



# IMF Working Paper

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## Financing Growth in the WAEMU Through the Regional Securities Market: Past Successes and Current Challenges

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**IMF Working Paper**

African Department

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**Abstract**

The West African Economic and Monetary Union (WAEMU) regional securities market saw increasing activity in the last decade, but still fell short of supplying sufficient long-term financing for growth-enhancing public and private investment projects. In addition to providing an institutional background, this paper studies recent developments and the determinants of interest rates on the market—using yield curve and principal component analyses. It also identifies challenges and prospective reforms that could help the region reap the full benefits of a more dynamic securities market and assesses the potential systemic risk the market may pose for the region’s banking system.

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## I. INTRODUCTION

1. **In the last decade, several initiatives to create regional financial markets in Asia, Europe, and Africa have been pushed forward.** The global financial crisis highlighted the importance of regional financial markets' ability to provide liquidity to governments and private sector actors during periods of heightened economic and financial uncertainty. The launching of regional markets aimed to cater to governments' and private sector's financing needs and growth ambitions, and to smooth out global economic and financial woes by sustaining adequate spending and investment levels during economic and financial volatility.

2. **The West African Economic and Monetary Union (WAEMU) was no stranger to this trend.** The WAEMU securities market was launched in 1998. Its creation followed the decision of the region's Council of Ministers in 1993 to establish a common financial market to respond in a more transparent, efficient, and harmonized manner to the financing needs of WAEMU countries and private corporations. That mandate was reinforced by the 2001 decision to gradually phase out statutory advances with a total elimination by 2010, which encouraged governments to substitute sovereign issues to the regional central bank (Banque Centrale des Etats de l'Afrique de l'Ouest, BCEAO)'s direct lending.

3. **The securities market benefited from the region's economic and monetary integration, notably its shared institutions and harmonized financial regulation.** When the securities market became operational in 1999—more than three decades after the WAMU was set,<sup>2</sup> the region was already functioning in a coordinated manner with a common central bank, regional monetary policy, and uniform banking and financial regulations. The creation of the regional securities market completed WAEMU's financial integration by facilitating cross-regional funding for governments while reducing transaction costs through harmonized issuance procedures. In addition to these enabling pre-conditions, the market benefited from the region's relatively strong macroeconomic and political stability—notwithstanding the crisis in Côte d'Ivoire and Mali in the 2000s—and from the strong credibility of the CFA franc/euro peg.

4. **While the securities' market succeeded in providing short-term financing to actors, it fell short of expectations regarding the financing of growth-enhancing, long-term investment projects.** With the region's high investment needs, the market was initially expected to increase financial intermediation and help spur public and private investment. Moreover, the reduction of foreign aid and private capital flows to the region in the early 2000s, combined with the commodity-led swings in regional terms of trade underscored the

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<sup>2</sup> The WAMU (West African Monetary Union, 1962) evolved from a monetary union to a monetary and economic union (WAEMU) in 1994.

need for countries to find more stable sources of finance through the deepening of the regional financial market. However, until now, the WAEMU securities market has failed to catalyze large long-term financing for public and private entities, pointing to several impediments to its full development.

5. **This paper explores the successes and shortcomings of the West African securities market.** Previous papers, mainly technical reports prepared by institutions,<sup>3</sup> analyzed developments in the WAEMU bond market; however most of those reports were prepared before 2006 and did not provide an in-depth analysis of the securities market as a whole. This paper contributes to this nascent literature with several innovations. First, it offers a comprehensive description of the WAEMU market's institutional framework and instruments, which was not readily available in the literature from a single source. Second, it discusses all types of securities traded on the market, issued by both public and private entities. Third, it analyzes the yield curve of government securities, identifies the determinants of T-bills' interest rates—to our knowledge, only Sy (2010) attempted to investigate this question—and profiles treasuries' issues using data up to 2010. Finally, the paper explores a broad range of obstacles to the market's development and formulates some policy recommendations.

6. **The rest of the paper is organized as follows.** The second section presents the WAEMU securities market's institutional framework and instruments. The third section discusses recent developments in the market. The fourth section analyzes the determinants of interest rates through yield curve-type and principal component analyses. The fifth section investigates the challenges to the market's development, and the last section concludes and provides recommendations.

## II. INSTITUTIONAL FRAMEWORK AND MARKET INSTRUMENTS

7. **The WAEMU regional securities market is managed by four institutions** (Figure 1): the BCEAO, the Regional Council for Public Savings and Financial Markets (CREPMF),<sup>4</sup> the Regional Stock Exchange (BRVM),<sup>5</sup> and the Central Deposit and Settlement Organization (DC/BR).<sup>6</sup> The BCEAO manages sovereign securities issued through auctions by WAEMU countries. It takes care of issuances, and acts as book runner and clearing house for market participants. In addition, the BCEAO helps regulate the sovereign debt market, as well as commercial banks and non-bank financial institutions. The CREPMF, BRVM, and DC/BR manage the securities beyond the BCEAO's scope of action. The CREPMF is a

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<sup>3</sup>Those institutions include the BCEAO, International monetary Fund (as part of routine financial sector assessments), the World Bank, Banque de France, and U.S. Treasury.

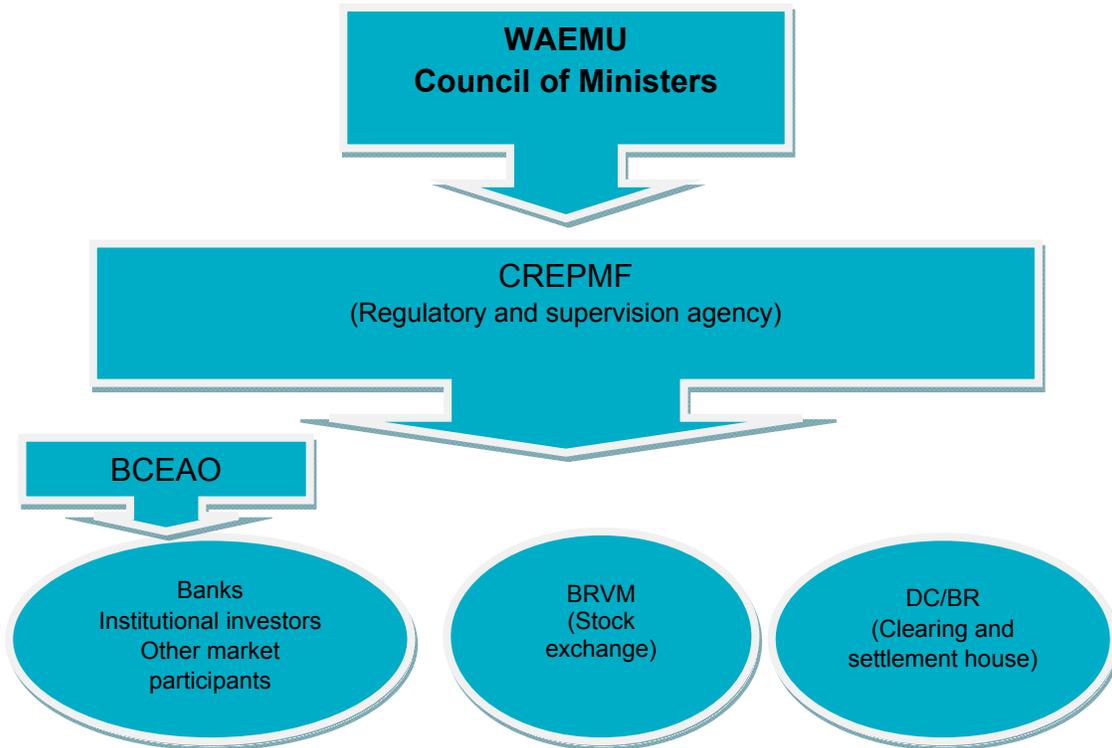
<sup>4</sup> Conseil régional de l'Épargne Publique et des Marché Financiers (CREPMF).

<sup>5</sup> Bourse Régionale des valeurs mobilières (BRVM).

<sup>6</sup> Dépositaire Central /Banque de Règlement (DC/BR).

surveillance body that manages initial public offerings (IPOs) and regulates market participants. It reports directly to the WAEMU council of ministers. The BRVM insures the quotation and negotiation of transferable securities and supplies market information to participants. The DC/BR acts as a custodian for investors and as an overall clearing house. Commercial operators who intervene in the market include banks and asset managers (acting on their own account or on behalf of their clients), asset custodians, business developers, and incubators, all of which are regulated by the CREPMF.

**Figure 1. Organigram of the WAEMU Securities Market**



**8. The regional securities market offers several investment instruments, including both equity (stocks) and debt securities:**

- **Stocks** are offered by listed companies and traded on the stock exchange.
- **Treasury bills (T-bills) and bonds (T-bonds)** are issued by treasuries of WAEMU member countries. T-bills have maturities of 3–24 months<sup>7</sup> whereas T-bonds are of 2- to 7-year maturity.

<sup>7</sup> See regulation No. 06/2001/CM/UEMOA. However, t-bills' maturities typically range from 3 to 12 months. On rare occasions, T-bills of 24-month maturity were issued.

- **Regional bills and bonds** are issued by regional institutions such as the West African Development Bank (BOAD) and the Economic Community of West African States (ECOWAS) Bank for Investment and Development (BIDC).
- **Kola bills and bonds** are issued by non-WAEMU resident institutions such as the International Finance Corporation (IFC), and the French Development Agency (AFD). This segment of the market was launched in 2006 with the IFC's first local currency bond issuance in Sub-Saharan Africa.
- **Corporate bills and bonds** are issued by WAEMU resident private companies, including state-owned enterprises.
- **Other quoted securities.**

9. **Securities' issuance procedures depend on the type of security.** Although regional regulations require that government bills and bonds be auctioned on the primary market, some T-bonds are still issued by syndication. T-bill and T-bond auctions are carried out for each member country at the national branches of the BCEAO. This is done by an appointed issuance committee composed of three representatives of the ministry of finance and three representatives of the BCEAO national branch. Auctions are open to investors who bid prices, interest rates, and quantities, mostly through financial institutions acting as primary dealers in the process.<sup>8</sup> Bids are also open to foreign investors who have an account in the region's commercial banks. National T-bill issuance calendars are typically published on a quarterly basis, after the region's ministers of finance and the BCEAO agree on treasuries' liquidity needs. Corporate and other types of non-sovereign bonds are issued via syndication to market participants, while stock IPOs are auctioned by the DC/BR. All quotations are made by the BRVM.

10. **We focus the rest of the paper on debt securities, as they dominate market operations and are more accessible to investors than stocks.** The regional stock market remains at a nascent stage. Though IPOs on the stock market increased strongly in the last decade following the listing of privatized state-owned enterprises, the debt securities market showed much stronger activity. Market capitalization of traded stocks remains very low (32 percent of total WAEMU GDP at end 2010)<sup>9</sup> and boasts a relatively low turnover rate (2.2 times per year, or 0.8 percent of the region's GDP). Hence, the rest of this paper will focus on the regional bill and bond market, hereafter called 'bond' market. In addition, the paper will mainly review developments on the primary market as trading on the secondary market remains limited.

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<sup>8</sup> Any regional financial institution that holds an account at the BCEAO can act as primary dealer.

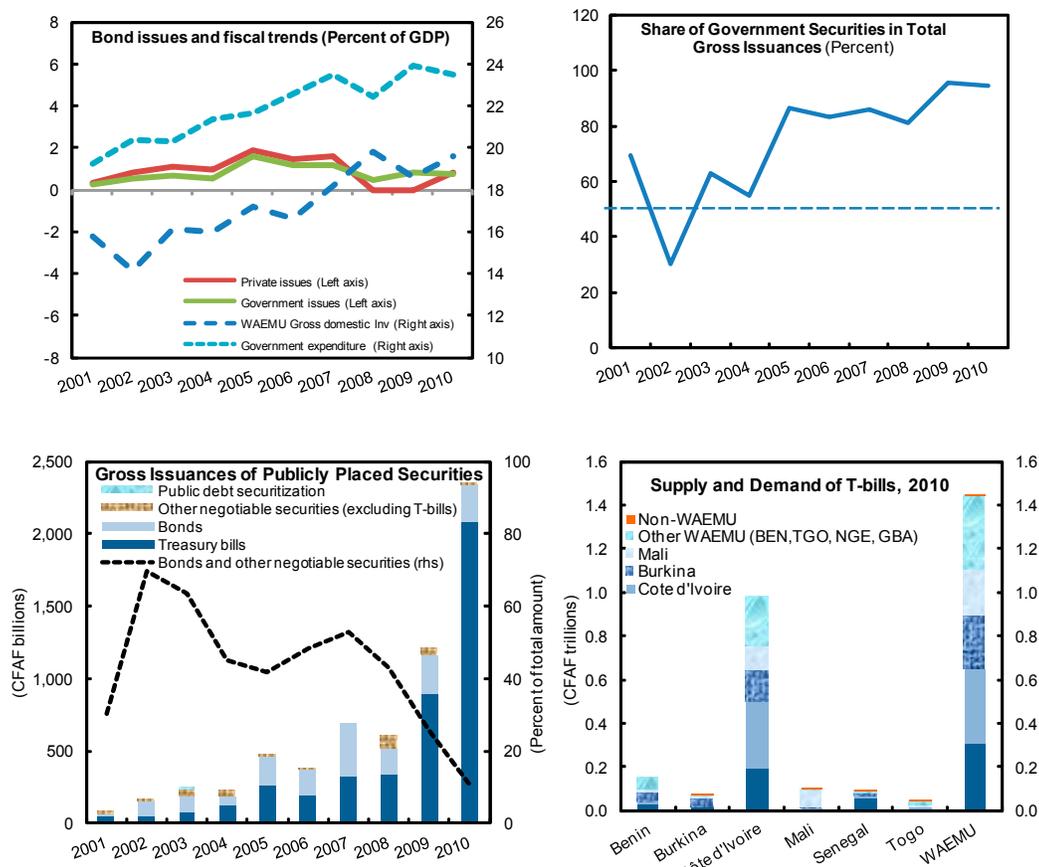
<sup>9</sup> IMF *Regional Economic Outlook: Sub-Saharan Africa*, April 2010.

### III. RECENT DEVELOPMENTS

#### Operations

11. The WAEMU regional bond market expanded relatively rapidly during the last decade, owing to regular issuances of government securities (Figure 2). The total amount of publicly-placed securities almost doubled during the 2001–09 period; going from CFAF 75 billion to CFAF 1.2 trillion (gross issuance). This dynamism was mainly driven by regular public debt issues, reflecting WAEMU governments' increasing resort to the bond market to substitute for the elimination of central bank financing. In 2009, about 96 percent of securities were issued by the region's treasuries, whereas issuances by corporate and other institutions stalled. Notwithstanding that boom, on average, T-bills and -bonds issued during the period represented barely 17 percent of WAEMU countries' total financing,<sup>10</sup> showing that the market is far from being their main source of financing.

Figure 2. WAEMU: Issuance of Debt Securities, 2001–10<sup>1</sup>



Sources: BCEAO and IMF staff calculations.  
<sup>1</sup>Data up to December 19, 2010.

<sup>10</sup> Financing includes aid flows, central bank financing, nonbank financing, and privatization revenue.

12. **Issuances were dominated by sovereign short-term borrowing, sustained by treasuries' liquidity needs and a hefty appetite from commercial banks.** T-bill issuances have dominated market operations for most of the decade, except for 2002 and 2007, when the amount of bonds and other publicly placed negotiable securities exceeded 50 percent of the issues.<sup>11</sup> Such large issues are accommodated by banks' appetite for T-bills, owing to the many advantages they bear. In fact, the acquisition of T-bills by banks does not hinder their capital adequacy requirements because they are of short maturity. Commercial banks' T-bill holdings count as 'capital' holdings in their balance sheet, and bear a zero-risk weight in the calculation of capital adequacy ratios. Besides, T-bills can be traded in any of the eight WAEMU countries and be used for refinancing at the central bank.

13. **In 2010, T-bill issues and holdings showed a high concentration of both issuers and investors, a significant excess demand, and a predominance of securities with less than ½ year maturities** (Figure 2 and Table 1).<sup>12</sup> Côte d'Ivoire alone issued about 68 percent of the total amount of T-bills traded (about CFAF 983 trillion), dominating the market in that year owing to the country's special circumstances.<sup>13</sup> Benin, Burkina Faso, Senegal, and Mali issued about 27 percent of the T-bills. A large part of those T-bills was of less than ½ year maturities, with a predominance of three- and six-month maturities. Financial institutions from Côte d'Ivoire, Senegal, Burkina Faso, and Mali bought 75 percent of the securities, though the distribution of actual investors is unknown because operations are handled by financial intermediaries. For each country, investors registered in other WAEMU countries bought a non-negligible part of the domestic securities, even if cross-border investment was still timid. The average coverage rate was high, close to 200 percent.

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<sup>11</sup> Three categories of securities are publicly placed in the bond market: (i) negotiable securities, including T-bills, commercial paper, regional financial institution negotiable bills, and certificates of deposit; (ii) public debt securities, which include securitization of statutory advances and other debt arrears of governments and public enterprises; and (iii) non-negotiable bonds, including notably sovereign and corporate bonds.

<sup>12</sup> Issues up to November 10, 2010. Note that as of that date, Guinea Bissau had not yet issued securities on the market. Because of data scarcity, this section uses databases from different sources and hence different end dates.

<sup>13</sup> In 2010, at the most critical point of the Ivoirian crisis, public debt repayments had ceased. The BCEAO agreed to the rollover of Côte d'Ivoire maturing securities by investors to minimize spillovers to the banking system—it however did not intervene directly. In addition, because of the economic paralysis, the domestic debt market was one of the few financing channels still operational. Nonetheless, Côte d'Ivoire has always been part of the key market players. So far in 2012 (as of July 20), it has been the third largest issuer of T-bills with a gross issuance of about CFAF 91 billion and the biggest T-bond issuer (about CFAF 159 billion), representing a ¼ of total sovereign gross issuances (T-bills and T-bonds).

**Table 1. WAEMU: Government Debt Issues, 2010<sup>1</sup>**

	Amount <sup>2</sup>	Average Maturity <sup>3,4</sup>	Interest Rate at Issuance <sup>5</sup>		Average Coverage Rate <sup>5</sup>
			Average <sup>3</sup>	Range	
<b>Treasury bills</b>					
<b>WAEMU</b>	<b>1452.4</b>	<b>185.3</b>	<b>5.1</b>	<b>[4.1 , 6.8]</b>	<b>194.0</b>
Benin	154.7	364.0	5.8	[5.5 , 6.0]	166.0
Burkina Faso	70.2	91.0	4.7	[4.1 , 5.5]	484.9
Côte-d'Ivoire	982.3	140.0	5.7	[4.8 , 6.8]	171.3
Guinea-Bissau	-	-	-	-	-
Mali	99.5	276.2	5.1	[4.9 , 5.3]	218.6
Niger	-	-	-	-	-
Senegal	94.7	389.1	5.6	[5.1 , 6.4]	213.3
Togo	51.0	91.0	4.7	[4.5 , 4.9]	239.9
<b>Treasury bonds</b>					
<b>WAEMU</b>	<b>127.4</b>	<b>5.7</b>	<b>6.6</b>	<b>[6.6 , 7.0]</b>	<b>-</b>
Benin	-	-	-	-	-
Burkina Faso	43.3	7	6.5	6.5	-
Côte-d'Ivoire	35.6	7	7.0	7.0	-
Guinea-Bissau	-	-	-	-	-
Mali	-	-	-	-	-
Niger	-	-	-	-	-
Senegal	31.4	3	6.0	6.0	-
Togo	17.1	5	7.0	7.0	-

Sources: BCEAO and IMF staff calculations.

<sup>1</sup> Gross issuance. At November 10, 2010, for bills and at end-June 2010 for bonds.

<sup>2</sup> In CFAF trillions.

<sup>3</sup> Weighted average.

<sup>4</sup> Number of days for bills and number of years for bonds.

<sup>5</sup> In percent.

14. **Similarly, long-term securities show a low diversification in issuers and maturities** (Table 2 and Annex I). The governments of Côte d'Ivoire, Senegal, and Burkina Faso are the main issuers in the market, with about 49 percent of the total long-term non-negotiable securities issued in 1999–2010. They are followed by the BOAD with about 20 percent of the long-term non-negotiable securities. The regional development bank issues bonds regularly, acting *de facto* as a benchmark issuer for non-sovereigns. During the period, 20 private corporations issued about CFAF 243 billion in bonds, representing merely 15 percent of total bond issues. Issuing companies included public utilities and telecommunication companies, and banks. Most of the long-term securities had five- to seven-year maturities.

**Table 2. WAEMU: Issuance of Long-Term Securities, 1999–2010<sup>1,2</sup>**

	Amount (CFAF billions)		Number of Issuance		Maturity (years)		Interest Rate at Issuance (percent)	
	1999–2010 <sup>2</sup>	2010 <sup>2</sup>	1999–2010 <sup>2</sup>	2010 <sup>2</sup>	Average <sup>3</sup>	Range	Average <sup>3</sup>	Range
<b>Negotiable debt securities</b>	<b>209.63</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>7.0</b>	<b>[3 , 7]</b>	<b>4.4</b>	<b>[3.3 , 7.0]</b>
Sovereign	-	-	-	0	-	-	-	-
BOAD <sup>4</sup>	207.7	0	8	0	7	7	4.4	[3.3 , 5.9]
Other non-treasury	1.93	0	3	0	3.4	[3 , 4]	6.7	[5.5 , 7.0]
<b>Non-negotiable debt securities</b>	<b>1575.7</b>	<b>137.4</b>	<b>60</b>	<b>5</b>	<b>6.0</b>	<b>[3 , 10]</b>	<b>6.2</b>	<b>[4.5 , 7.5]</b>
BOAD <sup>4</sup>	144.4	0	10	0	6.9	[3 , 10]	5.5	[4.5 , 6.3]
BIDC <sup>5</sup>	24.1	0	1	0	7.0	7	5.6	5.6
IFC <sup>6</sup>	22.0	0	1	0	5.0	5	4.8	4.8
AFD <sup>7</sup>	20.0	0	1	0	8.0	8	5.3	5.3
Sovereign	1121.9	127.4	27	4	5.9	[3 , 10]	6.3	[5.5 , 7.0]
Other (corporate)	243.4	10	20	1	6.0	[5 , 7]	6.6	[5.9 , 7.5]

Sources: BCEAO and IMF staff calculations.

<sup>1</sup> Securities with maturities of more than 2 years.

<sup>2</sup> As of end-June 2010.

<sup>3</sup> Weighted average.

<sup>4</sup> West African Development Bank. It issued its first non-negotiable bond in 1995.

<sup>5</sup> ECOWAS Bank for Investment and Development. The bond was issued in 2006.

<sup>6</sup> International Finance Corporation. The bond was issued in 2006.

<sup>7</sup> French Development Agency. The bond was issued in 2008.

15. **Foreign participation in the bond market remained marginal.** The region's relative economic stability and pegged exchange rate was expected to foster greater participation of foreign investors in the market. On the contrary, external portfolio flows to the region were dismal in the last decade, with on average CFAF 40.6 billion of net portfolio inflows per year between 1998 and 2010.

### *Institutional developments*

16. **A number of initiatives and reforms are underway to support the development of the WAEMU bond market.** As part of a strategy to attract greater and more diverse foreign capital flows, some of the region's governments have sought the service of credit rating agencies. As of December 2010, Benin, Burkina Faso, and Senegal had their local currency T-bills rated by internationally recognized agencies, and Senegal had also obtained a rating for its local currency bonds (Table 3). In addition, the WAEMU launched in 2010 a process to harmonize the taxation of securities listed on the regional market. According to the published directive,<sup>14</sup> government securities are tax-exempt, increasing their attractiveness to potential investors. Conversely, other types of bonds are taxed with a progressive rate favoring long-term investment. Interest payments on bonds of 10-year maturity or higher are tax-exempt while the tax rate for T-bonds of maturities between 5 and 10 years is 3 percent, and 6 percent for maturities of less than 5 years. Distributions of corporate dividends are taxed at a rate between 10 and 15 percent, and dividends of companies listed on the regional

<sup>14</sup> See directive n°02/2010/CM/UEMOA.

stock market<sup>15</sup> are taxed at a rate between 2 and 7 percent. To end, the WAEMU council of ministers granted in December 2011 a tax exemption to interest payments on IFC Kola bonds for 5 years.

**Table 3. WAEMU Countries' Sovereign Debt Ratings**

Country	Bonds		T-Bills	
	S & P <sup>2</sup>	Fitch	S & P	Fitch
Benin	B	B	B	B
Burkina Faso	B	-	B	-
Senegal	B+	-	B	-
Mali <sup>1</sup>	-	Discontinued	-	-

Source: Bloomberg, as of December 2010.

<sup>1</sup>Mali's rating was discontinued by Fitch as of 12/04/09.

<sup>2</sup>Standards and Poors.

#### IV. DETERMINANTS OF INTEREST RATES: YIELD CURVE AND PRINCIPAL COMPONENT ANALYSIS

17. **Descriptive statistics show that interest rates on corporate and T-bonds varied less across countries, and remained higher than those on T-bills; whereas interest rates on regional and Kola bonds were among the lowest in the market** (Tables 1 and 2).<sup>16</sup> The range of interest rates on corporate and T-bonds was about 150 basis points in 1999–2010, compared with 270 basis points for T-bills issued only in 2010. However, some countries stood out from this picture: T-bills issued by Togo, for example, registered almost the same rate throughout the year. Interest rates on corporate and T-bonds were generally—as expected—higher than those on T-bills, to the contrary of those on regional and Kola bonds. During the market's existence, some of the bonds issued by the BOAD and IFC benefited from interest rates even lower than the lowest interest rate on T-bills issued by some countries in 2010, notably by Benin, Mali, and Senegal. Interest rates on corporate bonds were among the highest in the market.

18. **Though pointing to interesting stylized facts, the above analysis does not account for important factors that could have an impact on interest rates.** In the remainder of this section, we provide insights on the determinants of interest rates in the WAEMU bond market using yield curve characteristics and principal component analysis (PCA). Important factors, including countries' debt ratings, maturities, and the supply and demand of securities are discussed.

<sup>15</sup> For listings approved by the CREPMF.

<sup>16</sup> Because of the lack of data, the analysis on T-bills is based on securities issued in 2010. Besides, for the same reason, the bulk of the analysis in this section focuses on sovereign securities.

19. **The term structure of interest rates—or yield curve—for sovereign securities shows that for all countries, interest rates at issuance were higher for securities with longer maturities though heterogeneous shapes and levels reveal country specific behaviors** (Figure 3).<sup>17</sup> The yield curves of all WAEMU countries show an upward trend, signaling investors' general preferences for shorter-term, thus less risky, securities. Investors imposed a risk premium on long-term, less liquid, securities, which is actually an indicator of investors' rational market behavior. Nevertheless, the yield and term premium imposed by investors differed from country to country as revealed by the curves' levels and shapes. With a yield curve above that of other WAEMU countries, the cost of financing for Côte d'Ivoire was on average higher than that of other WAEMU countries in 2010, reflecting the growing political risk perceived by investors at that time. Moreover, Côte d'Ivoire and Senegal had especially steep yield curves for short maturities, signaling that investors requested for the two countries risk premiums that were proportionally higher than the increases in maturity. By contrast, the yield curve for Burkina Faso was among the lowest in the region and had an almost linear shape. All securities issued by Benin were of the same maturity (one-year) maturity and similarly for Togo (3 months). The latter benefited from the lowest interest rates on the market, except for two Burkina Faso issues of equivalent maturities.

20. **Country ratings had some beneficial impact on T-bond interest rates** (Tables 1 and 3). Interest rates on T-bonds appear to react positively to country ratings. The interest rate on the T-bond issued by Burkina Faso in 2010 was lower than that for Togo, which did not have a rating for its bonds at that time—even though the maturity of the Burkina Faso bond was longer than that of Togo. The interest rate on the T-bond issued by Senegal, which has the highest T-bond rating in the region, was the lowest of the year, but this could also be due to its lower maturity.

21. **However, other factors seem predominant in explaining cross-country differences in T-bills** (Tables 1 and 3). The relationship between interest rates and T-bill ratings appears less straightforward than for T-bonds. In 2010, interest rates on Togo T-bills were among the lowest in the region, though the bills were not rated. Similarly, interest rates on some three-month T-bills issued by Burkina Faso were about 100 basis points lower than those for Senegal, notwithstanding their equivalent ratings. However, even if ratings did not matter predominantly, signals of risk levels did. For example, economic and political conditions mattered for Côte d'Ivoire: in 2010, interest rates on the country's issues were at

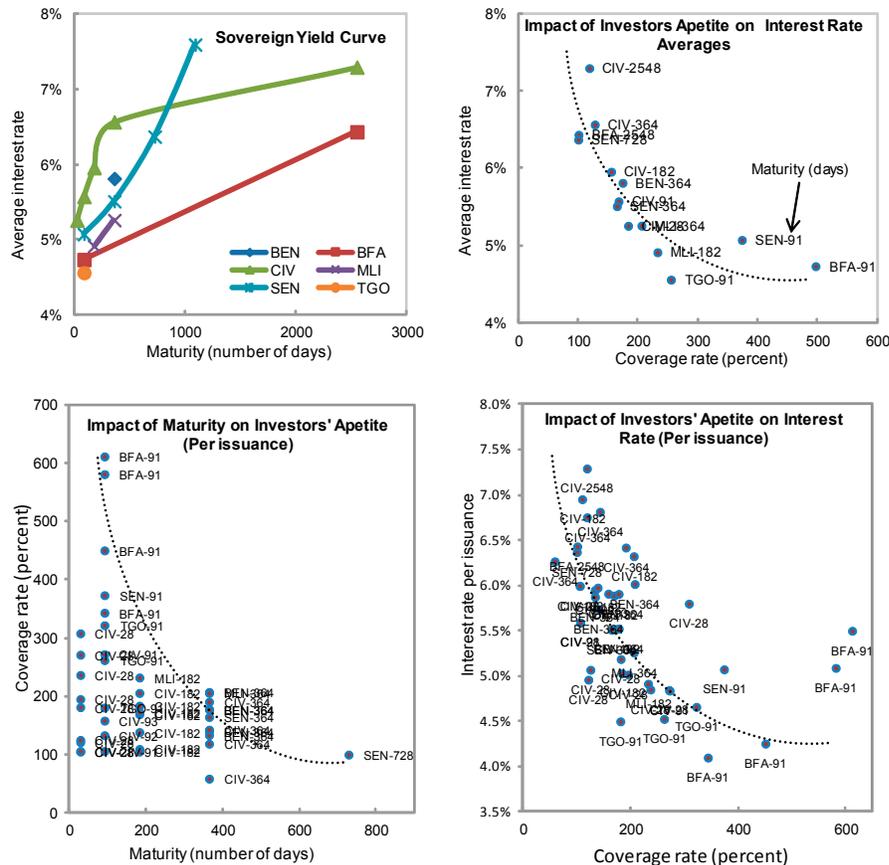
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<sup>17</sup> Yield curves usually have positive slope, reflecting investors' anticipation that economies will grow overtime and inflation will rise. However, yield curves can be inverted, i.e. decreasing. The most common case is when investors anticipate that interest rates would decrease in the future, owing to a strong recession or depression. Investors' anticipations of low future inflation could also be a cause. On the upside, an inverted yield curve could occur, in the context of an economic panic, when investors increase demand for long-term sovereign bonds as a "flight to quality".

odd with interest rates for other countries' issues with some of its 28-day T-bills sold at an interest rate even higher than Mali's one-year T-bill.

22. **Further analysis reveals that interest rates on sovereign securities were affected by the market's liquidity conditions and bidders' appetite at the time of issuances** (Figure 3).<sup>18</sup> Coverage rates, maturity, and interest rates appear closely linked in a three-way relationship. Coverage rates decreased sharply as maturity increased, both at the country and aggregate levels. Three-month T-bills attracted typically more than twice the amount offered by countries, whereas issues at higher maturities barely made the total amount. Hence, interest rates' positive correlation with maturity could actually be due to the negative impact of maturity on coverage rates. Securities with shorter maturities attracted more bids, hence higher coverage rates and lower interest rates. Burkina Faso registered the highest demand with up to 600 percent of coverage for some of its 91-day T-bills, hence the very low interest rates compared to the other issues.

Figure 3. WAEMU: Determinants of T-bills Interest Rates, 2010<sup>1</sup>

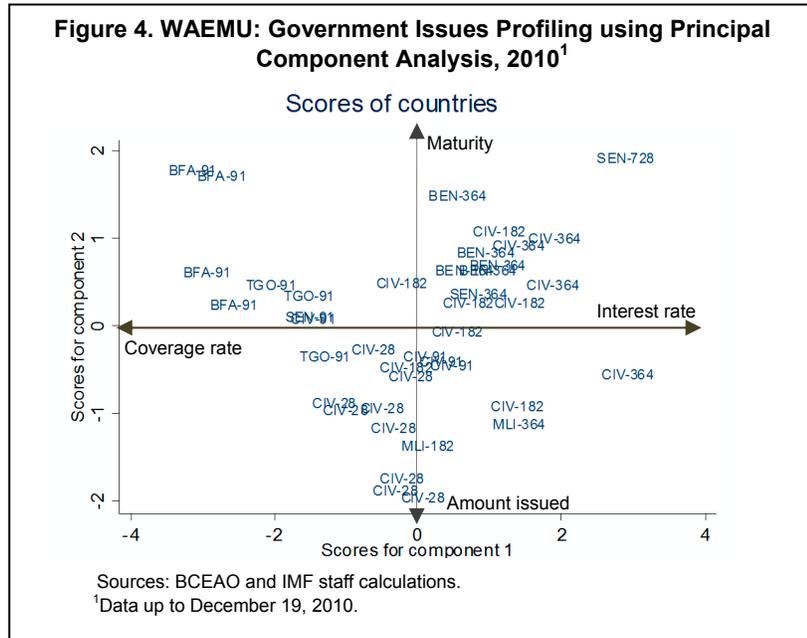


Sources: BCEAO and IMF staff calculations.  
<sup>1</sup>Data up to December 19, 2010.

<sup>18</sup> This relationship could also cover for an indirect effect of countries' ratings on liquidity conditions as investors' demand for a particular security is partly contingent on the ratings. In addition, other market conditions such as the banking system's excess of liquidity could play a role (Sy, 2010).

23. **Results from PCA show that the issuance volumes offered at each date also mattered and provide a profile of countries' interventions, using the determinants we explored above**

(Figure 4 and Annex 2).<sup>19</sup> PCA using securities' coverage rates, maturity, average interest rates, and the amount sold at each issuance confirm that high interest rates are associated with low coverage rates and long maturities, but the degree of association for the former is much stronger than for the latter. PCA also shows that most of the large



issuances in terms of volume were for securities with small maturities. Results also provide a profile of issues for each country. Issues by Mali and Côte d'Ivoire were large, albeit with short maturities compared to other countries. Issues by Burkina Faso were of smaller amounts and rather constant maturities, and benefited from both relatively high coverage rates and low interest rates. Most issues by Benin and Senegal were also of relatively small amounts and long maturities but had lower coverage rates than issues by Burkina Faso and Togo, and hence higher interest rates.

24. **Finally, other less quantifiable factors such as seasonality, issuance procedures, and the frequency and predictability of issues also could have played a role, either indirectly through their effects on coverage rates or more directly.** Some apparent inconsistencies show that other factors could have an impact on interest rates, independent of coverage rates. Togo for example had a lower interest rate on some of its three-month T-bills than Burkina Faso and Senegal, even though the coverage rates for those issuances were lower. Among the contributing factors are: (i) seasonal effects: the issuance with the lowest interest rate of the year took place during the last quarter—the issuer, Burkina Faso, benefitted from decreasing interest rates during the year despite decreasing coverage rates and constant maturity;<sup>20</sup> (ii) securities' mode of issuance: bonds issued by auction benefit

<sup>19</sup> See more details on the procedure and the results in Annex 2.

<sup>20</sup> Sy (2010) argues that this effect could be linked to agriculture seasons as banks in the region typically finance inputs for cash crops and are repaid after the harvest, hence the seasonal pattern in liquidity conditions.

from more competition than those issued by syndication; (iii) frequency and predictability of countries' issues: Burkina Faso, which had some of the lowest interest rates, issued T-bills with the same maturity (three months) every two to three months throughout 2010; and (iv) countries' outstanding stock of securities. More detailed data spanning over several years, however, would be needed to have conclusive evidence of the impact of those factors on interest rates.

## V. CHALLENGES AHEAD

25. **This section derives policy recommendations to address challenges to the development of the bond market—both sovereign and non sovereign—as pointed out by our analysis.** The previous section concluded that developments in the bond market are still lagging behind expectations. We provide insights on the root causes of these shortcomings, and offer policy recommendations to improve the functioning of the market. Other challenges, notably related to the market's regulatory framework, are touched upon in the next section as suggestions for future research.

26. **One of the most acute constraints are the bond market's undiversified issuers and narrow investor bases.** On the first issue, our analysis highlighted that market activity is overwhelmingly driven by government issues. Market interventions by non-sovereign issuers—including nonbank financial institutions, private companies, and regional and international institutions remain scarce. On the second issue, data on primary market activity show that WAEMU commercial banks are the main investors on the market. Even though some of the region's governments have sought ratings from credit rating agencies to attract more foreign capital, very few non-resident investors showed interest in purchasing securities on the market.

27. **As a consequence, issuers stay captive of banks' preference for short-term securities, while investment opportunities are constrained to the limited set of maturities offered by sovereigns.** Banks have not only a strong preference for T-bills because those securities bear multiple advantages (paragraph 12), but also because of a lack of other equally attractive risk-adjusted investment alternatives. As such, the region's banking-system assets are predominantly composed of short-term government securities, which accounted on average for about 25 percent of the net total assets of WAEMU banks in 2006–10. These preferences also reflect the short-term nature of bank liabilities, which essentially consist of deposits from the public and private sectors.<sup>21</sup> Such constraints benefit governments that use the T-bill market to finance treasury needs, thus providing an ample

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<sup>21</sup> Macro-prudential regulations require that banks match their short-term liabilities with short-term assets, which further limits banks' ability to invest actively in the longer-term bond market (*Dispositif Prudentiel applicable aux banques et aux établissements financiers de l'UMEOA à compter du 1<sup>er</sup> janvier 2000*, WAMZ/BCEAO).

supply of low-risk assets to banks that are more than willing to invest in high-yielding, short-term, risk-free government paper. However, those constraints also weigh on issuers' ability to raise long-term financing. In fact, long-term issues are still facing a lack of interest in the market, while investors are calling for a more diverse range of maturities between the less than 2-year to 7-year horizons typically proposed by issuers. Our analysis showed that coverage rates decrease sharply as maturity increases, suggesting worryingly that the market may not be deep enough to cover the region's long-term financing needs.

28. **Another consequence is that the secondary market for bills and bonds remains underdeveloped.** Excess liquidity in the financial system and the interest rate spread between the refinancing operations at the central bank and sovereign securities tends to encourage banks to buy-and-hold government securities until maturity rather than to trade them frequently as part of an active and diversified investment strategy. In addition, the lack of competing investors such as social security bodies and pension funds keeps the non-bank buy-side for securities shallow, reducing trade opportunities in the secondary market. Also, the scarcity of long-term securities with intermediate maturities (between 2 and 7 years) limits the spectrum of investment strategies on the market and capacity constraints prevent adequate pricing of securities traded in the secondary market, thus reducing the profitability of such operations. Finally, differences in tax regimes amongst WAEMU member states complicate the pricing process on the secondary market.

29. **Organizational issues and poor access to information increase financing costs and hinder the market's efficiency and integration.** First, though member countries are required to submit a schedule of public debt issuance at the beginning of each year, those are not binding and often lack reliability partly owing to issues in forecasting treasury cash flow needs. Hence, the poor coordination between T-bill and T-bond offerings amongst WAEMU treasuries leads to unpredictable demand for liquidity on the market. In some instances, bond issuances were even substantially undersubscribed (Benin, 2003; Senegal, 2012). Second, insufficient information sharing and transparency hampers investors' ability to analyze market information and make optimal investment choices. Debt data and governments' debt management strategies over the medium term are not readily available to the public and often lack reliability. Similarly, detailed data on issuances' outcomes for all countries and over a long period are difficult to gather.<sup>22</sup> Benchmarking is also challenging owing to the irregularity and non-diversification of issues, in particular long-term ones. Third, governments tend to issue higher amounts than those announced before the bidding process,

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<sup>22</sup> The BCEAO publishes on its website limited information on government securities issued during the current year. However, a comprehensive database with details on issuances including coverage rates and country origins of investors is not available. Provision of such database in a user-friendly support (ready for use in an econometric software) and covering all operations since the market's debut would promote cross-country analytical work and the development of an appropriate pricing mechanism.

contributing to blurring the market's signaling system. All the above factors reduce the market's efficiency and favor its segmentation, also triggering supplemental financing costs for issuers.

30. **Finally, mitigating the systemic risk emanating from banks' relatively large exposure to government securities could prove challenging.** Net bank holdings of government debt averaged about 10 percent of the total banking system assets in 2001–10; an amount that was roughly equivalent to the ratio of regulatory capital to risk-weighted assets of the region's banking system. As experienced during the 2010 political standoff in Côte d'Ivoire, such large exposure to government paper could pose a solvency issue for some banks in times of economic crisis, and hence a systemic threat to the region's banking system.

## VI. CONCLUSION AND POLICY RECOMMENDATIONS

31. **This paper contributes to the literature on several grounds.** It provides an overview of the WAEMU securities market's institutional framework, and analyzes recent developments—including government securities' yield curves—and impediments to the development of the regional bond market.

32. **Interesting findings emerged from analyzing the market's operations.** The paper shows that market operations expanded considerably over the last decade, but are still predominantly dominated by sovereign debt issuances and fueled by banks supply of liquidity. Moreover, recalling the market's initial goal of providing a more transparent and efficient source of capital for the region's governments and corporations, the paper found that the WAEMU regional bond market has succeeded in providing sufficient short-term financing to governments. However, the paper also found that the market fell short in providing long-term financing for both member countries and the private sector. Against this backdrop, the recent tax exemption granted to IFC bonds could help bolster future issuances in the Kola bond segment.

33. **The paper identified major determinants of interest rates and provided a detailed profile of sovereign securities issued in 2010.** Using WAEMU countries' yield curves and principal component analysis, the paper showed that interest rates on sovereign debt were typically affected by countries' debt ratings—though interest rates spreads were not always consistent with risk factors—issuances' maturity, coverage rates, and volumes; as well as other less quantifiable determinants—notably seasonal effects, the mode (auction or syndication), and the frequency of issuances. The paper also found that interest rates on regional and Kola bonds were among the lowest in the market, whereas those on corporate bonds remained high. It then profiled public issues using the studied determinants.

34. **The paper also argues that notwithstanding the recent improvements, significant progress is needed for the market to reach its full potential and support the region's growth ambitions.** Among the challenges to the market's development are the undiversified issuer and narrow investor bases; regulations favoring banks' preferences for short-term securities; the lack of diversity in maturities; an undeveloped secondary market owing to a shallow buy side; organizational issues including lack of coordination of issuances by member countries and non reliability of issuance plans (both dates and volume); insufficient information sharing; and relatively high financing costs for prospective borrowers.

35. **Witnessing the strong activity in the primary market for T-bills, market authorities and participants should address the issues that still prevent the development of a secondary market.** Because the region's banks boast very high liquidity ratios and intermediation of savings into loans to the private sector is very low, a further deepening of the financial sector—including through the empowerment of local and regional investors and the development of new instruments to collect long-term savings (e.g. life insurance, complementary retirement plans, mutual funds)—would allow private corporations to raise more financing on the regional market.

36. **Authorities should also tackle impediments to the issuance of securities with longer maturities.** This could be helped by broadening offerings of longer-term government bonds to help benchmark financial risk for private issuers. Moreover, regional capital and exchange rate controls could also be revisited to attract more foreign investors to the market.

37. **The current challenges associated with the financing of growth in the region should further encourage authorities to pursue reforms both at national and regional levels.** The swift implementation of pending reforms, such as the adoption of national treasury cash flow plans, the coordination of debt issuance schedules at the regional level, and the improvement of governments' debt management capacity could help market players better reap the benefits of a vibrant regional financial market. Moreover, strengthening the pension and social security systems through comprehensive reforms could also help broaden the investor base and increase market activity, notably in the secondary market. Preparing a stock taking of regulatory issues that hampers the market development and a strategy to address those issues would also be beneficial. Such strategy should include a rethinking of the role of the BCEAO in the sovereign issuance process. In that regard, the recent creation of the WAMU-Securities Agency (“Agence UMOA-titres”, see decision no. CM/UMOA/006/05/2012) in May 2012 with the goal of supporting WAEMU countries in the issue and management of public debt securities is a welcome step forward. Finally, the BCEAO should develop contingency plans to address the systemic risk that could arise from the banking sector's large exposure to government securities if needed.

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## ANNEX 1. ISSUERS ON THE WAEMU BOND MARKET

Table 1. WAEMU: Issues of Securities, 2001-2010<sup>1</sup>

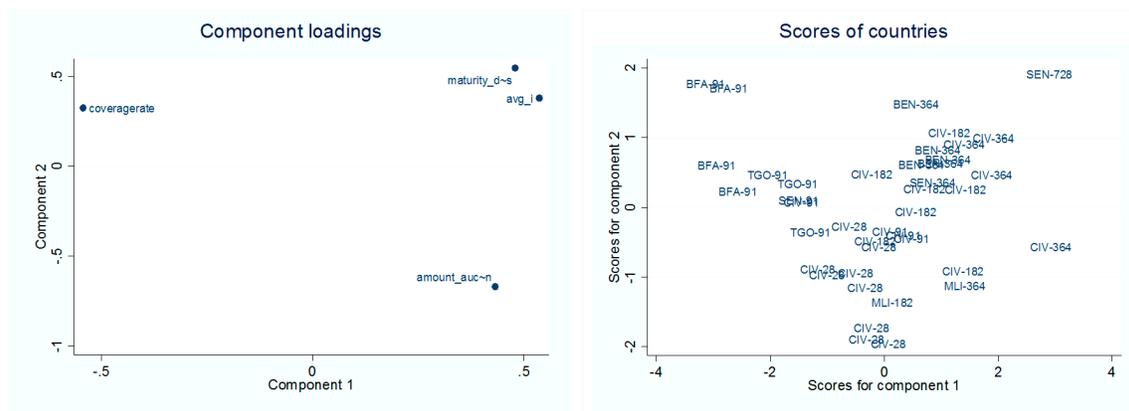
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Sovereign</b>										
Benin							41.9	30.0	36.6	
Burkina Faso			25.0				41.3		80.7	43.3
Côte d'Ivoire			40.4		86.1	84.2	51.7	61.2	72.9	35.6
Guinea-Bissau										
Mali								31.3	21.1	
Niger									16.6	
Senegal					45.0		115.9	25.0	31.1	31.4
Togo						36.3	20.0			17.1
<b>Total sovereign</b>	<b>0.0</b>	<b>63.9</b>	<b>65.4</b>	<b>0.0</b>	<b>131.1</b>	<b>120.5</b>	<b>266.4</b>	<b>147.5</b>	<b>259.0</b>	<b>127.4</b>
<b>IFI and regional institutions</b>										
BOAD <sup>2</sup>		44.8	45.0	40.0	25.0	15.0	22.5	76.1	46.4	
BIDC						24.1				
IFC						22.0				
AFD								20.0		
<b>Total IFI and regional institutions</b>	<b>0.0</b>	<b>44.8</b>	<b>45.0</b>	<b>40.0</b>	<b>25.0</b>	<b>61.1</b>	<b>22.5</b>	<b>76.1</b>	<b>46.4</b>	<b>0.0</b>
<b>Corporate</b>										
BOA Benin	5.0									
BST Senegal <sup>2</sup>		1.1								
SAGA Côte d'Ivoire		3.0								
BHM Mali		9.5								
Shelter Afrique			3.5							
FILTISAC Côte d'Ivoire <sup>2</sup>			2.0							
SENELEC Senegal			15.0							
CELTEL Burkina Faso			3.0							
Communaute Electrique du Benin (CEB)			16.0	9.0						
Industries Chimiques du Sénégal (ICS) <sup>2</sup>				15.0						
BNDA Mali				3.5						
Port Autonome de Dakar, Senegal				30.0						10.0
SFCA Côte d'Ivoire <sup>2</sup>				4.2						
LOCAFRIQUE Senegal <sup>2</sup>					0.2					
Societe Béninoise d'Energie Electrique					22.8					
ONATEL Burkina Faso					16.0					
BOA Burkina Faso						2.0				
SEMA Mali							5.0			
CAA Benin							54.1			
SOTRA Côte d'Ivoire							10.2			
CELTEL Burkina Faso							13.0			
ALIOS Finance Côte d'Ivoire <sup>2</sup>								7.8		4.0
Shelter Afrique								2.8		
La Sénégalaise de L'Automobile (LASA) <sup>2</sup>								6.5		
Standard Chartered Bank Côte d'Ivoire <sup>2</sup>									0.7	
<b>Total corporate</b>	<b>5.0</b>	<b>13.6</b>	<b>39.5</b>	<b>61.7</b>	<b>38.9</b>	<b>2.0</b>	<b>82.3</b>	<b>17.1</b>	<b>0.7</b>	<b>14.0</b>

Source: BCEAO

<sup>1</sup> Up to November 30, 2010. Including negotiable and non-negotiable securities. Excluding t-bills and securitized debt.<sup>2</sup> Including negotiable securities.

## ANNEX 2. PRINCIPAL COMPONENT ANALYSIS: DETAILED RESULTS FOR GOVERNMENT SECURITIES ISSUED IN 2010

**Figure 1. WAEMU: PCA on Government Securities, 2010**



Sources: BCEAO and IMF staff calculations.

<sup>1</sup>Owing to scarcity of data on coverage rate, this analysis uses exclusively data on sovereign debt issued in 2010 (up to December 19, 2010).

**Table 1. WAEMU: Principal Components (Eigenvectors)**

Variables	Component 1	Component 2	Unexplained
Maturity (days)	0.4795	0.5471	0.2101
Amount auctioned	0.4326	-0.6695	0.1613
Coverage rate	-0.5432	0.3268	0.2515
Average interest rate	0.5366	0.3817	0.2299

Sources: BCEAO and IMF staff calculations.