# Working Paper

INTERNATIONAL MONETARY FUND

WP/06/214

IMF Working Paper

# Financial Integration in the West African Economic and Monetary Union

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Monetary and Financial Systems Department

# Financial Integration in the West African Economic and Monetary Union

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Authorized for distribution by Abdessatar Ouanès

September 2006

**Abstract**



This study assesses the degree of financial integration in the West African Economic and Monetary Union (WAEMU). The structure of the financial sector and its institutional arrangements indicate that financial integration is well advanced in some aspects. Common and foreign ownership of banks is very high and cross-border transactions are frequent in the government securities markets. Common institutions help achieve a high degree of similarity of rules. There is nonetheless scope for further financial integration as indicated by persistent deviations from the law of one price, limited cross-border bank transactions, and differences in treatment. Policy measures could therefore help achieve greater financial convergence.

JEL Classification Numbers: G21, G28

Keywords: BCEAO, Financial integration, Sigma- and Beta- Convergence, WAEMU

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[1] The author wishes to thank Christian Durand, Anne-Marie Gulde-Wolf, Charalambos Tsangarides, and the seminar participants at the Banque Centrale des États de L'Afrique de l'Ouest (BCEAO) in Dakar, Senegal, for their comments.

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# I. Introduction

This study examines different aspects of financial integration in the West African Economic and Monetary Union (WAEMU) in order to complement the literature on macroeconomic integration. Historically, the emphasis has been on the objective of macroeconomic integration in the Union resulting, for instance, in the establishment of macroeconomic convergence criteria as set in the 1999 Pact of convergence, stability, growth, and solidarity. In contrast, less attention has been paid so far to the process of financial integration in spite of its potential benefits to the Union. Following the introduction, the next sections review the structure of the regional financial sectors in the WAEMU given the important implications for the financial integration process itself. A detailed examination of financial integration in the WAEMU follows.

Financial integration can be defined as a process, driven by market forces. During the process separate national markets gradually enter into competition with each other and eventually become one financial market, characterized by converging prices, product supply, and converging efficiency/profitability among the financial services providers (European Union, 2005). Accordingly, there are several channels which can further financial integration, namely cross-border ownership, and establishment or service provision.

Integration may also emerge because of formal efforts to integrate financial markets in a regional integration agreement (RIA). Integration in this sense may involve eliminating restrictions to cross-border financial operations by firms from countries in the same RIA, as well as harmonizing rules, taxes, and regulations between the member countries (see Galindo et al. (2002)).

There are three widely accepted interrelated benefits of financial integration: (1) more opportunities for risk sharing and diversification, (2) better allocation of capital among investment opportunities, and (3) potential for higher growth. Moreover, in the context of a monetary union, financial integration facilitates the conduct of monetary policy. Overall, it is generally recognized that the benefits of a well-monitored financial integration process are likely to outweigh the implied costs (see Baele et al. (2004)).

# II. The Regional Financial Sector

## A. Structure of the WAEMU Banking System

### Financial depth and size of the banking system

Financial depth in the WAEMU is low but comparable to the average for sub-Saharan Africa (SSA) (Table 1). At 24.3 percent, the ratio of M2 to GDP is close to the sub-Saharan median of 23.4 percent.[2] Similarly, the ratio of net credit to the economy of 15.4 percent of GDP is comparable to the SSA average of 16.7 percent.

The regional banking system is relatively small. As of end-2003, banking assets were about 30 percent of GDP in the WAEMU. In contrast, this ratio reaches 77 percent in the EU new member states (EU NMS) and 280 percent in the EU-15.

Table 1. Loans and Deposits in Developing Countries
(In percent of GDP)

| | Loans | Deposits |
|---|---|---|
| Latin America | 30.2 | 28.1 |
| Sub-Saharan Africa | 16.7 | 13.4 |
| Middle East and North Africa | 40.1 | 28.3 |
| Asia | 37.2 | 26.4 |
| Europe and Central Asia | 14.2 | 11.9 |
| CEMAC (2002) | 9.5 | 12.4 |
| WAEMU (2003) | 17.8 | 22.5 |

Source: Fund staff calculations.

Table 2. WAEMU: Banking Intermediation, 2003
(In percent)

| | Loans | Deposits | Loans/ Deposits | Banks Assets | Banks Assets/GDP |
|---|---|---|---|---|---|
| Benin | 9.3 | 10.4 | 70.4 | 10.3 | 32.5 |
| Burkina Faso | 10.3 | 10.9 | 75.1 | 10.9 | 28.6 |
| Côte d'Ivoire | 35.6 | 31.6 | 89.7 | 32.0 | 26.0 |
| Guinea-Bissau | 0.1 | 0.2 | 30.4 | 0.2 | 9.0 |
| Mali | 14.5 | 13.2 | 86.8 | 14.3 | 35.7 |
| Niger | 2.5 | 2.8 | 68.6 | 3.0 | 12.1 |
| Senegal | 22.9 | 25.0 | 72.6 | 23.3 | 38.5 |
| Togo | 4.9 | 5.7 | 67.7 | 5.9 | 33.8 |
| WAEMU | 100.0 | 100.0 | 79.4 | 100.0 | 29.5 |
| EU NMS | | | 74.3 | | 77.4 |
| EU 15 | | | 123.0 | | 280.0 |

Sources: BCEAO, EU, and Fund staff calculations.

[2] The median is for the 2000–2003 period. The average M2-to-GDP ratio for sub-Saharan Africa is 32.1 percent for the same period.

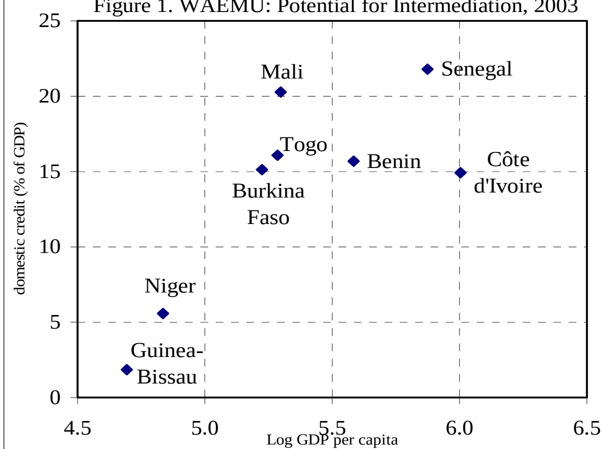
Reflecting their share in the regional economy, banks in Senegal and Côte d'Ivoire dominate the WAEMU's banking sector. These two economies account for about 54 percent of GDP and about the same share of regional banking assets (Table 2). In contrast, the smaller economies of Guinea-Bissau, Niger, and Togo together account for less than 10 percent of regional banking assets in the WAEMU.

The small deposit base in the region is being intermediated. The average loan-to-deposit ratio is higher than in the EU new member states (EU NMS) and stands at about 80 percent in the WAEMU. The loan-to-deposit ratio is still lower, however, than in more advanced economies such as the EU-15 where it reaches 123 percent.

**Main developmental challenges**

There is scope for increased intermediation in some countries (Figure 1). Domestic credit-to-GDP is in the range of 15–20 percent for all countries except Niger and Guinea-Bissau, which have the lowest GDP per capita. In contrast, financial intermediation in Côte d'Ivoire seems below its potential.

Figure 1. WAEMU: Potential for Intermediation, 2003




Source: Fund staff calculations.

Bank credit—mostly at short-term maturities—goes to a few large corporations operating in a limited number of sectors. The structure of the regional economy is characterized by a small number of large borrowers as the corporate sector is not well developed and all countries are still dependent on a few commodities. As a result, risk concentration coupled with sensitivity to terms of trade shocks remain key sources of vulnerability.

Access to and cost of finance remain major obstacles for small and medium-sized enterprises (SMEs) (see World Bank, 2005). Barriers to finance for SMEs include the unavailability or unreliability of financial statements and uncertainties and delays in judicial procedures for recovering claims and realizing collateral.

Given the low level of intermediation through banks, the regional authorities have put in place the necessary legal framework for the development of the nonbank financial sector. In addition to microfinance institutions, a number of nonbank financial institutions such as leasing companies and venture capital firms have emerged. The WAEMU region has also seen an increasing number of "policy banks" dedicated, among other areas, to housing and the provision of loans to borrower groups lacking guarantees and collateral. The regional government securities market has grown very rapidly (see below) and the regional authorities are considering ways to develop the mutual fund industry and modernize the infrastructure of the regional securities exchange. There is also considerable scope regarding the provision of housing finance as well as considerable pent-up investment opportunities from public institutional investors.

Although small, with about 7 percent of outstanding credit, the microfinance sector is growing rapidly. Microfinance institutions (MFIs) reach about 13.4 percent of the WAEMU population and account for about 6.6  percent and 6.9 percent of regional banking deposits and loans, respectively (as of June 2005). MFIs have also been extending credit and building deposits at a rate much faster than banks. For instance, microfinance institutions contributed to about one-third of the increase in the ratio of total assets to GDP in 2003.

The authorities are closely monitoring the asset quality of microfinance institutions (Table 3). The WAEMU average NPL ratio of 6 percent for MFIs is comparable to the Banque Centrale des États de L'Afrique de l'Ouest (BCEAO) benchmark of 5 percent for "adequate" asset quality. Institutions in Niger, Côte d'Ivoire, and Mali have the worst asset quality in the region. However, apart from Côte d'Ivoire where the sociopolitical crisis has had dire effects on the industry, problems seem to be localized to a number of institutions. With the increasing importance of the sector, appropriate prudential regulation and depositor protection in the sector are likely to take on added importance. The BCEAO is currently assessing a strategy that would bring at least the largest institutions under regional supervision.

Table 3. WAEMU: Microfinance Institutions 2004–05
Share of Nonperforming Loans in Total Loans
(In percent) 1/

| | Jun-04 | Mar-05 | Jun-05 |
|---|---|---|---|
| WAEMU 2/ | 7.6 | 5.6 | 6.1 |
| Benin | 5 | 6.1 | 6.9 |
| Burkina Faso | 5.8 | 5.5 | 5.6 |
| Côte d'Ivoire | 27.4 | 9.6 | 12.4 |
| Mali | 7.6 | 8.1 | 8.2 |
| Niger | 16.5 | 14.3 | 12.2 |
| Senegal | 2.7 | 2.3 | 2.4 |
| Togo | 5.8 | 4.6 | 5.5 |

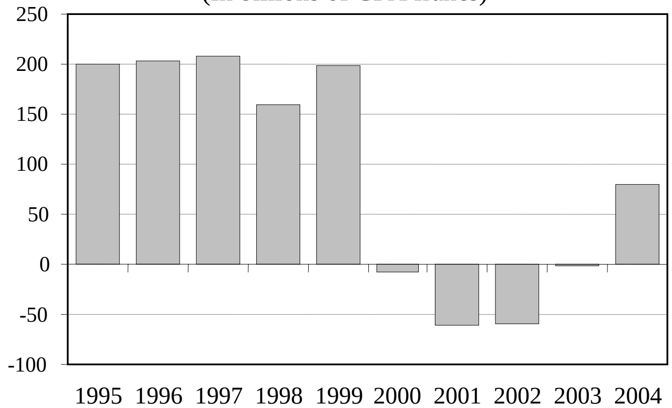
Source: BCEAO.

1/ Gross amounts.
2/ Excluding Guinea-Bissau.

## Government ownership

Government ownership has decreased substantially following a series of restructurings and privatizations after the 1980s–1990s banking crisis (Figure 2). However, government ownership is relatively high in Burkina Faso, Togo, Mali, and Côte d'Ivoire, where government share of capital—often in large banks—reaches or exceeds 25 percent (Table 4). In contrast, net credit to the government by commercial banks has fallen significantly since 2000 as monetary financing of public spending was restricted. However, banks' exposure to large public enterprises can be high.

Figure 2. WAEMU: Net Credit to the Government by Commercial Banks
(In billions of CFA francs)




Source: Fund staff calculations.

Table 4. WAEMU: Government Ownership of Banks
Share of Banking Assets, 2003
(In percent)

| | Number of banks | Share of capital | Share of assets 1/ |
|---|---|---|---|
| Benin | 2/7 | 7.9 | 6.6 |
| Burkina Faso | 5/7 | 31.3 | 26.3 |
| Côte d'Ivoire | 6/16 | 24.7 | 22.9 |
| Guinea-Bissau | 0/1 | 0.0 | 0.0 |
| Mali | 6/9 | 28.5 | 29.2 |
| Niger | 4/7 | 18.6 | 13.6 |
| Senegal | 7/11 | 10.2 | 9.9 |
| Togo | 6/7 | 30.4 | 37.8 |
| WAEMU | | 18.9 | |

Sources: BCEAO and Fund staff calculations.

1/ Average share of assets weighted by government share of capital.

**Foreign banking groups**

A few foreign groups dominate the WAEMU banking sector (Table 5). Foreign banks account for about 56 percent of banks' capital and banks, with foreign ownership representing about 80 percent of total banking assets. Foreign presence in the WAEMU is lower than in the Central African Economic and Monetary Community (CEMAC) and is comparable to the EU new member states (EU NMS). The relatively large foreign—mostly French—presence is a legacy of the colonial era, as banks were set up to accompany the operations of colonial trading groups with France.[3] New groups with African capital such as Ecobank and AFH/BOA have, however, recently emerged and have regional ambitions.

Table 5. WAEMU: Foreign Ownership, 2003

| | Number of Banks | Share of Capital | Share of Assets 1/ |
|---|---|---|---|
| Benin | 6/7 | 67.8 | 92.9 |
| Burkina Faso | 6/7 | 51.6 | 75.8 |
| Côte d'Ivoire | 12/16 | 56.0 | 78.8 |
| Guinea-Bissau | 1/1 | 63.7 | 100.0 |
| Mali | 6/9 | 54.7 | 75.7 |
| Niger | 6/7 | 66.4 | 70.4 |
| Senegal | 9/11 | 54.9 | 88.6 |
| Togo | 3/7 | 45.5 | 44.3 |
| WAEMU | 49/65 | 56.0 | 79.5 |
| CEMAC | | | 79.0 |
| EU NMS | | | 70.0 |
| EU 15 | | | 24.0 |

Sources: BCEAO, Fund staff estimates, European Commission.

1/ Share of assets of banks with foreign ownership.

Almost all foreign banking groups operate through subsidiaries established in most member countries (Table 6). It is not clear whether this structure tends to inhibit cross-border lending. Each subsidiary typically extends loans in the country in which it is located and intra-group loans can be used to substitute for cross-border lending. However, there is evidence of a similar behavior of foreign banking groups with a branch network. The presence of large banking groups, again a historical legacy, has resulted in a segmented market structure (Table 7)**.** In particular, the market share of the three largest banks in each country ranges from 50 percent in Côte d'Ivoire to 100 percent in Guinea-Bissau.[4]

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[3] In all WAEMU countries except Benin after 1972 and Guinea-Bissau, the banking system consisted of subsidiaries of BNP (BICI), Société Générale, BIAO (controlled by SFOM, a financial holding owned by BNP), and Crédit Lyonnais, as well as various public development or specialized banks. In the late 1980s and early 1990s, the banking crisis in the WAEMU led to many bank closures or mergers, some government partial (sometimes total) divestiture from French banks' subsidiaries. Later entrants in the market included Ecobank and AFH/BOA, as well as Belgolaise.

[4] These figures are for operating banks only.

Table 6. WAEMU: Foreign Banking Groups, 2003

| Major groups | Number of Countries | Number of Banks | Market Share 1/ | Number of Branches | Number of Accounts | Number of Employees |
|---|---|---|---|---|---|---|
| Société Générale | 4 | 5 | 14.9 | 111 | 405,897 | 1,407 |
| BNP Paribas | 5 | 6 | 12.6 | 65 | 404,970 | 1,537 |
| AFH/BOA | 6 | 6 | 9.0 | 30 | 2,158,009 | 659 |
| Ecobank | 7 | 7 | 8.9 | 30 | 107,877 | 832 |
| Belgolaise | 3 | 3 | 4.9 | 40 | 269,516 | 475 |
| Crédit Lyonnais | 2 | 2 | 4.4 | 16 | 106,168 | 563 |
| Citibank | 2 | 2 | 3.1 | 2 | 1,475 | 105 |
| Share of WAEMU | 100.0 | 39.8 | 57.6 | 40.8 | 59.4 | 54.8 |
| Other groups 2/ | ... | ... | 3.1 | 8.1 | 3.1 | 5.6 |
| Total share of WAEMU | ... | ... | 60.7 | 48.9 | 62.5 | 60.4 |

Sources: BCEAO.

1/ In percent of assets.
2/ LAFB, DMI, GIEFCA, and Cotivoirienne.
3/ COFIPA, BSIC not included.

Table 7. WAEMU: Bank Concentration. Market Share of the Three Largest Banks, 2003
(In percent of assets)

| | Market Share |
|---|---|
| Benin | 75.2 |
| Burkina Faso | 59.2 |
| Côte d'Ivoire | 50.4 |
| Guinea-Bissau 1/ | 100.0 |
| Mali | 61.3 |
| Niger | 71.3 |
| Senegal | 58.8 |
| Togo | 66.3 |
| WAEMU | 18.3 |

Sources: BCEAO and Fund staff estimates.

1/ One bank only in operation.

### Financial soundness indicators

Financial soundness indicators point to a fragile regional banking sector (Table 8). In particular, banking problems are more serious in Togo and Côte d'Ivoire, while in Mali and Niger, the situation of some specialized institutions has deteriorated. In addition, the profitability of small and medium-sized banks remains low. Although the average solvency ratio reached 11.4 percent in 2004, a number of banks (representing 26 percent of deposits) did not respect the minimum 8 percent capital adequacy ratio. Asset quality remains poor as the average share of nonperforming loans increased to 20.4 percent in 2004 and most countries have a ratio above this figure (Côte d'Ivoire, Guinea-Bissau, Mali, Niger, and Togo).

A number of factors have had a negative impact on financial soundness indicators. The problems in Côte d'Ivoire are largely due to the sociopolitical crisis which started in 1999. As a result, large groups have refocused their activities to a smaller number of core clients while small and medium-sized banks are trying to expand their operations. More generally, poor asset quality in the region has been a structural problem relating to a high concentration of credit, links to the public sector, and the vulnerability to terms of trade shocks. Finally, accounting practices in the WAEMU typically result in very few write-offs and provisioning efforts have affected the profitability of a number of banks (the average provisioning rate stood at about 61 percent at end-2004).

The current systemic banking problem in Togo has, however, its roots in the accumulation of government arrears to public sector enterprises (PSEs), which in turn were unable to meet their obligations to the financial system, including state-owned banks. This problem is systemic (the banking system as a whole has negative capital and all large banks are affected). The Togolese authorities have embarked on a recapitalization exercise of some banks involving the issuance of government bonds to purchase nonperforming loans.

Table 8. WAEMU: Financial Soundness Indicators, 2003–04

| | Number of financial institutions | | Share of assets (percent) | | Banks' risk-weighted capital asset ratio (percent) | | Share of nonperforming loans in total loans (percent) 4/ | | Ratio of provisions to nonperforming loans (percent) | | Return on equity (percent) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 |
| WAEMU | 87 | 93 | 100.0 | 100.0 | 10.6 | 11.4 | 19.7 | 20.4 | 67.7 | 61.1 | 7.4 | 9.9 |
| Benin | 9 | 9 | 10.3 | 10.0 | 6.2 | 9.5 | 10.3 | 12.9 | 51.0 | 45.0 | 1.9 | 5.4 |
| Burkina Faso | 12 | 13 | 10.9 | 10.7 | 7.9 | 11.0 | 12.4 | 13.3 | 71.4 | 66.1 | 15.6 | 14.4 |
| Côte d'Ivoire | 20 | 18 | 32.0 | 31.3 | 16.3 | 12.2 | 25.1 | 26.5 | 66.0 | 61.2 | 3.0 | 5.8 |
| Guinea-Bissau | 1 | 2 | 0.2 | 0.3 | 53.3 | 38.7 | 27.4 | ... | 56.4 | ... | 18.5 | 19.4 |
| Mali | 13 | 14 | 14.3 | 14.0 | 7.9 | 17.8 | 15.6 | 23.1 | 57.5 | 47.8 | 7.6 | -22.6 |
| Niger | 8 | 9 | 3.0 | 3.2 | 15.7 | 13.3 | 26.5 | 19.2 | 76.5 | 75.0 | 7.5 | 12.9 |
| Senegal | 14 | 15 | 23.3 | 24.4 | 11.6 | 11.6 | 14.0 | 12.9 | 75.1 | 75.8 | 17.2 | 17.5 |
| Togo | 11 | 11 | 5.9 | 6.1 | -6.6 | -3.5 | ... | 29.5 | 75.7 | 61.7 | -11.2 | ... |
| | | | | | | | | | | | | |
| Large banks 1/ | 19 | 19 | 63.0 | 61.5 | 12.6 | 13.0 | 20.7 | 21.7 | 69.3 | 65.2 | 10.1 | 11.9 |
| Medium banks 2/ | 20 | 24 | 24.8 | 27.1 | 4.4 | 8.5 | 14.6 | 17.0 | 57.0 | 48.9 | 7.9 | 9.3 |
| Small financial institutions 3/ | 48 | 47 | 12.2 | 11.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Small banks | 25 | 27 | 10.2 | 9.4 | 13.6 | 10.4 | 24.5 | 21.5 | 72.3 | 61.8 | -1.0 | 4.6 |
| Small nonbank fin. Inst. | 23 | 20 | 2.0 | 2.0 | ... | ... | … | … | … | … | … | … |

Sources: Banking Commission and Fund staff estimates.

1/ Banks with assets greater than CFAF 100 billion.

2/ Banks with assets greater than CFAF 50 billion but lower than CFAF 100 billion.

3/ Banks with assets lower than CFAF 50 billion and all nonbank financial institutions.

4/ Including provisions.

## B. Interbank and Money Markets

In the context of a monetary union, the common currency and the associated money market play a very important role as catalysts for financial integration.[5] Complete integration in the markets closer to the common currency such as the interbank money markets can be achieved rapidly with clear benefits for the conduct of monetary policy. An integrated interbank market, as illustrated by the experience in the EU, can ensure an even distribution of central bank liquidity and a homogenous level of short-term interest rates across the union (see Papademos (2005)).

The WAEMU interbank market is, however, thin and activity is limited to intra-group transactions. Interbank transactions fell to CFAF 66 billion in 2005 or a little more than 2 percent of domestic credit (Table 9). Obstacles to the development of the interbank market include the absence of a legal framework, appropriate collateral (as most transactions are not collateralized), a network to match supply and demand, and a counterparty risk assessment framework (see Banque de France (2004)). The excess liquidity in the banking system may also be an impediment to further interbank transactions (Table 10).[6]

Table 9. CFA Franc Zone: Interbank Market Transaction Volumes, 1997–2005
(Monthly average, in billions of CFA francs)

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|
| WAEMU | 105.6 | 152.4 | 199.6 | 155.6 | 126.8 | 105.6 | 52.8 | 48.0 | 66.0 |
| CEMAC | 3.9 | 19.4 | 21.2 | 14.7 | 23.6 | 13.1 | 9.2 | 7.5 | ... |

Sources: BCEAO and BEAC.

A well functioning payment system is a key determinant of integrated money markets and great progress has been achieved in the WAEMU. For instance, money markets integration was made possible in the EU thanks, inter alia, to the establishment of the pan-European payment infrastructure (TARGET system). In the WAEMU, a reform of the payment and settlement system is well underway with the setting up of an RTGS system (STAR-UEMOA), an interbank settlement system (SICA-UEMOA) and plans for an interbank payment system for bank cards (GIM-UEMOA and CTMI-UEMOA).

[5] In the WAEMU, the CFA franc arrangement with its common currency dates back to the 1960s and can be traced back to the colonial period.

[6] Excess reserves are measured as actual minus required reserves.

Table 10. WAEMU: Banking Sector's Excess Liquidity 1/
(CFA franc billions and in percent of broad money)

| | Excess liquidity | |
|---|---|---|
| | CFAF billions | In percent of broad money |
| 2000 | 293.1 | 7.0 |
| 2001 | 186.1 | 4.0 |
| 2002 | 348.2 | 6.5 |
| 2003 | 370.9 | 6.7 |
| 2004 | 430.0 | 7.4 |
| May-05 | 402.2 | ... |

Sources: BCEAO.

1/ Reserves in excess of required reserves.

The conduct of monetary policy in the Union will have to be adapted as financial markets become more integrated. In the WAEMU, reserve requirements have been used extensively as other sterilization instruments have proved to be less effective in a context of excess liquidity and thin interbank money markets. These reserve requirements are, however, differentiated as they differ by country, indicating that there is scope for further financial integration (Table 11).

Table 11. WAEMU: Reserve Requirements as of End-2005
(In percent)

| | 16 Dec 00-15 Apr 00 | 16 Apr 00-15 Aug 00 | 16 Aug 00-15 Sep 00 | 16 Sep 00-15 Apr 02 | 16 Apr 02-15 Mar 04 | 16 Mar 04-15 Jun 05 | Since Jun 16 05 |
|---|---|---|---|---|---|---|---|
| Benin | 3.0 | 3.0 | 9.0 | 9.0 | 9.0 | 13.0 | 15.0 |
| Burkina Faso | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 7.0 |
| Côte d'Ivoire | 1.5 | 3.0 | 3.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Guinea-Bissau | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Mali | 3.0 | 3.0 | 3.0 | 3.0 | 9.0 | 9.0 | 9.0 |
| Niger | 1.5 | 3.0 | 5.0 | 5.0 | 5.0 | 5.0 | 9.0 |
| Senegal | 1.5 | 3.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| Togo | 1.5 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Average | 2.3 | 3.0 | 4.8 | 5.0 | 5.8 | 6.3 | 7.5 |
| Std. dev. | 0.8 | 0.0 | 2.5 | 2.4 | 2.6 | 3.5 | 3.7 |

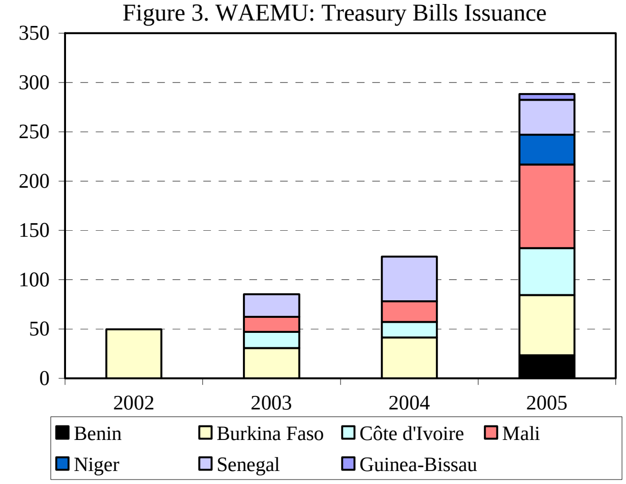
Source: BCEAO.

### C. Capital Markets

The treasury bills market has been growing rapidly in recent years (Figure 3). Total issuance has grown from about CFAF 55 billion in 2002 to about CFAF 290 billion in 2005. All countries except Togo have been able to issue such securities. Maturities have ranged from three to 12 months, with most issuance at 6 months. Interest rates, which are payable in advance, have been in the 2.5–5.5 percent range depending on the issuer and the maturity of the issue.

Cross-border transactions in the treasury bills market are very high except for Côte d'Ivoire (Table 12). In 2004–05, non-resident WAEMU banks (including BOAD) have purchased half of treasury bills issuance on average. This figure reaches almost 60 percent if Côte d'Ivoire is excluded from the sample.

Figure 3. WAEMU: Treasury Bills Issuance




Source: BCEAO and staff calculations.

A number of factors can explain banks' appetite for treasury bills. In a situation of excess liquidity, banks can find a better remuneration for their funds at relatively short maturities. In addition, interest earned on the treasury bills is tax exempt, carries a zero weight risk in the calculation of the capital adequacy ratio, and can be refinanced at the BCEAO to obtain liquidity (although the BCEAO reserves the right not to refinance a bank based on a number of considerations such as insolvency). Similarly, the regional regulation allows insurance companies to use treasury bills to cover their obligations.

Table 12. Cross-Border Transactions in the Regional Treasury Bill Market, 2004–05

| | Total Issued (CFAF billions) | Maturity (days) | Yield (percent) | Non-resident Purchases 1/ (CFAF billions) | Non-resident purchases (percent) |
|---|---|---|---|---|---|
| Benin | 23.4 | 182 | 2.76-3.50 | 4.8 | 20.5 |
| Burkina Faso | 67.0 | 91-182 | 2.76-4.0 | 45.3 | 67.6 |
| Côte d'Ivoire | 63.2 | 91-182 | 2.76-4.5 | 4.9 | 7.8 |
| Guinea-Bissau | 6.0 | 182 | 4.0-5.5 | 5.0 | 83.3 |
| Mali | 76.9 | 182 | 2.84-4.54 | 51.3 | 66.7 |
| Niger | 30.0 | 182 | 3.12-4.25 | 20.5 | 68.3 |
| Senegal | 80.8 | 364 | 2.5-4.0 | 29.9 | 37.0 |

Sources: BCEAO; and Fund staff calculations.

1/ Weighted average. WAEMU banks and BOAD.

A regional capital market, the BRVM (Bourse Régionale des Valeurs Mobilières) has been created but it remains small. Market capitalization of the regional capital market is about 5 percent of GDP in 2003 or about half that of comparable countries. For instance, Kenya, Mauritius, Nigeria, and Tunisia have GDP comparable to that of WAEMU and have market capitalization greater than 10 percent.

Activity at the BRVM is concentrated in the bond market while the stock market has not fully recovered since 1999 (Table 13). Activity in the stock market has declined substantially because of the crisis in Côte d'Ivoire since 36 of the 39 firms listed are Ivorian. A project to promote a regional capital market is underway with donor support. In particular, this has led to the issuance of bonds by a regional institution, the BOAD.

Table 13. WAEMU: Capital Markets

(In billions of CFA francs)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|
| *Primary markets* | | | | | | |
| Total issuance | 60.2 | 89.6 | 20.4 | 86.66 | 117.9 | 108.5 |
| Bond issuance | 59.1 | 80.4 | 15.5 | 67.7 | 112.4 | 107.4 |
| Equity issuance | 1.1 | 9.2 | 4.9 | 18.96 | 5.5 | 1.1 |
| | | | | | | |
| *Secondary markets* | | | | | | |
| Trading volume | 489 | 4,819 | 1,520 | 912 | 1,015 | 1,118 |
| Trading value | 11 | 41 | 37 | 13 | 12 | 6 |
| Total capitalization | 1,675 | 1,057 | 948 | 976 | 1,010 | 1,108 |
| Stock market | 657 | 974 | 828 | 858 | 852 | 858 |
| Bond market | 1,018 | 83 | 120 | 118 | 158 | 250 |
| | 1,675 | 1,057 | 948 | 976 | 1,010 | 1,108 |
| *Market indices* | | | | | | |
| BRVM 10 index | 95 | 97 | 77 | 84 | 82 | 88 |
| BRVM composite index | 98 | 91 | 75 | 77 | 73 | 77 |
| Number of shares listed | 35 | 39 | 41 | 38 | 38 | 39 |
| Number of bonds listed | 13 | 21 | 17 | 17 | 19 | 19 |

Source: CREPMF.

## III. Financial Integration Through Regional Institutions

### A. Similarity of Access, Rules, and Treatment

Similarity of access, rules, and treatment is useful in assessing financial integration. More specifically, a given set of financial instruments and/or services can be considered as being fully integrated if all potential market participants with the same relevant characteristics: (1) have equal access to the above-mentioned set of financial instruments and/or services; (2) face a single set of rules when they decide to deal with those financial instruments and/or services; and (3) are treated equally when they are active in the market (Baele et al. (2004)). In this section, we consider financial integration in the WAEMU through these three criteria.

**Regional institutional arrangements**

A number of initiatives have been undertaken to promote regional financial integration in the WAEMU region. These include:

- Since 1962, the West African Economic and Monetary Union (WAEMU) treaty has laid the basis for a monetary union with a single currency and regional central bank (Banque Centrale des Etats de l'Afrique de l'Ouest—BCEAO) responsible for the conduct of monetary policy. There are no capital controls within the WAEMU.

- A single banking commission (Commission Bancaire de l'UMOA) was created in 1990 to strengthen regional banking supervision. The commission is managed by a Secretary General and headed by a president, who is also the Governor of the BCEAO. Since 2004, a single banking license is sufficient to set up banking operations in the WAEMU. The decision to grant or withdraw a banking license involves both the banking commission and the relevant national finance minister.

- There are no cross-border restrictions on banking and other financial services except insurance. Approval is granted on a nondiscriminatory basis. However, for "prudential" reasons, countries will not be prevented from taking certain measures, such as requiring approval by the minister responsible for finance or the central bank and/or any other measures, which have or may have a prudential effect.

- Insurance contracts for residents or for property located in a given WAEMU country can only be concluded with entities that have been approved for such purpose in that country. The minister responsible for insurance grants approval after consultation with the Insurance Control Commission.

- The 1995 PARMEC law (Projet d'Appui à la Réglementation sur les Mutuelles d'Epargne et de Crédit) for savings and credit institutions laid the basis for a regulatory framework for cooperative financial institutions in the region. The BCEAO introduced in 1994 a microfinance monitoring system (Decentralized Financial Systems (DFS) monograph).

- The regional capital market includes a common interbank market and a single market (Bourse Régionale des Valeurs Mobilières—BRVM) for both bond and stock trading and fund management (SICAV) which is supervised by a regional securities commission (Conseil Régional de l' Epargne Publique et de Marchés Financiers—CREPMF). In addition, pension funds have been supervised since 1996 by a regional body, Conférence Interafricaine de la Prévoyance Sociale—CIPRES.

- Insurance companies are supervised under the 1992 Inter-African Conference on Insurance Markets (Conference Interafricaine du Marché des Assurances—CIMA) treaty among the African Franc zone countries by a single regional authority (Commission Régionale de Contrôle des Assurances—CRCA).There is a regional reinsurance company (CICA-RE).

- Since 1996, a regional commercial legal framework (Organisation pour l'Harmonisation du Droit des Affaires en Afrique—OHADA) has been put in place.

- Accounting standards for financial institutions have been modernized to bring them in line with international standards. Similarly, accounting standards for corporations have been harmonized in the context of the West African Accounting System (Système Comptable Ouest Africain—SYSCOA). Moreover, a balance sheet center (centrale des bilans) is maintained at the BCEAO and includes balance sheet information for a number of borrowing firms.

- A reform of the payment system is underway with key steps finalized in the area of the RTGS and interbank settlement system. A centralized database tracking unpaid checks (centrale des incidents de paiement) is also maintained by the BCEAO.

- In the area of microfinance, a regional institution (Banque Régionale de Solidarité) with regional institutional shareholders has been created and branches are being opened in member countries.

As can be seen from the above summary, financial integration in the CFA franc zone is advanced when it comes to market participants facing a single set of rules. Progress has also been encouraging in broadening similar access to capital market instruments**.** The treasury bill and debt securities markets have been growing rapidly and although trading is thin, the stock exchange is a regional institution. However, cross-border bank lending within the Union appears limited, although there are signs of increased activity.

There is nonetheless considerable scope for deepening financial integration, as financial institutions are still not treated equally in a number of areas. For instance, taxation of banks and capital market investors has not been harmonized. Involvement of national authorities in the licensing or de-licensing of financial institutions is not conducive to uniformity of treatment. Moreover, there are differences in the legal and judiciary frameworks such as those pertaining to insolvency, which lead to inequality of treatment.

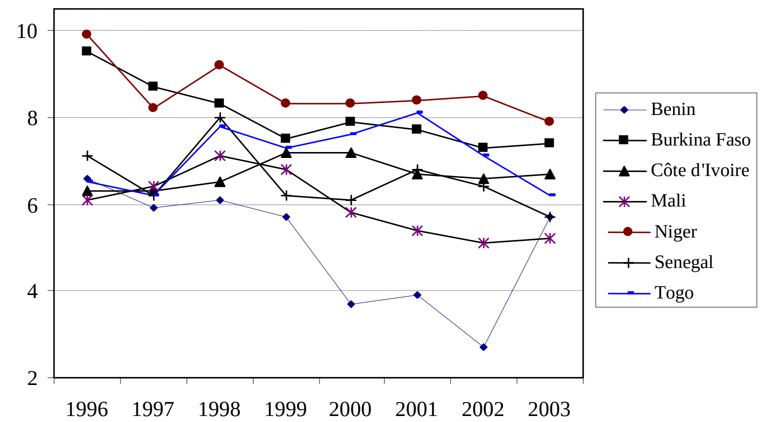
## B. Measuring Financial Integration in the WAEMU

Have institutional developments been followed by increased integration of financial markets in the WAEMU? Typically, financial integration is closely linked to the law of one price, which states that if assets have identical risks and returns, they should be priced identically regardless of where they are transacted. In practice the law of one price can only be tested on instruments that are listed or quoted. In the context of the WAEMU, the recent history of the stock and bond markets makes it difficult to measure capital market integration. However, it is possible to use interest rates to measure the efficiency gains from the regional institutional set-up.

## C. Methodology

Given data limitations, we restrict our analysis to the bank credit markets. We do not differentiate between the retail and the wholesale banking markets but this may not constrain our analysis as most of credit in the CFA franc zone is directed to the corporate sector. Although indicative lending rates for prime borrowers are published by banks, they are sticky and not representative, as there are additional premiums that are added depending on the characteristics of the borrower and the loan.

Figure 4. WAEMU: Interest Rate Spreads




Source: BCEAO data.

More specifically, we use data on banks' spreads to measure financial integration[7] (Figure 4). Bank interest rate levels reflect both macroeconomic and microeconomic factors. The macro factors include market interest rate levels while the micro factors relate more to banks' pricing behavior and market power. Cabral et al. (2002) use banks' spreads to disentangle the impact of both macro and microeconomic factors. Convergence of these spreads over time could be seen as signaling greater integration, while a decline in the level can be interpreted as a sign of increased competition.

We estimate two measures of financial integration: (1) sigma-convergence and (2) beta-convergence. Sigma-convergence measures the *degree of integration.* i.e., to what extent markets are already integrated (Adam et al. (2002)). To estimate the degree of integration, we build a time series of the cross-sectional dispersion in lending interest rates, $R_i$ in a country $i$. At each period, we calculate the standard deviation of interest rates across countries.

$$\sigma_t = \left[\frac{1}{n-1}\sum\left(R_{i,t} - \overline{R}_t\right)^2\right]^{\frac{1}{2}} \qquad (1)$$

One can also calculate the speed at which the cross-sectional dispersion decreases over time. This measure is obtained from a regression of the cross-sectional dispersion on a time trend.

$$\sigma_t = \beta t + \varepsilon \qquad (2)$$

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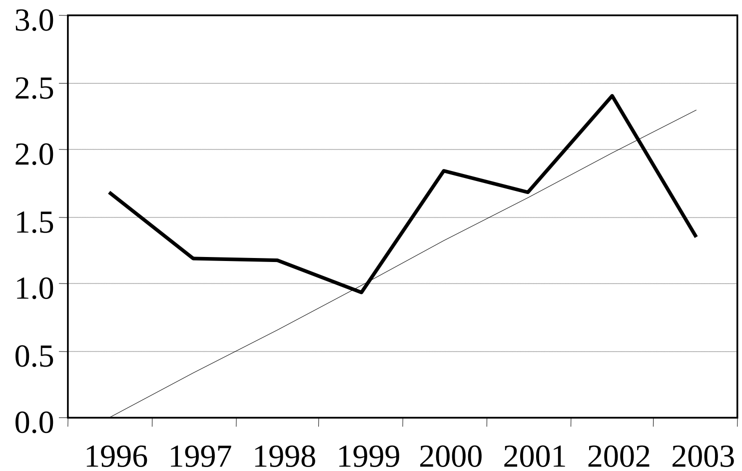
[7] Spreads between the average bank lending and deposit rates calculated using income statement data (*marges globales d'intermediation*).

Cross-sectional dispersion is the cross-sectional counterpart to correlations. The main advantage of using cross-sectional dispersions is that, contrary to correlations, they can be calculated at each point in time. Correlations and cross-sectional dispersions are inversely related. When series are highly correlated, as they should be in integrated markets, interest rates will generally move in the same direction, and instantaneous cross-sectional dispersion will be low. Alternatively, dispersion will be high when interest rates in different countries drift apart.

The cross-sectional standard deviation of banks' spreads indicates that banking sector integration in the WAEMU increased in the post-devaluation period from 1996 to 1999 (Figure 5). However, banking sector integration has decreased post-1999. In the overall sample, a regression of interest rates on a time trend indicates that convergence has been decreasing. The coefficient of the time trend is significant but the regression's R-squared is low. There is a parallel with macroeconomic convergence. For instance, van den Boogaerde and Tsangarides (2005) divide the 1990–2003 periods in three subperiods. In 1990–93, the then WAMU economies were buffeted by adverse terms of trade movements, a significantly overvalued exchange rate, fiscal imbalances, insufficient efforts at internal adjustment, and a rapid accumulation of external debt. In 1994–98, the devaluation of the CFA franc was accompanied by substantial and structural adjustment programs resulting in strong economic expansion, a more balanced macroeconomic performance, and progress in transforming the structure of their economies. In 1999–2003, the strong economic momentum brought about by the CFA franc devaluation gradually dissipated, with weaker output growth and improvements in fiscal and external deficits reversed in several countries.

Figure 5. WAEMU: Sigma-Convergence




Source: Fund staff calculations.

Beta-convergence measures the speed of convergence (Adam et al. (2002)). This measure estimates whether banks' spreads in countries with relatively high spreads have a tendency to decrease more rapidly than in countries with relatively low spreads. More specifically, we estimate the following panel regression:

$$\Delta S_{i,t} = \alpha_i + \beta S_{i,t} + \sum_{l=1}^{L} \gamma \Delta S_{i,t-l} + \varepsilon_{i,t} \qquad (3)$$

Where $S_{i,t}$ represents the difference $R_i$ between banks' spreads in country *i* and a relevant benchmark, $R_b$. $\Delta$ is the difference operator, and $\alpha_i$ country dummies. We choose banks' spreads in Senegal or Benin as benchmarks as they have been the lowest in the region during most of the period.

A negative $\beta$ coefficient indicates that banks' spreads in countries with relatively high interest rates have a tendency to decrease more rapidly than in countries with relatively low spreads. Moreover, the size of $\beta$ is a direct measure of the speed of convergence in the region. We do not find evidence of convergence in banks' spreads in the WAEMU as the slope coefficient, although statistically significant, is positive (Table 14).

Table 14. WAEMU: Spreads
Beta-Convergence, 1996–2003

| | WAEMU |
|---|---|
| beta | 1.19 |
| p-value | 0.0028 |
| Country dummies | (not shown) |
| adj. R-square | 0.78 |
| Number of obs. | 36 |

Source: Fund staff estimates.

## IV. Regional Policy Issues and Conclusions

From the previous analysis, financial integration in the WAEMU appears to be well advanced in some aspects. In particular, the regional government securities markets has grown rapidly and exhibits a high degree of cross-border transactions. Similarly, a high degree of similarity of rules is achieved through common institutions, including a regional central bank and banking commission. Some degree of similarity of access to the regional capital market exists. In addition, common ownership in the banking sector is very high as a few foreign banking groups dominate the industry.

There is, however, scope for further financial integration. Similarity of treatment appears uneven as some regional institutions share their responsibilities with the ministries responsible for finance. Deviations from the law of one price in the banking sector have proved to be persistent. Finally, cross-border and interbank transactions appear limited.

The WAEMU institutions have embarked on a program to accelerate financial integration in the WAEMU. In particular, the BCEAO has initiated a reform of the regional payment system, which should provide banks with the necessary infrastructure to conduct their operations more efficiently. In addition, the common central bank has been instrumental in the setting up of the regional treasury bill market, which is growing rapidly.

In order to maintain and increase the efficiency gains from financial integration, it is important to identify the remaining barriers and bottlenecks to financial integration in the WAEMU. A number of factors may explain why the important progress in harmonizing rules has not to date resulted in a higher degree of financial integration:

- Excess liquidity and its distribution in the system are obstacles to a regional monetary policy;
- Financial depth in the WAEMU is still low when compared with non-SSA developing countries as access to banking services remains limited;
- Most bank lending goes to a limited number of large borrowers in very few sectors. Given the economic structure of individual countries, the supply of investment opportunities is rather limited;
- Intra-regional trade is low and the accompanying demand for cross-border financial services has not materialized;
- Harmonization has not been achieved in certain areas and shared responsibilities between regional institutions and ministries responsible for finance has led to a lack of uniformity of treatment;
- The regional banking system remains fragile; and
- Regional banking groups dominate the region.

Against this background, policy makers could take the following steps to further financial integration.

- Reduce the excess liquidity in the system and in so doing assess whether the current limitations on the use of indirect monetary policy instruments are driven by cost considerations or lack of burden sharing with national authorities; similarly, reduce restrictions on the recycling of excess liquidity by, for instance, developing the regional interbank market;
- Assess policies to increase access to banking services;
- Accelerate macroeconomic convergence;
- Continue in harmonizing rules, taxes, and regulations and especially their applications;
- Strengthen the regional banking system and address problems in weak banks; and
- Analyze the strategies of regional banking groups as well as new entrants to assess possible impediments to financial integration.

Finally, on financial stability, the very high foreign presence in the CFA franc zone raises questions as to whether the risk transmission by ownership is significant. Subsidiaries of foreign banks have their own capital, which can be used as a buffer. Historically, problems in parent banks have had no significant effects on the regional banking system (Crédit Lyonnais, BIAO, and BCCI). Home-host supervision remains, however, an important function of supervisors.

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