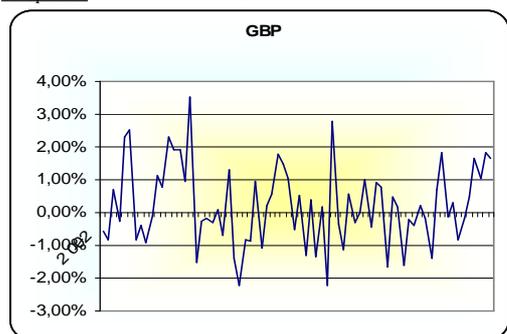
Graph 1.3: T Trends in the Euro in relation to USD



Source: Banque de France

Monthly fluctuations of the Pound Sterling in 2007 were also within the same band as shown in the graphs below.

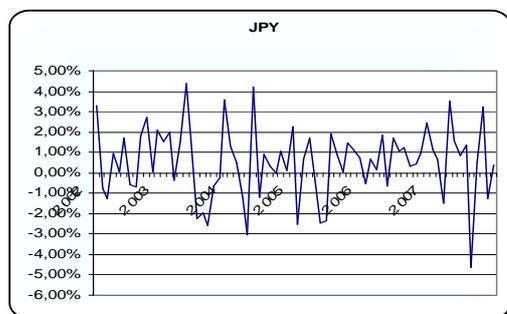
Graph 1.4: T Trends in the Euro in relation to GDP



Source: Banque de France

However, monthly variations in exchange value of the Japanese Yen were more pronounced in 2007.

Graph 1.5: T Trends in the Euro in relation to JPY



Source: Banque de France

In addition to its depreciation against the euro, the US dollar depreciated also against the British Pound. With regard to the Yen, it continued to depreciate in 2007 as a result of low interest rates in Japan.

The West African Unit of Account (WAUA), which has a **fixed parity** with the Special Drawing Right (SDR), recorded the following trends against the major international hard currencies:

Table 1.3 Trends in the WAUA in relation to major hard currencies

	End Dec. 2006	End Dec. 2007	Variation
US D	1,5044	1,580250	+5,04%
Euro	1,1423	1,073460	-6,03%
Pound sterling	0,7664	0,788780	2,92%
Yen	178,95	179,95	+0,56%

Source: IMF/WAMA

In terms of annual average, the WAUA appreciated by 5.04%, 2.92%, and 0.56% respectively against the USD, British Pound and Japanese Yen. However, the ECOWAS unit of account lost 6.03% against the euro.

Trends in the monthly average rates of the SDR are presented in Table 1.4/ The ECOWAS Unit of Account appeared to have recorded important phases of depreciation in 2007, especially against the euro and British Pound. The most significant depreciations against the euro occurred in the second and fourth quarter. As regard the British Pound, it appreciated slightly against the WAUA on the average during the first three quarters of 2007.

On the other hand, the dollar continued to depreciate against the WAUA. The most significant depreciation was recorded in the fourth quarter.

In all, trends observed on the international exchange market reflect projections made by analysts on economic prospects in various regions of the world.

Thus, the pound benefited from Bank of England's monetary policy which was considered as more **suited to** for the international economic situation.

On the other hand, the Yen was affected by low interest rates in Japan and less promising economic prospects.

Concerning the **green note**, it weakened as a result of US economic prospects which analyst still consider as unstable even though US interest rates remained above those of the euro zone.

Table 1.4: Trends in major international currencies in relation to SDR in 2007

Average monthly value in 2007	Euro		Dollar US		Pound sterling		Yen	
	VALUE	Variation in %	VALUE	Variation in %	VALUE	Variation in %	VALUE	Variation in %
Dec-06	1.1415		1.4929		0.7680		176.6371	
Jan.-07	1.1499341	0.74%	1.4947118	0.12%	0.7629029	-0.66%	180.06884	1.94%
Febr-07	1.1451405	-0.42%	1.4971385	0.16%	0.7650881	0.29%	180.36953	0.17%
March-07	1.1385095	-0.58%	1.5075595	0.70%	0.7742141	1.19%	176.78495	-1.99%
1st Quarter	1.1445	0.27%	1.4998	0.46%	0.7674	-0.08%	179.0744	1.38%
April-07	1.1251	-1.18%	1.5201105	0.83%	0.7641806	-1.30%	180.6751	2.20%
May-07	1.1229	-0.20%	1.5175352	-0.17%	0.7650439	0.11%	183.16071	1.38%
June-07	1.1263	0.31%	1.5113286	-0.41%	0.7611185	-0.51%	185.31586	1.18%
2nd Quarter	1.1248	-1.73%	1.5163	1.10%	0.7634	-0.52%	183.0506	2.22%
July-07	1.1148964	-1.01%	1.5291214	1.18%	0.7520576	-1.19%	185.8971	0.31%
August-07	1.1227683	0.71%	1.5294213	0.02%	0.7611445	1.21%	178.52443	-3.97%
Sept.-07	1.111004	-1.05%	1.5437175	0.93%	0.7655206	0.57%	177.49778	-0.58%
3rd Quarter	1.1162	-0.76%	1.5341	1.17%	0.7596	-0.51%	180.6398	-1.32%
Oct.-07	1.0953739	-1.41%	1.5584004	0.95%	0.7627093	-0.37%	180.40841	1.64%
Nov-07	1.0805814	-1.35%	1.5866026	1.81%	0.7657163	0.39%	176.36448	-2.24%
Dec.-07	1.0814247	0.08%	1.5751855	-0.72%	0.7795066	1.80%	176.92732	0.32%
4th Quarter	1.0858	-2.73%	1.5734	2.56%	0.7693	1.28%	177.9001	-1.52%

Source : IMF

3- Macroeconomic trends within ECOWAS

Before addressing fluctuations in exchange rates of ECOWAS currencies, it is worthwhile to provide an overview of the macroeconomic environment in the region. In fact, while the international environment has an impact on national exchange rates, trends in macroeconomic indicators also influence variations in interest rates.

An analysis of the macroeconomic environment will focus on economic activity, trade, external payments, prices and major decisions on monetary policy and trends in exchange reserves.

a- Trends in economic activity and trade

In 2007, ECOWAS recorded a growth rate of 5.5% against 4.9% in 2006. This renewed growth in the West African region stems from economic performance in some WAMZ countries (Nigeria and Ghana) and UEMOA countries (Senegal and Burkina Faso). Within the WAMZ area, both Nigeria and Ghana recorded a growth rate of 6.5%. Nigeria's performance is on account of the buoyancy in the petroleum sector which has benefit from the upsurge in prices of the product. Furthermore, the growth was fuelled by the vibrancy in the construction and public works sector, particularly in Ghana as a result of infrastructure development linked to the hosting of CAN 2008.

Within UEMOA, Burkina Faso and Senegal were the most vibrant economies. On the whole, the improved growth within UEMOA is attributed largely to a good performance in extractive industries and the dynamism

in the construction and public works as well as services sectors, especially telecommunication.

Regarding external trade, the current transactions balance recorded a surplus of 14.3% of GDP in 2007 against 10.9% in 2006. This improvement is due to the surplus gained by Nigeria (+24.4% of GDP) which benefited from the escalation of oil prices. UEMOA countries also recorded an improvement in the deficit balance.

b- Public finances and debt

In the area of public finances, the year 2007 was marked by a slight reduction in the ECOWAS budget deficit. In fact, the overall deficit excluding grants stood at 1.2% of GDP in 2007 against 2.2% in 2006. This performance is to a large extent linked with the surplus recorded in Nigeria. This budgetary performance in Nigeria is in contrast **with** budget difficulties encountered in some countries especially within the UEMOA zone.

In fact, the public finance situation in this region was marked by deterioration in budget balances as a result of higher growth in expenditures than in revenues.

In terms of external debt, the implementation of the Multilateral Debt Relief Initiative in Benin, Burkina Faso, Ghana, Niger, Mali and Senegal helped reduce the pressure on public finances for external debt servicing in these countries. This is not yet the case in WAMZ countries, especially Guinea.

c.- Trends in prices and monetary policy

In 2007, end of period inflation stood at 5.4% against 7.4% in 2006 for the entire ECOWAS region. Year-on-year inflation settled on the average at 5.4% against 7.4% in 2006 for the whole ECOWAS region. This drop in inflation despite an international environment marked by a significant hike in crude oil prices was made possible thanks to certain countries' decision to reduce some import taxes and provide subsidies for some companies operating in strategic sectors such as electricity. Besides, the drop in the price of certain services compensated for the increase in food prices.

In view of inflationary pressures, resulting from skyrocketing oil prices, various Central Banks in the region have pursued a restrictive monetary policy. Indeed, money supply in most countries grew in the same proportion as nominal GDP as indicated in the table below.

Table 1.5: Trends in money supply ratio M2 in % of GDP

	2002	2003	2004	2005	2006	2007
UEMOA	28.8	26.2	26.5	26.4	27.6	19
Cape Verde	69.9	69.7	75.0	79.5	76.9	110.0
Gambia	43.5	45.9	43.8	46.5	54.1	52.6
Ghana	31.2	31.9	33.4	31.4	37.7	41.9
Guinea	16.0	17.0	19.0	18.0	19.9	19.8
Liberia	8.9	11.5	18.8	21.1	23.8	27.0
Nigeria	18.0	20.0	19.8	18.0	19.9	21.0
Sierra Leone	13.7	13.7	14.3	16.7	18.1	20.8

Source Central Bank/IMF/ADB

The **rigorous** monetary policy within the ECOWAS space in 2007 reflected in an upward movement in interest rates. Thus, the rate return on treasury bills at BECEAO and Bank of Nigeria increased

marginally. However, returns on savings remained stable.

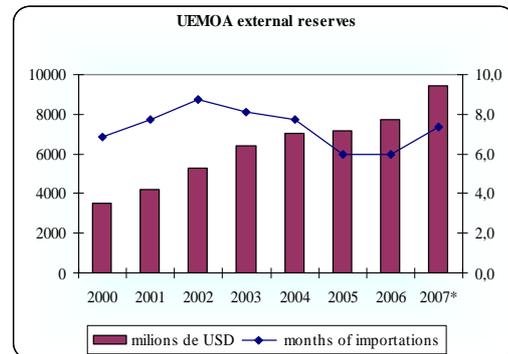
d.- Exchange reserve

The capacity of central banks to intervene on the exchange market to support currencies that they issue is based on the volume of reserves at their disposal.

In the two major zones (UEMOA WAMZ), there was a trend towards the accumulation of reserves.

Thus, BCEAO's exchange reserves have more than double between 2000 and 2007.

Graph1.6 UEMOA Reserves



Source Central Bank/IMF/WAMA

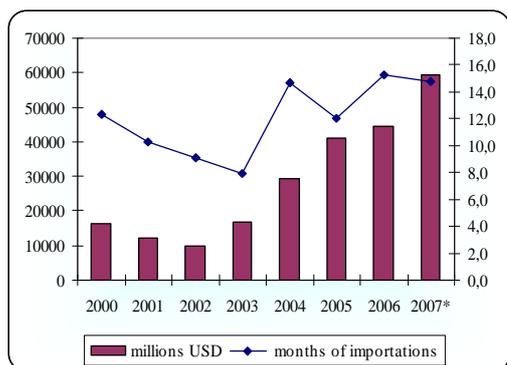
The growth in volume of BCEAO's reserves stems from the performance in the external sector of countries in the region. The region also benefited from the effects debt cancellations enjoyed by most countries in the region.

However, in terms of months of import, the regional average did not change significantly.

On the whole, there were substantial differences among UEMOA countries in terms of exchange reserves.

In all, reserves accumulated by WAMZ exploded over the period 2000 -2007. In fact, they stood at over \$50 billion in 2007 against less than \$20 billion in 2000.

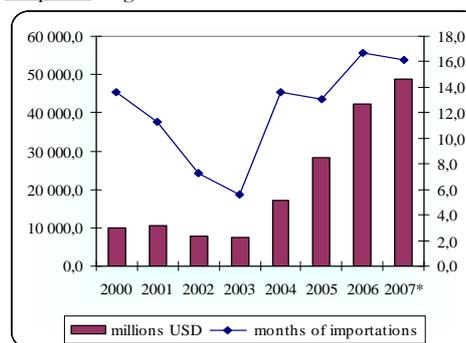
Graph 1.7: WAMZ Reserves



Source Central Bank/IMF/WAMA

This improvement is mainly on account of Nigeria which benefited from the upsurge in petroleum prices as indicated in the graph below.

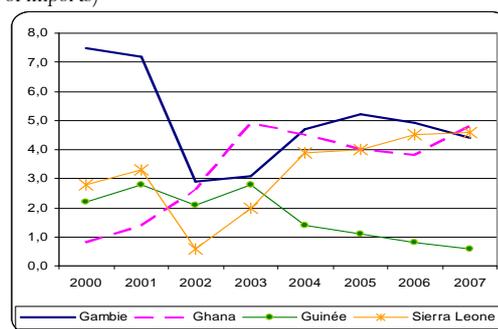
Graph 1.8: Nigeria's Reserves



Source Central Bank/IMF/WAMA

Other WAMZ countries did not show any significant performance in terms of the accumulation of external assets. Countries like Guinea recorded significant decline in official exchange reserves.

Graph 1.9: Reserves of other WAMZ countries (in months of imports)



Source Central Bank/IMF/WAMA

4- Trends in the exchange rate of ECOWAS currencies

The analysis of trends in the exchange rate of ECOWAS currencies in 2007 will be based on fluctuations in these currencies in relation to the WAUA and the performance of other currencies against the CFA franc which remains one of the main hard currency in the region. To ensure a better appreciation of trends, the study will cover the period 2001 - 2007 and address trends on parallel markets.

a- Trends in relation to WAUA

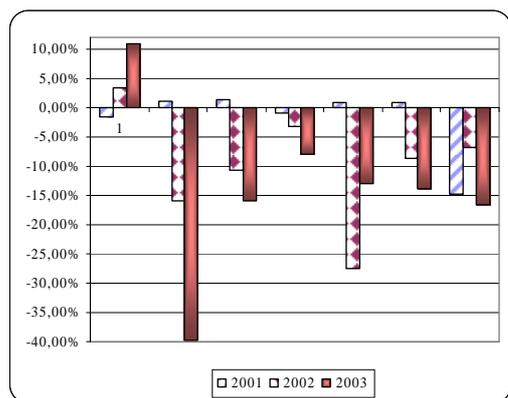
Over the period 2001 – 2007, the range of fluctuations in ECOWAS Member States currencies against the WAUA varied from one monetary zone to the other. However, as the graph below indicates, most of the currencies depreciated with the exception of those that have a fixed parity with the euro (CFAF and ESCUDO).

Between 2001 -2003, the Gambian Dalasi and Liberian Dollar were the currencies that recorded the highest depreciation followed by the Sierra

Leonean currency as depicted in the graph above.

After de depreciating in 2001, the CFAF began to appreciate starting from 2002.

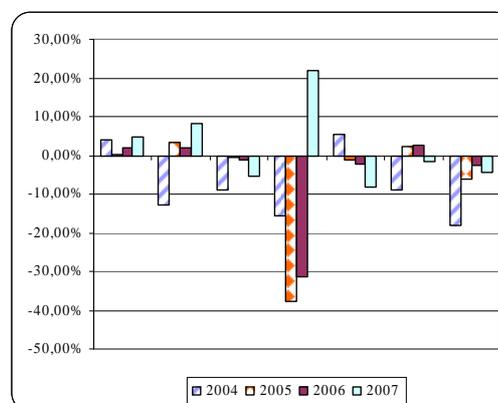
Graph 1.10: Trends in ECOWAS currencies in relation to the WAUA. (Annual variation in %)



Source Central Bank/IMF/WAMA

During the subsequent four years, the Guinean franc experienced significant downward and upward fluctuations. The Guinean currency recorded downward fluctuations of nearly 40% (2005) and upward fluctuations of over 20% (2007). After significant depreciation in 2004, the other currencies remained relatively stable against the WAUA. The CFAF and Escudo continued to appreciate by lower proportions.

Graph 1.11: Trends in ECOWAS currencies in relation to the WAUA. (Annual variation in %)



Source Central Bank/IMF/WAMA

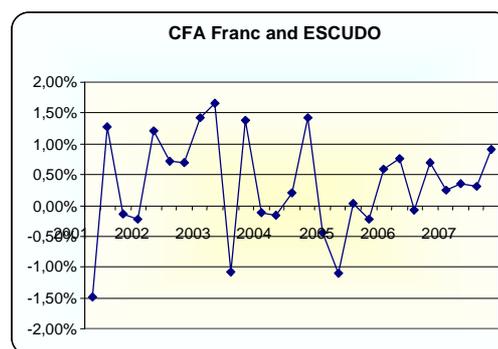
b- Quarterly analysis

Quarterly trends will be analyzed on the basis of the **anchor zone** of ECOWAS currencies.

i- Currencies pegged to the Euro

The appreciation of the Euro on the international market in general reflected in trends in the CFAF and Escudo which have a fixed parity with the European hard currency.²

Graph 1.12: Trends in the CFAF and Escudo (Quarterly variations in %)



Source Central Bank/IMF/WAMA

² 1 Euro = 655,9570 CFAF and 110,27 Esc

The above graph also show that quarterly fluctuations in these two currencies fall within the band $\pm 1,5\%$.

With regard to annual trends, the CFAF and Escudo appreciated on a regular basis against the WAUA. The most significant appreciation was recorded in 2003 with about 10% loss in value in the WAUA against these two currencies. .

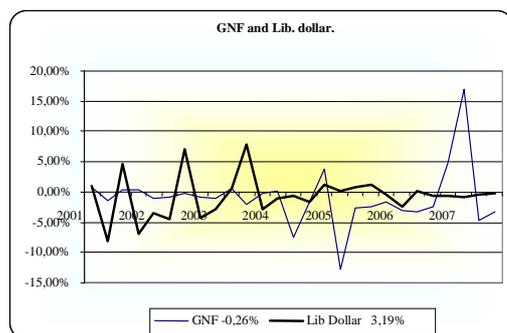
ii- Currencies pegged to the US Dollar

In the analysis of currencies pegged to the US dollar, it is worthwhile to make a distinction between currencies with high fluctuations (GNF and Liberian Dollar) and those that are relatively stable (Cedi, Naira and Leone).

- Guinean Franc and Liberian Dollar

Quarterly trends in the exchange rate of the Guinean franc and Liberian dollar were marked by **serious** fluctuations. However, the Guinean franc was on the downward trend while the Liberian dollar was alternating between appreciations and depreciations.

Graph 1.13: Quarterly trends of the GNF and Liberian dollar (Quarterly variations in %)



Source Central Bank/IMF/WAMA

The Guinean currency depreciated considerably in the second quarter of 2005 following the adoption an exchange system based on pure flotation. In the

same vein, the Guinean currency recorded a significant appreciation during the same period in 2007 due to the hope raised by the establishment of a government which has the ambition to **redress** the economic situation.

On the whole, the Guinean currency was adversely affected by a serious degradation in the macroeconomic framework since 2000. During the period

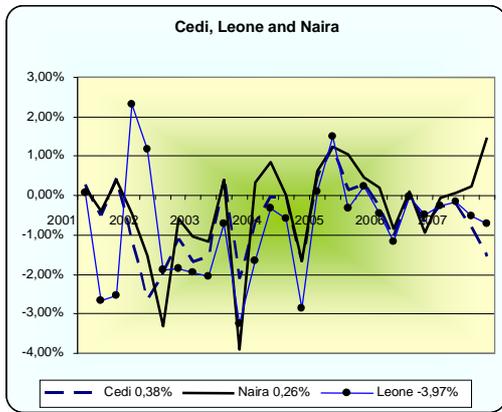
2000 -2006, the macroeconomic situation in the country was marked by a deterioration in public finances and dwindling external support. This meant an abusive recourse to the banking system to finance budget deficits. Besides, the country suffered from the debt burden as it did not benefit from any debt reliefs due to poor performance under various programmes concluded with the IMF. Outstanding debt accounted on the average for 100% of GDP over the period covered while debt servicing absorbed over 20% of export earnings.

The significant appreciation of the Liberian dollar over the period 2001 – 2004 can be attributed to the stability restored after years of war and also to expenditures in hard currency by the UN mission. The flow of external funding helped in ensuring a near stability in the exchange rate since 2005.

- Cedi, Naira and Leone

Quarterly fluctuations in currencies of Ghana, Nigeria and Sierra were insignificant. On the whole these currencies fluctuated within the band $\pm 3\%$ as shown in the graph below.

Graph 1.14: Quarterly trends (annual variations)



Source Central Bank/IMF/WAMA

The relative stability of the naira is explained by the appreciable rise in crude oil prices in recent years. This contributed to an improvement in the country’s macroeconomic situation, particularly budget indicators. Monetary authorities have adequate reserves at their disposal to support the value of the currency.

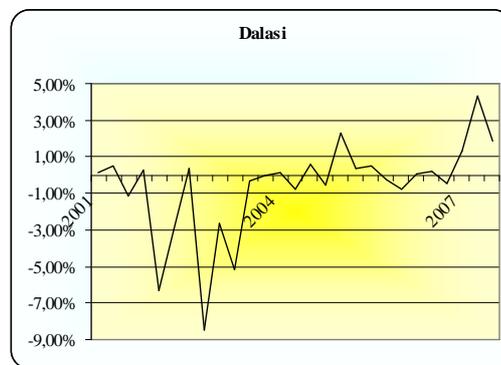
In Ghana, the implementation of structural adjustment policies enabled the country to benefit from debt relief initiatives. Thus, the debt/GDP ratio dropped from 22.3% in 2000 to 2.4% in 2006. Debt servicing accounted for only 5.6% of tax revenues against 22% in 2000. This led to substantial foreign exchange savings and improved macroeconomic stability in the country. This also had a positive effect on the cedi exchange rate.

With regard to the stability of the Leone, is partly due to grants from international community to the country. Sierra Leone received on the average current transfers to the tune of \$150 million dollars over the period 2000 - 2006. These substantial budget supports contributed to an improvement in budget and monetary indicators.

iii Currencies pegged to the Pound Sterling (Dalasi)

Two important phases stands out in the trends observed in the Gambian currency between 2001 and 2007. The first phase which covers the period 2001 to 2003 was marked by a **downward** trend. The second phase (2004 -2006) witnessed a relatively steady appreciation especially in 2007.

Graph1.15: Quarterly trends in the Dalasi



Source Central Bank/IMF/WAMA

The Gambian Dalasi benefited from the liberalisation of the country’s capital account which paved the way for substantial capital inflows. Besides, the country has been subjected in recent years to the rigours of a programme concluded with the IMF. This has had a positive impact on macroeconomic indicators.

c- Bilateral exchange rates

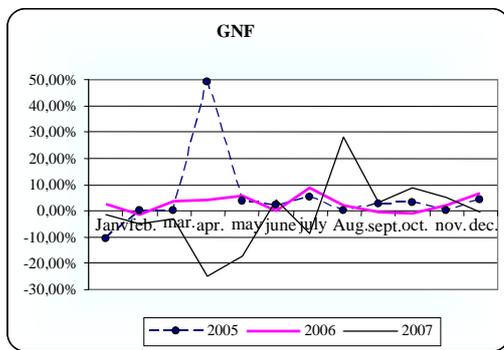
The trends in exchange rate of one currency in relation to the other is analysed through trends in other currencies against the CFA franc.

Generally, the value of the region’s currencies against the CFA Franc reflects trends in nominal exchange rates. To better assess fluctuations a

monthly analysis is preferable at this point.

The analysis shows that besides significant variations in the Guinean franc in 2005 and 2007, monthly fluctuations of the zone's currencies remained within the interval +/- 5%.

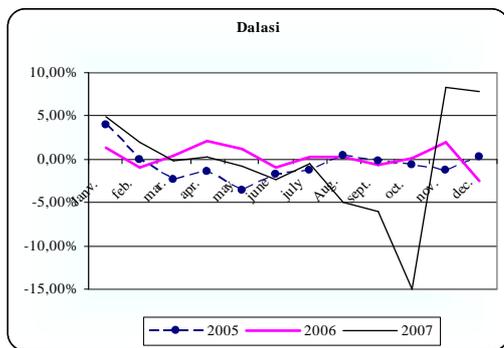
Graph 1.16: Trends in the CFAF in relation to the GNF (monthly variations)



Source Central Bank/IMF/WAMA

Aside the Guinean franc, the Gambian Dalasi recorded the highest variations in relation the CFA franc. The Gambian currency witnessed in 2007 a significant appreciation against the CFAF.

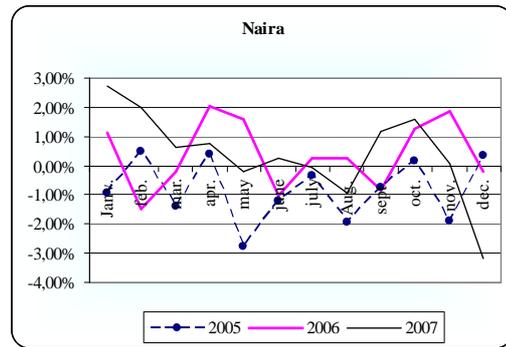
Graph 1.17: Trends in the CFAF in relation to the Dalasi (monthly variations)



Source Central Bank/IMF/WAMA

ECOWAS currencies were relatively stable compared to the CFAF. This stability was very outstanding especially for the Naira. Thus, monthly fluctuation margins for the Naira and cedi in relation to the CFA franc were within the bracket +/- 3% as shown in the graph below.

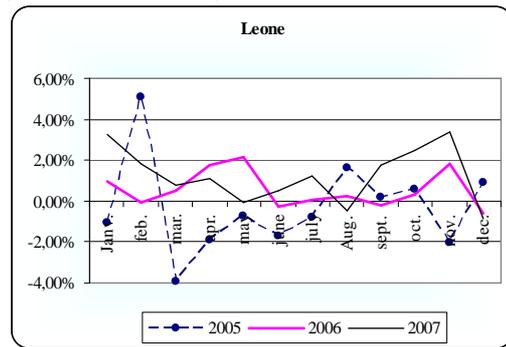
Graph 1.18: Trends in the CFA franc in relation to the Naira (monthly variations in %)



Source Central Bank/IMF/WAMA

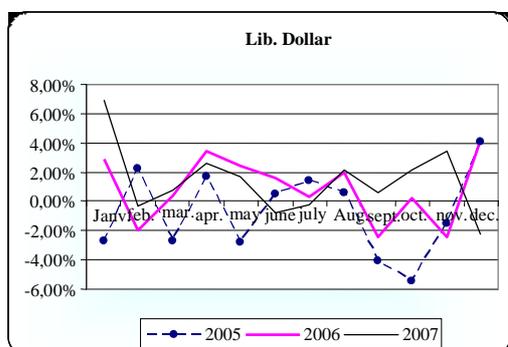
It is worth noting that, generally, the CFA followed an appreciation trend. However, in certain months, other currencies firmed against the UEMOA currency. This was the case of the Naira, Cedi and Dalasi.

Graph 1.19: Trends in the CFAF in relation to the Leone (monthly variations in %)



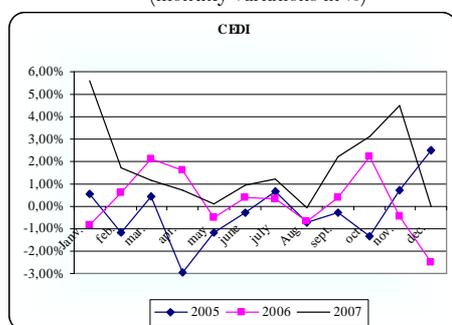
Source Central Bank/IMF/WAMA

Graph 1.20: Trends in the CFA franc in relation to the cedi (monthly variation in %)



Source Central Bank/IMF/WAMA

Graph 1.21: Trends in the CFA franc in relation to the Cedi (monthly variations in %)



Source Central Bank/IMF/WAMA

d -Trends in exchange rates on parallel markets

In view of various restrictions on access to the official exchange market, a parallel exchange market has evolved in all countries of the region. The low banking coverage and sometimes the slow pace of banking transactions combined with the high demand by those engaged in international trade contributed to the development of this market. In some countries, it is the desire of authorities to maintain the stability of their currency through a simple political **decision** which dictates trends in foreign exchange supply on the parallel market.

In all cases, the exchange differential (below par rating) is an indicator which helps in assessing the level of the official rate based on market principles. In fact, when the official exchange rate is determined in accordance with demand and supply, the exchange differential is very low.

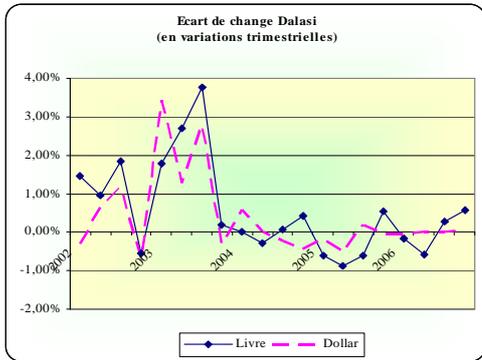
Beyond this, a significant gap between the prevailing rate on the two markets lead to distortions in the economy. In fact, it will be difficult for operators who secure their funds from the parallel market to compete with those who obtain foreign exchange at the official rate and therefore benefit from a disguised subvention.

An analysis of trends in the exchange differentials of ECOWAS currencies is done using movements in the rate of WAMZ currencies. In fact, all countries in the zone operate a floating exchange system. Furthermore, though there is a very dynamic parallel exchange market for the CFAF, the rates observed were very close to the official rates.

The margins of moneychanger are generally very modest.

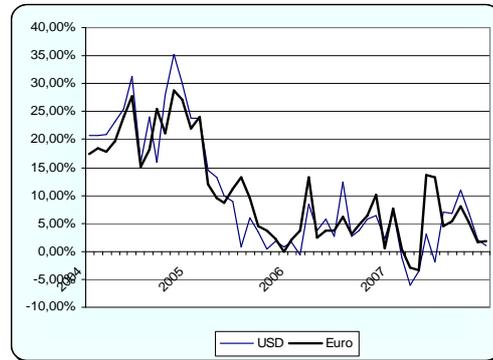
A review of trends in exchange differentials show that the Gambian Dalasi recorded the most moderate fluctuations. In terms of quarterly variations, the exchange differential between the parallel and official market ranged between -1% and +4%.

Graph 1.22: Trends in exchange differentials of the Dalasi (quarterly differentials in %)



Source: Central Bank/IMF/WAMA

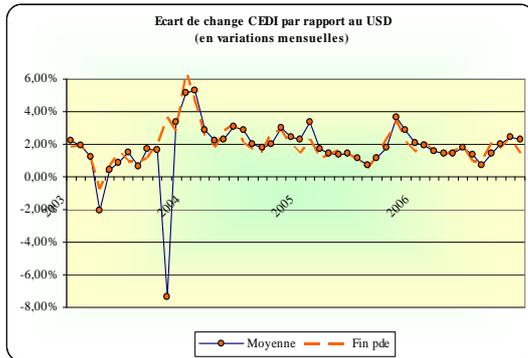
Graph 1.24: Trends in the exchange differential of the GNF (quarterly differentials in %)



Source: Central Banks/WAMA

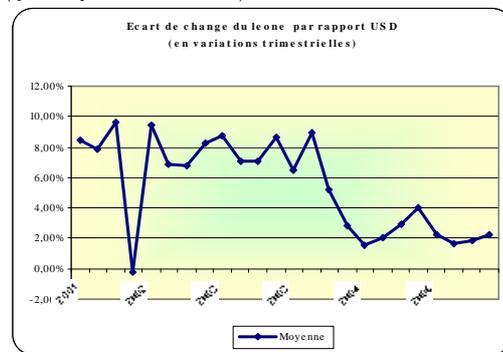
With regard to the cedi, the difference between rates on the official and parallel market remained between the brackets +/-8%. Fluctuations in the exchange differentials were in the same proportions.

Graph 1.23: Trends in exchange differentials of the cedi (quarterly differentials in %)



Source: Central Banks/WAMA

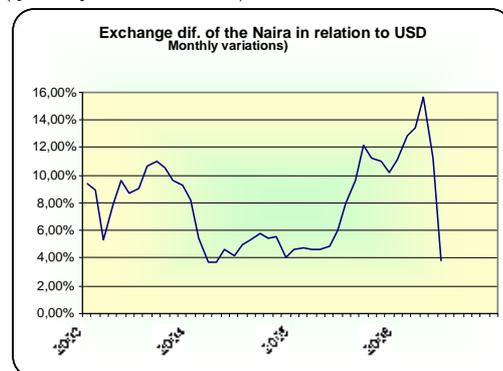
Graph 1.25: Trends in exchange differentials of the Leone (quarterly differentials in %)



Source: Central Banks/WAMA

On its part, the Naira witnessed significant differences in value in 2006. This could be attributed to increased smuggling of fuel to neighbouring countries

Graph 1.26: Trends in exchange differentials of the Naira (quarterly differentials in %)



Source: Central Banks/WAMA

As regards, the Guinean Franc, it record significant differences prior to the adoption in March 2005 of a pure floating principle in determining the official exchange rate. Thus, it happened that the parallel market rate was 35% above that of the rate prevailing on the official market.

II Study on volatility of exchange rates and analysis of competitiveness

After analyzing exchange rate fluctuations, it is necessary to examine the impact of exchange rate movements on the competitiveness of countries in

the region. Before then, it is useful to have a more accurate idea about the degree of volatility of currencies in circulation within ECOWAS.

1- Analysis of volatility

On the basis of trends in monthly exchange rates in relation to WAUA, a few descriptive statistics have been calculated to analyse volatility over the period 2004-2007. The table below provides data for the year 2007. For the other years, information is provided in the appendix.

On the whole, the variability of exchange rates was very low. Currencies that fluctuated the most were the Guinea Franc and the Liberian Dollar and, to a lesser extent, the Gambian Dalasi and the Leone.

Whilst a monthly fluctuation of 2% is deemed acceptable, only the Guinea Franc went beyond this over the period. The Guinea currency fluctuated by 1.5% on the average in 2004, 3.5% in 2005, 2.7% in 2006 and 3.5% in 2007. Likewise, the Guinea Franc and the Liberian Dollar were the two currencies that recorded a standard deviation from the monthly variations higher than 2%. The Gambian Dalasi recorded a standard deviation of nearly 7% in 2007.

Going by the Kurtosis ratio, the Guinea Franc is still one of the currencies that have the highest variability deviations. The ratio was always greater than 3 before 2006. In 2006 and, to a lesser extent, in 2007, fluctuations were moderate.

Apart from the Guinea Franc, statistics on the Kurtosis show that the Gambian Dalasi recorded the highest fluctuations, particularly in 2005 and 2007.

For the other currencies, the ratio of the Kurtosis is generally lower than 3. This results in fewer movements.

Besides, the Skewness was generally negative, particularly during the 2004-2006 period. This resulted in an asymmetry on the left side of trends.

The currencies concerned, i.e. the Leone, the Guinea Franc, the Cedi and, to a lesser extent, the F CFA and the Escudo were more sensitive to negative shocks than to positive shocks. In other words, a change in the indicators whose impact can cause these currencies to depreciate led quickly to a reaction in the exchange rate. On the contrary, an economic policy measure that strengthens these currencies would not produce its effects immediately.

This was not the case for currencies which have a positive asymmetry, like the Gambian Dalasi, the Liberian Dollar and, to a lesser extent, the Naira. The exchange rate of these currencies would tend to react more quickly to shocks on the economy, which lead to increase in value. On the other hand, the rate of exchange reacts less to measures and

trends of indicators which are deemed to lead to depreciation.

Focusing on 2007, it seems that the Guinea Franc appreciated the most, followed by the Gambian Dalasi. The fluctuation rates were higher in the case of these two currencies. But in terms of variability, only the Gambian Dalasi recorded a Kurtosis statistic above 3.

In terms of how they react to changes in indicators, the Gambian Dalasi, the

Naira and, to a lesser extent, the Guinea Franc and the Leone were more sensitive to political and economic measures that aim to guarantee an appreciation in value in 2007.

In sum, it can be said that, with the exception of the Guinea Franc and, to a lesser extent, the Liberian Dollar and the Gambian Dalasi, the variability of currencies within ECOWAS was low over the period 2001-2007.

Table 3.1: Some indices of exchange rate variability in 2007

2007	Average	Standard dev	Median	Kurtosis	Min	Max	Skewness
CFA.Franc	0.45%	0.75%	0.56%	-0.96	-0.73%	1.47%	-0.30
Escudo	0.46%	0.94%	0.64%	0.07	-1.51%	1.50%	-0.80
Dalasi	1.77%	6.87%	0.92%	3.56	-7.38%	19.31%	1.43
Cedi	-0.71%	0.96%	-0.71%	1.83	-2.90%	0.71%	-0.69
GNF	3.45%	14.07%	1.78%	1.38	-22.57%	32.95%	0.49
Liberian Dollar	-0.53%	1.74%	-0.51%	-1.33	-2.99%	2.12%	-0.10
Naira	0.43%	1.11%	0.08%	2.10	-0.97%	311%	1.23
Leone	-0.41%	0.79%	-0.44%	-0.11	-1.85%	0.92%	0.13

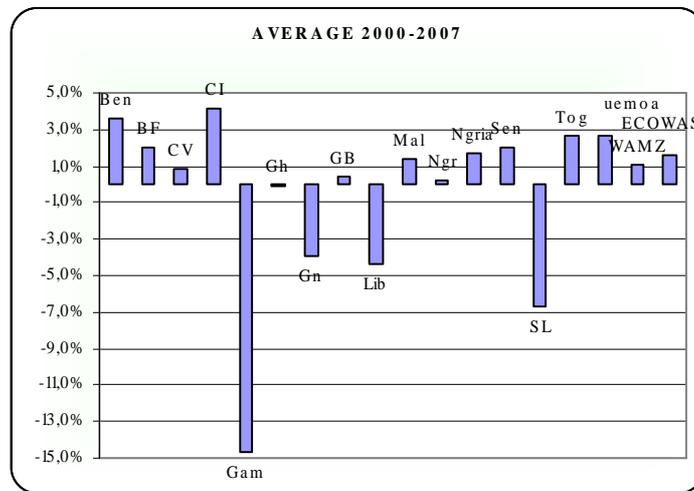
Source: Central Banks/WAMA

2- Trends in Competitiveness in ECOWAS countries

It is important to examine the impact of changes in nominal exchange rates on the competitiveness of countries of the region. This will be analyzed through trends in the real effective exchange rate (REER). On the basis of available information, the graph below provides

the annual average of variations in the index of the REER over the period 2001-2007.

Graph 3.1: Variation in the index of the REER from 2000-2007 (annual average in %)

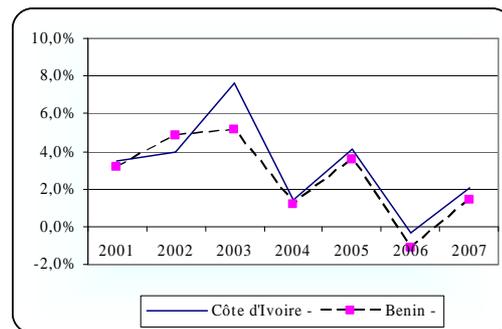


Source: IMF/ADB/AFD/WAMA

It seems that on the average, swings in the REER index are moderate for all countries, except The Gambia in particular.

On the whole, UEMOA countries recorded an annual increase of about 3% in their REER. This situation which corresponds to a loss of competitiveness is linked to the continuous appreciation of the Euro against the US Dollar. This increase in value contributed to the rise in prices of products of the zone which become less competitive, thus affecting economic performance in the region. All the countries were affected by this situation, but Côte d'Ivoire and Benin bore the brunt more than the others. However, increase in value of the REERs in the region is very low, compared to those observed on the eve of the devaluation of the F CFA in 1994.

Graph 3.2: Change in the index of the REER of Côte d'Ivoire and Benin (annual variations in %)



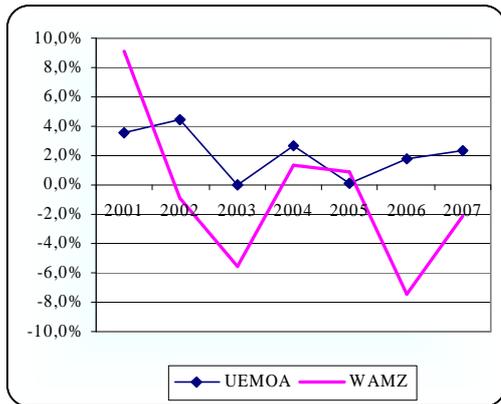
Source: Central Banks/WAMA

The graph below shows that increase in the value of the REER was higher in 2003. For the rest, these were below 5%.

Although trend in the appreciation of the Euro is disadvantageous to exports of the UEMOA zone, it must be said that it ensures price stability in the region. The region's rate of inflation is about 3%, a remarkable performance compared to other countries of the region where there is double-digit inflation. Indeed, the rise in value has lessened the effects of oil price increases that hit other countries hard.

Compared to UEMOA, the REER index of WAMZ changed in a more favourable manner during the period under review.

Graph 3.3: Changes in the index of REER of UEMOA and WAMZ (annual movements in %)

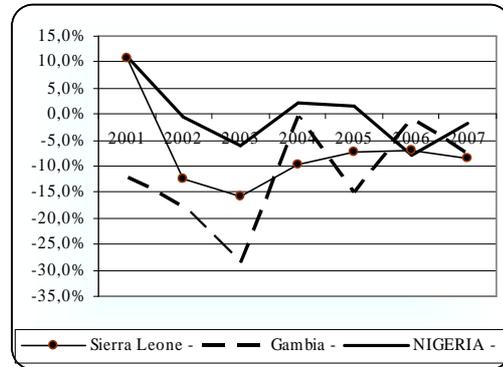


Source: Central Banks/WAMA

Apart from a sharp increase in value in 2001, the REER index depreciated regularly over the period. This resulted in gains in competitiveness for the region.

Nigeria is the only WAMZ country that recorded increases in value after 2001. This trend was due to the relative stability of the Naira exchange rate within a context of a depreciating Dollar on the international market. The Gambia and, to a lesser extent, Sierra Leone also recorded considerable movements in their REER. However, there is a downward trend in these countries.

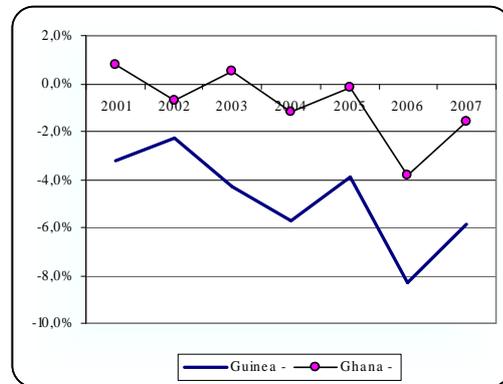
Graph 3.4: Changes in the index of REER in the Gambia, Nigeria and Sierra Leone (annual movements in %)



Source: Central Banks/WAMA

For other countries, nominal depreciation has made a positive change in the REER index and, for that matter, their competitiveness. Ghana and Guinea fall within this trend, with however, more moderate movements.

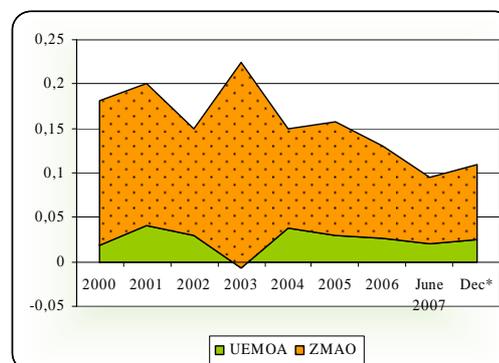
Graph 3.5: Changes in the index of REER in Guinea and Ghana (annual movements in %)



Source: Central Banks/WAMA

However, in view of the structure of the external sector, development in exports does not always follow this trend. Indeed, the rigid nature of supply does not always help countries to derive some benefits from a favourable change the indices of competitiveness. On the other hand, a high nominal depreciation is a source of tension on domestic prices. It can therefore be seen that inflation in WAMZ countries is higher than that of UEMOA, as shown in the graph below.

Graph 3.6: Inflationary changes in annual shift within UEMOA and WAMZ



Source: Central Banks/WAMA

3- Economic policy implications

Theories of equilibrium exchange rates developed particularly since the second half of the 1980s link trends in exchange rates to those of macro-economic fundamentals.

In the 1990s, many models were developed on the basis of FEER³ (Fundamental Equilibrium Exchange Rate) or BEER⁴. (Behavioral Equilibrium Exchange Rate). Certain studies carried out in this area concern ECOWAS countries.

It appears that, in the long term, the exchange rate fundamentals of ECOWAS countries depend on terms of trade, economic openness, capital flow, public investment, imported inflation, foreign interest rate, country risk, public deficit, external debt and level of current account.

In sum, these empirical studies support the idea that changes in exchange rates

are often dictated by trends in macro-economic fundamentals.

Recommendations made here are in line with these.

For greater exchange rate stability, States are called upon to intensify policies being implemented as part of strengthening macroeconomic fundamentals.

To ensure better exchange rate stability, States need to implement the following recommendations:

- Pursue policies that ensure rapid economic growth, particularly by implementing the necessary reforms in some agricultural and mining sub sectors;
- Strengthen on-going dynamism in public finance reorganization;
- Pursue incentive policies to attract foreign direct investments;
- implement effective current deficits reduction policies by

³ Fundamental equilibrium exchange rate

⁴ Approach by determinants of the equilibrium exchange rate

particularly controlling trends in credit and absorption;

- strengthen transparency in exchange markets in a bid to unify official and parallel exchange rates;
- identify sources of exchange reserves accumulation for countries whose levels are still inadequate;
- institute effective monetary measures for inflation control;

- identify measures likely to increase competitiveness of the external sector for countries whose REER is not undergoing any favourable change;
- identify and implement effective external debt management strategies, particularly in countries that have a heavy debt burden should seek to benefit from the on-going relief packages.

CONCLUSION

This report reviewed changes in exchange rates of currencies of ECOWAS Member States over the period 2001-2007.

It can be seen from the foregoing that trends on the international exchange market have, on the whole, had repercussions on currencies of the region. Thus, the appreciation of the Euro helped to strengthen the value of the CFA franc, compared to the WAUA and other currencies of the region.

With regard to nominal changes, the Guinea Franc and the Liberian Dollar are the only currencies that have recorded quarterly movements of more than 5%. This was confirmed by the variability analysis. The statistics of dispersion are the highest for these two currencies.

Concerning changes in bilateral exchange rates, the study shows that currencies of the region have been more stable than previously, compared to the CFA franc since 2006.

Regarding the parallel market, the study shows that the gaps are reducing. Since 2005, the differentials have remained at less than 5%. However, Nigeria recorded a rise in exchange differential.

On trends in competitiveness, the study shows that countries of the F CFA zone have suffered from the regular appreciation in the value of the Euro.

This situation, which adversely affected the export sector, had a rather positive effect on price stability in UEMOA countries. Indeed, these countries suffered less than the others from oil price increases on the international market.

Besides, the study showed that a number of currencies of the region, like the Leone, the Guinea Franc and the Cedi, react more to negative shocks than to positive shocks. In the countries concerned, exchange rate stability would therefore be achieved by limiting shocks which tend to cause depreciation.

In sum, if we examine the possibility of creating the monetary union in the light of exchange rate stability, it seems that there is a cross section of countries that satisfy this condition.

On the whole, countries whose exchange rate is more stable are those that record the best macroeconomic performance.

This confirms the conviction established particularly since the emergence of the equilibrium exchange rate theory. Trends in exchange rate generally reflect the direction of macroeconomic fundamentals.

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STATISTICAL APPENDICES

A- I- Trends in currency exchange rates of ECOWAS compared to the WAUA

	2000	2001	2002	2003	2004	2005	2006	2007
CFA.Franc	918.4900	933.2298	902.5785	814.9474	782.0516	780.4683	766.7492	733.1762
Escudo	154.4030	156.8811	151.7291	137.0031	131.4672	131.2012	128.8947	123.7665
Dalasi	19.3970	19.1702	22.8085	37.8140	43.4118	42.0661	41.3397	38.1325
Cedi	9.1825	9.0714	1.0171	1.2097	1.3304	1.3376	1.3549	1.4312
GNF	2452.4000	2473.1462	2553.1967	2773.2702	3283.5696	5264.9642	7691.1348	6307.1173
Liberian Dollar	55.6994	55.1819	76.2019	87.4686	83.0828	84.2479	86.2743	94.0663
Naira	142.7340	141.4138	154.9078	180.0329	197.4242	193.0166	188.3483	191.4130
Leone	2171.5200	2547.4961	2736.5428	3280.9632	4001.9855	4258.9100	4372.9067	4570.0946

A-II: Trends in annual average exchange rate
(Movements in %)

	2001	2002	2003	2004	2005	2006	2007
CFA	-1.58%	3.40%	10.75%	4.21%	0.20%	1.79%	4.58%
DAL	1.18%	-15.95%	-39.68%	-12.89%	3.20%	1.76%	8.41%
CED	1.22%	-10.81%	-15.92%	-9.07%	-0.54%	-1.28%	-5.33%
GNF	-0.84%	-3.14%	-7.94%	-15.54%	-37.63%	-31.55%	21.94%
LIB D	0.94%	-27.58%	-12.88%	5.28%	-1.38%	-2.35%	-8.28%
NAI	0.93%	-8.71%	-13.96%	-8.81%	2.28%	2.48%	-1.60%
LEO	-14.76%	-6.91%	-16.59%	-18.02%	-6.03%	-2.61%	-4.31%

A-III: Trends of quarterly averages of currency rates of ECOWAS compared to the WAUA from 2001 to 2007 (monthly average base)

Currency	2001				2002			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
CFA.Franc	-0.07%	-1.49%	1.27%	-0.14%	-0.22%	1.21%	0.72%	0.69%
Escudo	-0.07%	-1.49%	1.27%	-0.14%	-0.22%	1.21%	0.72%	0.69%
Dalasi	0.30%	0.10%	0.54%	-1.17%	0.28%	-6.34%	-2.95%	0.36%
Cedi	0.38%	0.27%	-0.52%	0.41%	-1.13%	-2.65%	-1.95%	-1.11%
GNF	-0.26%	0.70%	-1.46%	0.43%	0.45%	-1.02%	-0.93%	-0.29%
Liberian Dollar	3.19%	0.90%	-8.13%	4.66%	-6.93%	-3.54%	-4.50%	7.04%
Naira	0.26%	0.19%	-0.38%	0.39%	-0.47%	-1.53%	-3.32%	-0.57%
Leone	-3.97%	0.08%	-2.68%	-2.53%	2.31%	1.16%	-1.87%	-1.86%
Currency	2003				2004			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4 ⁵
CFA.Franc	1.42%	1.66%	-1.08%	1.37%	-0.12%	-0.16%	0.21%	1.41%
Escudo	1.42%	1.66%	-1.09%	1.39%	-0.12%	-0.16%	0.21%	1.41%
Dalasi	-8.46%	-2.62%	-5.22%	-0.33%	0.00%	0.12%	-0.79%	0.60%
Cedi	-1.70%	-1.56%	0.49%	-2.11%	-0.68%	-0.04%	-0.03%	-1.67%
GNF	-0.94%	-1.06%	0.56%	-1.99%	-0.20%	0.16%	-7.53%	-1.65%
Liberian Dollar	-4.23%	-2.77%	0.56%	7.86%	-2.90%	-0.94%	-0.63%	-1.65%
Naira	-1.04%	-1.15%	0.38%	-3.90%	0.32%	0.87%	0.02%	-1.65%
Leone	-1.94%	-2.04%	-0.71%	-3.24%	-1.67%	-0.33%	-0.57%	-2.87%

Sources: WAMA, Central Banks of ECOWAS and IMF

	2005				2006				2007			
	TRIM1	TRIM2	TRIM3	TRIM4	TRIM1	TRIM2	TRIM3	TRIM4	TRIM1	TRIM2	TRIM3	TRIM4
CFA.Franc	-0.44%	-1.09%	0.03%	-0.22%	0.60%	0.76%	-0.07%	0.70%	0.25%	0.35%	0.31%	0.91%
Escudo	-0.44%	-0.09%	0.03%	-0.22%	0.60%	0.76%	-0.07%	0.70%	-0.02%	0.35%	0.58%	0.91%
Dalasi	-0.52%	2.28%	0.34%	0.53%	-0.28%	-0.76%	0.09%	0.18%	-0.49%	1.33%	4.36%	1.87%
Cedi	0.45%	1.24%	0.12%	0.31%	-0.29%	-1.06%	0.00%	-0.71%	-0.5%	-0.23%	-0.80%	-1.56%
GNF	3.87%	1.76%	-2.58%	-2.39%	-1.74%	-3.13%	-3.27%	-2.50%	4.93%	16.99%	-4.76%	-3.36%
Liberian Dollar	1.09%	0.22%	0.77%	1.14%	-0.40%	-2.42%	0.08%	-0.59%	-0.67%	-0.79%	-0.51%	-0.15%
Naira	0.63%	1.23%	1.03%	0.47%	0.19%	-0.85%	0.11%	-0.95%	-0.07%	0.08%	0.25%	1.46%
Leone	0.11%	1.49%	-0.33%	0.23%	-0.45%	-1.18%	-0.03%	-0.49%	-0.25%	-0.14%	-0.51%	-0.72%

Sources: WAMA, Central Banks of ECOWAS and IMF

⁵ This quarter is represented by the month of October only

A-IV : Some descriptive statistics

2004	Average	St. dev	Median	Kurtosis	Min	Max	Skewness
CFA.Franc	0.33%	1.01%	0.42%	-0.35	-1.51%	1.54%	-0.64
Escudo	0.33%	1.01%	0.42%	-0.35	-1.51%	1.54%	-0.64
Dalasi	-0.02%	1.00%	-0.18%	-0.40	-1.21%	1.72%	0.81
Cedi	-0.61%	1.05%	-0.53%	-1.01	-2.28%	0.82%	-0.45
GNF	-2.30%	4.67%	-0.95%	6.45	-15.54%	1.63%	-2.43
Liberian Dollar	-1.53%	2.23%	-1.44%	2.77	-7.05%	1.57%	-1.25
Naira	-0.11%	1.37%	-0.27%	-0.87	-2.14%	2.09%	0.29
Leone	-1.36%	1.57%	-1.17%	-1.02	-3.99%	0.58%	-0.42

2005	Average	St. dev	Median	Kurtosis	Min	Max	Skewness
CFA.Franc	-0.43%	0.71%	-0.51%	1.88	-2.13%	0.40%	-1.06
Escudo	-0.43%	0.71%	-0.51%	1.86	-2.13%	0.40%	-1.05
Dalasi	0.66%	1.85%	0.90%	3.01	-3.90%	3.63%	-1.10
Cedi	0.53%	1.08%	0.50%	1.14	-0.70%	3.00%	0.91
GNF	-3.47%	10.19%	-2.34%	7.55	-32.79%	0.06%	-2.23
Liberian Dollar	0.81%	2.92%	0.52%	-0.95	-3.89%	5.77%	0.11
Naira	0.84%	1.08%	0.86%	-0.87	-0.46%	2.84%	0.36
Leone	0.37%	2.26%	0.77%	1.92	-4.86%	4.10%	-0.85

2006	Average	St. dev	Median	Kurtosis	Min	Max	Skewness
CFA.Franc	0.50%	1.03%	0.23%	-0.92	-1.30%	2.06%	-0.09
Escudo	0.50%	1.03%	0.23%	-0.92	-1.30%	2.06%	-0.08
Dalasi	-0.19%	1.34%	-0.23%	0.22	-2.09%	2.59%	0.49
Cedi	-0.52%	1.04%	-0.39%	-1.08	-2.17%	0.84%	-0.35
GNF	-2.66%	2.93%	-2.48%	-0.60	-8.16%	1.28%	-0.37
Liberian Dollar	-0.83%	2.25%	-0.97%	-1.11	-3.99%	2.52%	0.35
Naira	-0.37%	1.17%	-0.25%	-1.29	-2.00%	1.51%	0.10
Leone	-0.54%	0.90%	-0.28%	-0.86	-2.12%	0.60%	-0.69

2007	Average	Standard dev	Median	Kurtosis	Min	Max	Skewness
CFA.Franc	0.45%	0.75%	0.56%	-0.96	-0.73%	1.47%	-0.30
Escudo	0.46%	0.94%	0.64%	0.07	-1.51%	1.50%	-0.80
Dalasi	1.77%	6.87%	0.92%	3.56	-7.38%	19.31%	1.43
Cedi	-0.71%	0.96%	-0.71%	1.83	-2.90%	0.71%	-0.69
GNF	3.45%	14.07%	1.78%	1.38	22.57%	32.95%	0.49
Liberian Dollar	-0.53%	1.74%	-0.51%	-1.33	-2.99%	2.12%	-0.10
Naira	0.43%	1.11%	0.08%	2.10	-0.97%	3.11%	1.23
Leone	-0.41%	0.79%	-0.44%	-0.11	-1.85%	0.92%	0.13

A-V Trends in WAUA rate compared to ECOWAS currencies 2001-2006

2001	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	AV
Currency													
CFA.Franc	915.3	918.6	920.3	932.4	937.7	963.0	956.4	939.0	927.2	924.7	932.9	931.1	933.2
Escudo	153.9	154.4	154.7	156.7	157.6	161.9	160.8	157.8	155.9	155.4	156.8	156.5	156.9
Dalasi	18.6	19.1	19.3	19.2	19.1	19.2	19.0	19.3	18.9	19.5	19.4	19.6	19.2
Cedi	9 047.1	9 052.4	9 078.4	9 060.1	9 126.3	9 006.9	8 995.6	9 030.6	9 149.7	9 162.5	9 109.5	9 037.4	9 071.4
GNF	2 479.9	2 462.2	2 471.5	2 447.7	2 444.1	2 420.4	2 431.4	2 480.2	2 529.8	2 514.1	2 499.0	2 497.4	2 473.1
Liberia Dollar	51.4	51.2	50.8	50.1	50.0	49.4	50.8	60.2	64.1	63.5	64.4	56.3	55.2
Naira	140.5	142.9	141.7	139.8	143.8	141.0	139.5	140.7	142.6	142.1	141.7	140.9	141.4
Leone	2 203.7	2 310.7	2 453.5	2 432.6	2 467.4	2 448.4	2 532.0	2 612.0	2 656.4	2 709.1	2 872.6	2 871.6	2 547.5

2002	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	Av
Currency													
CFA.Franc	927.5	938.7	937.2	932.1	920.0	904.0	881.0	881.7	884.9	881.5	875.6	866.9	902.6
Escudo	155.9	157.8	157.5	156.7	154.7	152.0	148.1	148.2	148.8	148.2	147.2	145.7	151.7
Dalasi	19.3	19.4	19.4	19.3	21.5	23.7	23.4	24.3	26.0	25.8	25.8	25.7	22.8
Cedi	8 973.8	9 192.6	9 354.6	9 582.2	9 824.0	10 139.1	621.1	10 787.0	10 761.2	10 761.0	10 929.9	11 128.3	10 171.2
GNF	2 479.8	2 456.7	2 464.4	2 472.6	2 506.3	2 541.4	2 617.9	2 623.6	2 614.5	2 603.2	2 620.4	2 637.6	2 553.2
Liberian Dollar	61.7	67.2	69.9	73.6	76.9	77.9	80.2	80.3	89.7	86.4	77.4	73.3	76.2
Naira	141.9	141.2	142.9	144.8	146.8	149.7	159.3	164.8	165.8	166.0	167.0	168.7	154.9
Leone	2 840.9	2 654.9	2 686.2	2 720.0	2 653.5	2 595.6	2 723.7	2 735.9	2 748.8	2 754.4	2 815.8	2 908.8	2 736.5

2 003	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	Av
Currency													
CFA.Franc	847.7	834.6	831.1	833.6	809.3	791.3	806.1	815.6	817.4	803.1	804.6	784.9	814.9
Escudo	142.5	140.3	139.7	140.1	136.1	133.0	135.5	137.1	137.5	135.0	135.3	131.9	137.0
Dalasi	27.4	31.8	33.6	35.2	36.0	36.4	37.8	41.0	42.8	44.7	43.8	43.3	37.8
Cedi	11 452.1	11 657.2	11 716.7	11 722.4	12 098.7	12 285.9	12 148.6	12 044.4	12 106.8	12481.0	12 539.3	12 910.9	12 097.0
GNF	2 687..5	2 711.3	2 713.4	2 694.7	2 761.1	2 802.1	2 771.6	2 742.3	2 755.7	2 853.6	2 858.4	2 927.6	2 773.3
Liberian Dollar	82.3	88.8	84.1	83.8	89.7	91.6	90.6	89.7	90.1	92.7	92.8	73.4	87.5
Naira	171.9	173.9	174.0	172.9	177.3	180.3	178.1	176.5	178.2	183.6	192.9	200.8	180.0
Leone	2 998.5	3 034.8	3 085..6	3 087.3	3 166.0	3 283.0	3 273.4	3 275.7	3 354.8	3 529.8	3 578.7	3 704.0	3 281.0

2 004	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	Av
Currency													
CFA.Franc	774.8	776.0	787.9	798.2	793.8	791.8	788.2	789.8	786.9	777.3	765.5	754.5	782.1
Escudo	130.3	130.5	132.4	134.2	133.4	133.1	132.5	132.8	132.3	130.7	128.7	126.8	131.5
Dalasi	42.6	42.8	43.3	43.3	42.9	43.2	43.3	43.7	44.2	44.1	44.2	43.4	43.4
Cedi	13201.2	13287.8	13179.3	13139.8	13086.9	13196.6	13252..0	13210.5	13208.7	13337.0	13648.1	13894.8	13303.6
GNF	2983.8	2994.0	2946.0	2929.8	2904.4	2932.6	2944.3	3486.2	3734.5	3769.7	3852.2	3925.3	3283.6
Liberian Dollar	78.9	81.5	80.3	79.8	80.7	82.6	84.4	84.2	84.2	85.0	86.9	88.5	83.1
Naira	202.9	203.1	199.0	195.9	192.5	193.9	194.8	193.8	193.8	195.7	200.0	203.7	197.4
Leone	3858.1	3920.3	3897.7	3883.0	3867.7	3937.3	3966.9	3983.3	4005.6	4088.9	4243.8	4371.3	4002.0

2 005	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	AV
Currency													
CFA.Franc	761.0	758.0	764.5	767.9	784.6	790.2	787.5	785.0	789.6	788.8	793.8	794.7	780.5
Escudo	127.9	127.4	128.5	129.1	131.9	132.8	132.4	132.0	132.7	132.6	133.4	133.6	131.2
Dalasi	45.2	45.2	44.2	43.5	42.0	41.3	40.8	40.9	40.9	40.6	40.1	40.2	42.1
Cedi	13799.2	13876.7	13711.5	13773.8	13372.0	13218.6	13178.9	13264.7	13170.5	13133.2	12958.8	13050.4	13375.7
GNF	3517.0	3516.0	3516.8	5232.4	5423.1	5532.2	5826.2	5826.2	5988.4	6181.0	6177.5	6442.8	5265.0
Liberian Dollar	86.2	88.1	85.7	87.2	84.8	85.2	86.4	86.9	83.3	78.8	77.6	80.8	84.2
Naira	201.8	202.8	200.0	200.7	195.2	192.8	192.2	188.4	187.0	187.3	183.7	184.4	193.0
Leone	4324.3	4545.4	4366.5	4282.3	4250.5	4176.7	4143.5	4210.1	4219.0	4242.1	4155.1	4191.4	4258.9

2 006	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	AV
Currency													
CFA.Franc	782.4	792.7	780.9	769.7	761.7	763.3	762.4	759.8	765.0	764.7	749.3	749.3	766.7
Escudo	131.5	133.3	131.3	129.4	128.0	128.3	128.2	127.7	128.6	128.5	126.0	126.0	128.9
Dalasi	40.8	40.4	40.6	41.4	41.9	41.5	41.6	41.7	41.4	41.5	42.3	41.2	41.3
Cedi	13194.4	13084.8	13167.7	13447.0	13664.3	13596.9	13648.8	13690.8	13596.6	13652.5	13955.5	13893.6	13549.4
GNF	6627.4	6543.9	6795.4	7060.2	7460.6	7480.7	8145.4	8319.8	8283.2	8222.8	8406.1	8948.1	7691.1
Liberian Dollar	83.1	81.4	81.8	84.6	86.7	88.0	88.3	90.1	87.8	88.1	85.9	89.5	86.3
Naira	186.5	183.7	183.3	187.1	190.0	188.1	188.6	189.1	187.5	189.9	193.4	193.0	188.3
Leone	4231.6	4226.9	4248.6	4322.2	4415.8	4403.1	4405.9	4417.3	4407.7	4420.8	4501.0	4474.0	4372.9

2 007	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	AVERAGE
Currency													
CFA.Franc	754.6	747.1	743.8	743.9	737.7	736.1	731.3	736.6	729.5	719.0	708.6	709.9	733.2
Escudo	127.9	126.6	126.1	126.1	125.0	124.8	122.9	123.8	122.6	120.9	119.1	119.3	123.8
Dalasi	41.7	42.1	41.8	41.9	41.2	40.2	39.7	38.0	35.4	29.7	31.7	34.2	38.1
Cedi	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4
GNF	8513.4	8011.1	7747.7	5827.7	4787.9	4971.0	4514.2	5829.8	5938.8	6356.3	6599.3	6588.3	6 307.1
Liberian Dollar	92.3	91.0	91.4	93.7	94.6	93.6	92.8	95.5	95.1	95.7	97.6	95.6	94.1
Naira	191.2	193.0	193.4	194.9	192.9	192.9	191.6	191.2	191.5	191.8	189.1	183.4	191.4
Leone	4456.0	4492.4	4507.6	4556.2	4514.7	4527.4	4552.3	4562.8	4597.3	4644.1	4731.5	4698.9	4 570.1