

# Responding to Shocks and Maintaining Stability in the West African Economic and Monetary Union



Ermal Hitaj, Christina Kolerus,  
Douglas Shapiro, and Aleksandra Zdzienicka

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## Introduction

The West African Economic and Monetary Union (WAEMU), like other monetary unions, faces a number of challenges in dealing with macroeconomic shocks.<sup>1</sup> A symmetric shock—that is, a shock affecting similarly all members of a monetary union—can in principle be addressed by the common monetary policy or by a coordinated fiscal policy response. Monetary policy, however, cannot address an asymmetric shock, for which a (national) fiscal policy response remains the main available instrument (or fiscal transfers if available). An additional constraint in the WAEMU for dealing with shocks is that the exchange rate of its common currency, the CFA franc, is pegged to the euro, which limits the scope for active monetary policy.

Shocks have been frequent in the WAEMU and often asymmetric. Some of them have been of a political nature, as illustrated by the crises experienced in the past few years in Côte d'Ivoire, Guinea Bissau, and Mali. The region is also affected by a large number of exogenous shocks of various natures: climate-related (e.g., droughts, floods), with a heavy toll on populations and agriculture, but also economic (e.g., terms of trade gyrations), with a large impact on key sectors and the cost of living. More generally, business cycle synchronization within the WAEMU seems low.

Addressing these shocks, while preserving the stability of the union, is therefore a critical issue in the WAEMU. With a limited scope for monetary policy responses and in the absence of fiscal transfers at the regional level, national fiscal policies should in principle play an important role in the response to shocks, both symmetric and asymmetric. The scope for countercyclical fiscal policies is, however, constrained by the limited development of the financial sector in the WAEMU. In addition, preserving debt sustainability and the stability of the Union in the medium term requires strong coordination of fiscal policies. The experience of the euro area has shown that fiscal discipline in each member of a monetary union is critical for the stability of the union, and that this discipline could be weakened by externalities, such as a noncredible no-bailout commitment.

This paper discusses these issues and suggests possible reforms. Chapter 1 analyzes the business cycles in the WAEMU, its synchronization and evolution over time. It explores whether shocks have become less asymmetric over time, and the effectiveness of monetary policy in smoothing the impact

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<sup>1</sup> The WAEMU is a currency and economic union of Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, and Togo.

of shocks on consumption. The following three chapters look at different dimensions of external sustainability of the WAEMU. Chapter 2 analyzes a specific shock (the crisis in Mali) and its impact on the rest of the WAEMU. Chapter 3 discusses the crucial role of fiscal policy in the context of the WAEMU in addressing exogenous shocks and preserving external stability. It finds that an improvement of the effectiveness of market discipline in the WAEMU would require further development of the regional financial market and improvements in fiscal aspects of the WAEMU's regional surveillance framework. Finally, Chapter 4 and Chapter 5 provide an assessment of the current external stability and debt sustainability situation.

## Shocks and Shocks Absorption in the WAEMU<sup>2</sup>

*Are business cycles synchronized in the West African Economic and Monetary Union (WAEMU)? How has synchronization evolved over time? Looking at shocks affecting the WAEMU, this chapter explores whether there has been “shock convergence” (i.e., whether shocks have become less asymmetric over time). In a second part, the chapter explores the effectiveness of monetary policy in influencing certain key variables, and whether other mechanisms contribute to smoothing the impact of shocks on consumption. The results suggest a still high prevalence of asymmetric shocks and limited smoothing of shocks. The limited scope for, and impact of, monetary policy suggests that fiscal policy has an important role to play in addressing both symmetric and asymmetric shocks. Further integration and strengthening of market-based smoothing mechanisms (e.g., developing and improving access to the financial system) would also likely reduce the occurrence and economic impact of asymmetric shocks.*

The monetary policy framework in the WAEMU has ensured price and exchange rate stability, but reduces member countries’ ability to respond to asymmetric (idiosyncratic) shocks. This framework has produced substantial benefits in terms of price and exchange rate stability and convertibility of the CFA franc. At the same time, it can make maintaining macroeconomic stability more challenging if the business cycles of the member countries are not well synchronized and stabilization mechanisms aimed at absorbing common and idiosyncratic shocks are absent or ineffective (Karras, 2006).

Susceptibility to idiosyncratic shocks reflects structural characteristics and a lack of integration. The degree of business cycle synchronization depends on factors such as the similarity of economic structure, trade and financial openness, the presence and type of idiosyncratic shocks, and the efficiency of adjustment mechanisms to deal with such shocks (De Grauwe, 2005).

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<sup>2</sup> The authors of this chapter are Aleksandra Zdzenicka and Christina Kolerus.



Some authors (Frankel and Rose, 1998) have argued that business cycle synchronization may be endogenous and increase over time with the level of economic integration within a monetary union. WAEMU countries are characterized by heterogeneous economic structures. In addition, limited economic diversification and a range of geographical conditions make them prone to output volatility. Although they have been members of a monetary union for decades, trade, labor, and capital market integration has not progressed significantly. Output volatility remains large (Figure 1).

This paper (i) assesses the degree of business cycle synchronization and shock convergence, and (ii) provides simple estimates of the ability of monetary policy to absorb common shocks and of various mechanisms to absorb common and idiosyncratic shocks.

## Nature and Convergence of Shocks

### Business Cycle Synchronization Over Time

Business cycle synchronization in the WAEMU has been modest (Table 1).<sup>3</sup> Over the period 1980–2012, business cycle synchronization in the WAEMU has averaged at about 0.2, ranging from about –0.2 for Togo (the less synchronized economy) to about 0.5 for Mali and 0.6 for Burkina Faso (the most synchronized economies). The degree of business cycle synchronization

**Table 1. WAEMU: Business Cycle Correlation with WAEMU Aggregate<sup>1</sup> (1980–2012)**

	1980s	1990s	2000s	since 2007
Benin	0.37	0.12	0.47	–0.11
Burkina Faso	0.76	0.57	0.71	0.44
Guinea-Bissau	0.35	–0.13	0.26	0.03
Cote d'Ivoire	0.63	0.03	0.30	0.15
Mali	0.36	0.63	0.90	0.43
Niger	0.34	0.11	0.56	0.41
Senegal	0.12	0.14	0.39	0.05
Togo	0.22	–0.80	–0.03	0.17
Average	0.39	0.08	0.45	0.20

Source: IMF staff estimations.

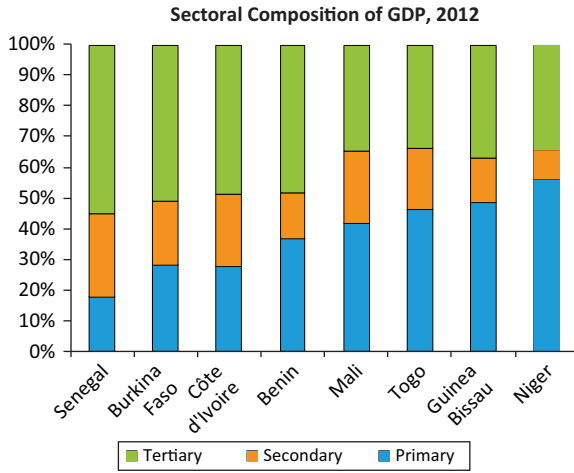
Note: WAEMU = West African Economic and Monetary Union.

<sup>1</sup> Each country is taken out in the computation of the WEAMU aggregate for its respective correlation.

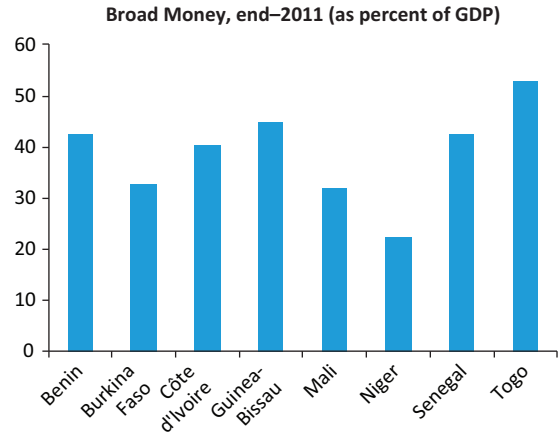
<sup>3</sup> Business cycle synchronization measures for WAEMU countries are obtained by: (i) de-trending the series of real GDP using a Hodrick-Prescott (HP) filter with a smoothness parameter equal to 1 (Rand and Tarp 2002), and (ii) computing the correlation between the country's cyclical component and the WAEMU's cyclical component.

**Figure 1. Vulnerabilities of WAEMU Economies**

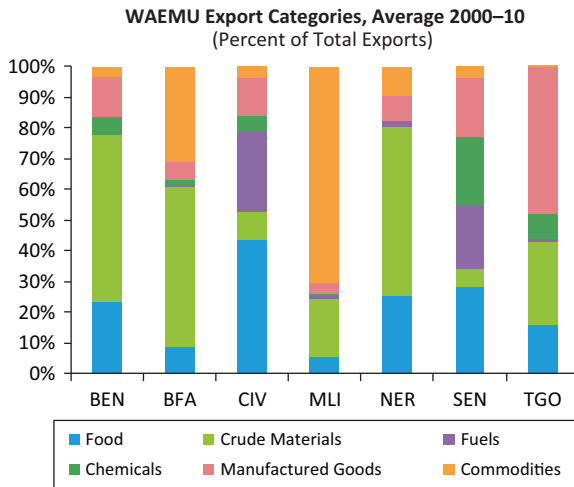
Some member states rely heavily on agriculture and economies are poorly diversified...



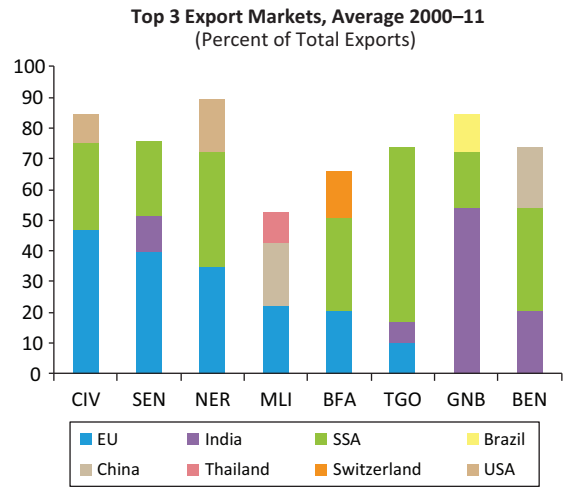
...while the financial sector remains relatively shallow.



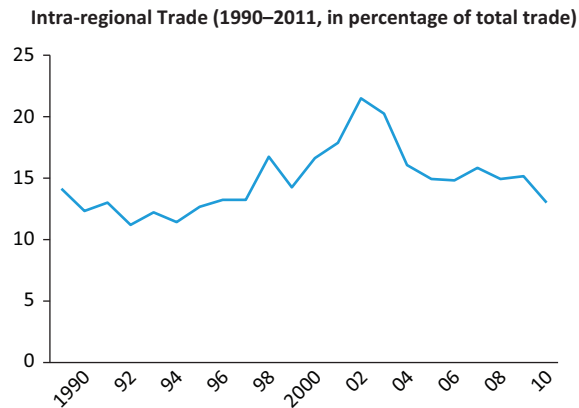
The export pattern reflects both the lack of diversification and strong heterogeneity among WAEMU countries.



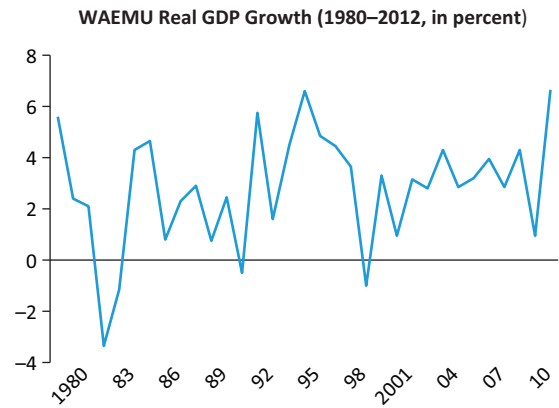
The region's economies are exposed to shocks in Europe, emerging Asia, and neighboring Africa.



In line with heterogeneous trade patterns, intra-regional trade has remained relatively small.



As a consequence, real GDP growth has been volatile during the past decades reflecting large vulnerabilities.



Sources: BCEAO, DTTS, IMF staff calculations, WITS.  
Note: WAEMU = West African Economic and Monetary Union.

has varied over the last three decades, with a low point during the 1990s and an increase during the 2000s. Synchronization has decreased again during the most recent years, possibly reflecting political instability in a number of countries (Côte d’Ivoire, Guinea-Bissau, Mali). Business cycle correlation has tended to be higher in landlocked countries (Burkina Faso, Mali, Niger), which are more dependent on intra-WAEMU trade, and lower in countries with higher extrazone trade links (Benin, Senegal, Togo).

Business cycles of many WAEMU countries have become more synchronized with that of the euro zone (Table 2). This synchronization has become relatively strong in several countries in the recent period (with the notable exceptions of Côte d’Ivoire, probably due to its political crisis at the time, and Togo). This increased correlation may reflect the impact of the global crisis. Business cycle correlation with China (taken as a proxy for emerging markets) remains limited on average, except for Guinea-Bissau and Senegal.

### Shocks Convergence

Supply shocks have not converged across all WAEMU countries. The methodology used to identify various kinds of shocks and their dynamics is detailed in Box 1. Supply shocks appear very heterogeneous among WAEMU members. In Burkina Faso, Mali, Niger, and Senegal, supply shocks have become more asymmetric (Figure 2). They have become more symmetric in other countries.<sup>4</sup>

**Table 2. WAEMU: Business Cycle Correlation with the Euro Zone and China (1990–2012)**

	The Euro zone			China		
	1990s	2000s	since 2007	1990s	2000s	since 2007
Benin	-0.53	0.39	0.40	-0.71	0.16	0.16
Burkina Faso	-0.53	0.00	0.47	-0.01	-0.07	-0.08
Guinea-Bissau	-0.01	0.34	0.58	0.01	0.01	0.33
Cote d’Ivoire	-0.95	-0.44	-0.30	0.15	-0.27	-0.09
Mali	-0.44	-0.21	0.43	-0.55	-0.04	-0.20
Niger	-0.32	0.15	0.55	-0.07	-0.02	-0.08
Senegal	0.14	0.18	0.94	0.12	0.17	0.86
Togo	0.73	-0.25	-0.37	-0.40	0.02	-0.51
WAEMU	-0.84	-0.14	0.02	-0.08	-0.09	0.00

Source: IMF staff estimations.

Note: WAEMU = West African Economic and Monetary Union.

<sup>4</sup> Similar analysis shows a higher symmetry of demand shocks in the WAEMU.

### Box 1. Structural Shocks Convergence

Structural shocks convergence is assessed following a two-step approach. In the first step, three types of structural shocks—supply, real demand, and nominal—are identified using a structural vector autoregressive (VAR) model<sup>1</sup> with the Blanchard and Quah (1989) long-term restrictions, as developed by Clarida and Gali (1994).

$$\begin{pmatrix} \Delta y_t \\ \Delta reer_t \\ \Delta p_t \end{pmatrix} = \begin{pmatrix} A_{11} & A_{12} & A_{13} \\ A_{12} & A_{22} & A_{23} \\ A_{13} & A_{23} & A_{33} \end{pmatrix} \begin{pmatrix} e_{supply,t} \\ e_{realdem,t} \\ e_{nominal,t} \end{pmatrix} \quad (1)$$

In particular, it is assumed that (i) only supply shocks, such as productivity or demographic shocks, affect output ( $\Delta y_t$ ) in the long term; (ii) both supply and real demand shocks (government spending or change in fiscal policy) affect the real exchange rate ( $\Delta reer_t$ ) in the long term; and (iii) all shocks influence prices ( $\Delta p_t$ ). These restrictions require that  $A_{12} = A_{13} = A_{23} = 0$ . The structural shocks are serially uncorrelated and have a covariance matrix normalized to the identity matrix. A reduced form of the VAR model is then estimated, and the time series of structural shocks are recovered.

In the second step, a dynamic space-state model using the Kalman filter technique<sup>2</sup> is estimated to assess how shocks convergence has evolved.

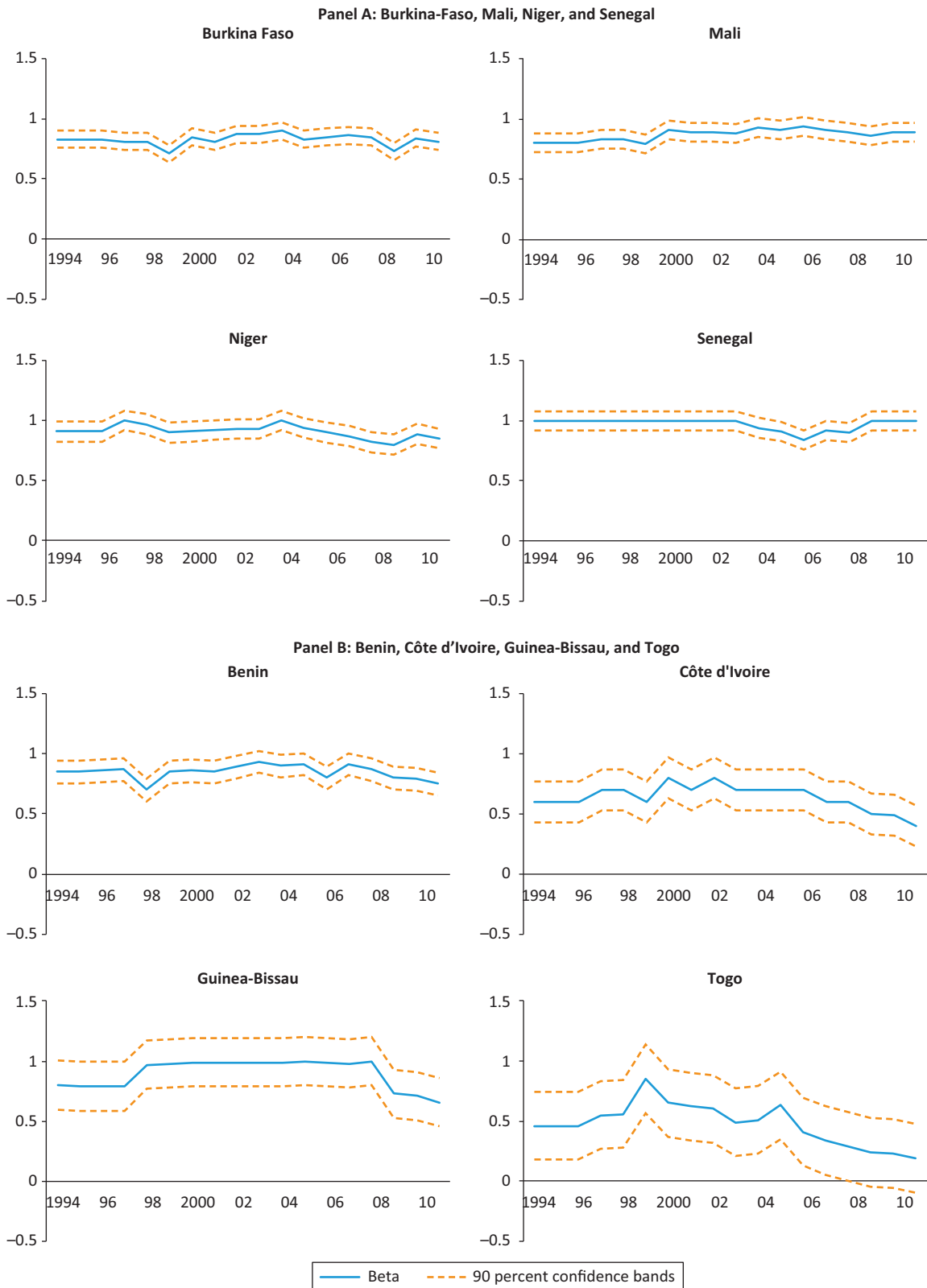
$$(e_t^w - e_t^i) = \alpha_t + \beta_t (e_t^w - e_t^k) + \omega_t \quad (2)$$

The dependent variable in (2) represents asymmetric shocks, measured as the difference between shocks affecting the West African Economic and Monetary Union ( $e_t^w$ ) and each country ( $e_t^i$ ). A time-varying coefficient  $\beta_t$  getting closer to zero is interpreted as increasing convergence, whereas  $\beta_t$  close to one suggests that shocks affecting the rest of the world ( $e_t^k$ ) affect countries in an asymmetric fashion.  $\alpha_t$  denotes the time-varying coefficients, capturing idiosyncratic shocks not related to the external environment. The two time-varying coefficients are shown in Figure 2.

<sup>1</sup> The data are annual and taken from the IMF database; they cover the period 1970–2012.

<sup>2</sup> See Boone (1997), Babetski, Boone, and Maurel (2004), and Zdzienicka (2010) for details.

Figure 2. Dynamics in Supply Shocks Convergence in the WAEMU (1994–2012)



Source: IMF staff calculations.

## Monetary Policy and Response to Symmetric Shocks

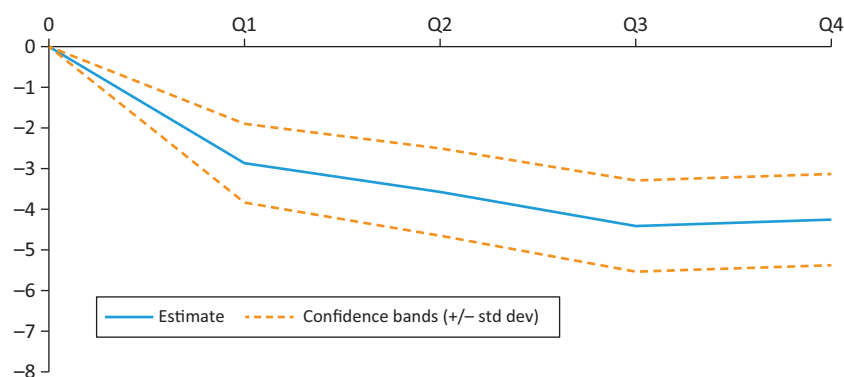
Monetary policy can be used in the WAEMU to address symmetric shocks. Although the CFA franc is pegged to the euro, there is some scope for an active monetary policy in the WAEMU because of limited capital mobility (Kireyev, 2012). The most important transmission channel of monetary policy in the region is the bank lending channel. Although transmission is imperfect due to a shallow interbank market, there is correlation of about 0.5 between policy rates and interbank market rates after one to four quarters. The absence of a secondary government debt market and relatively illiquid equity and real estate markets make it difficult for the asset and interest rate channels to be effective.

Monetary policy seems to have a significant, but relatively small, impact on economic activity via the credit market.<sup>5</sup> An increase of 100 basis points in the main monetary policy rate is found to decrease private credit growth by about 3 percentage points after one quarter and 4 percentage points after one year (noncumulative) (Figure 3). Reserve requirements are found not to affect credit growth in the short term. When testing the effect of changes in both interest rates and reserve requirements by means of an index, the impact of monetary policy is higher.

## Other Smoothing Mechanisms

Smoothing of the impact of macroeconomic shocks may occur through a range of channels. The main ones are (i) private insurance via international capital markets (e.g., through the holding of diversified portfolio of

**Figure 3. The Effect of the Monetary Policy Rate on Credit Growth (in percentage points)**



Source: IMF staff estimates.

<sup>5</sup> The impact of monetary policy measures is identified by estimating panel regression equations of the changes in the monetary policy rate on private sector credit up to four quarters ahead.

international assets or explicit insurance); (ii) saving and borrowing via international credit markets; (iii) private transfers (e.g., remittances) and official ones (e.g., foreign aid); and (iv) fiscal risk sharing across countries (e.g., via intraunion transfers). A methodology to measure the effect of some of these mechanisms is presented in Box 2.

**Box 2. Measuring the Effectiveness of Smoothing Mechanisms**

The effectiveness of shock smoothing mechanisms in the West African Economic and Monetary Union (WAEMU) is estimated using the approach proposed by Asdrubali, Sorensen, and Yosha (1996). The approach consists in disaggregating GDP into different national account aggregates: gross national product (GNP), net national income (NI), disposable national income (DNI), and the sum of government consumption and private consumption (G+C). Using these aggregates, GDP can be decomposed as follows:

$$GDP_i = \frac{GDP_i}{GNP_i} \frac{GNP_i}{NI_i} \frac{NI_i}{DNI_i} \frac{DNI_i}{(C+G)_i} (C+G)_i \quad (1)$$

where *i* denotes each WAEMU state. Each ratio measures a specific smoothing mechanism. For instance, if  $\frac{GDP_i}{GNP_i}$  varies like  $GDP_i$ , then smoothing is taking place through international income transfers (which reduces GNP variations). The  $\frac{GNP_i}{NI_i}$  ratio will measure smoothing through capital depreciation or unilateral transfers (foreign aid). Further smoothing may take place through net international transfers and taxes  $\frac{NI_i}{DNI_i}$  and total saving  $\frac{DNI_i}{(C+G)_i}$ .

Full smoothing of shocks (deviations from the trend) occurs if total consumption remains unchanged when GDP varies.

To measure the contribution of each factor (channel) in smoothing shocks to GDP, we take log and first difference of both sides of equation (1) and we multiply each term by  $\Delta \log GDP_i$ . The cross-sectional variance in  $GDP$  is then divided by  $\Delta \log GDP_i$  to obtain the following equation:

$$1 = \beta^m + \beta^d + \beta^g + \beta^v + \beta^s + \beta^n \quad (2)$$

The  $\beta$ s are then estimated running the following system of independent panel regressions:

**Box 2. (concluded)**

$$\Delta \log GDP_{i,t} - \Delta \log GNP_{i,t} = \alpha_t^m + \beta^m \Delta \log GDP_{i,t} + \varepsilon_{i,t}^m \quad (3)$$

$$\Delta \log GNP_{i,t} - \Delta \log NI_{i,t} = \alpha_t^d + \beta^d \Delta \log GDP_{i,t} + \varepsilon_{i,t}^d \quad (4)$$

$$\Delta \log NI_{i,t} - \Delta \log DNI_{i,t} = \alpha_t^s + \beta^s \Delta \log GDP_{i,t} + \varepsilon_{i,t}^s \quad (5)$$

$$\Delta \log DNI_{i,t} - \Delta \log (DNI + G)_{i,t} = \alpha_t^p + \beta^p \Delta \log GDP_{i,t} + \varepsilon_{i,t}^p \quad (6.1)$$

$$\Delta \log (DNI + G)_{i,t} - \Delta \log (C + G)_{i,t} = \alpha_t^j + \beta^j \Delta \log GDP_{i,t} + \varepsilon_{i,t}^j \quad (6.2)$$

$$\Delta \log (C + G)_{i,t} = \alpha_t^n + \beta^n \Delta \log GDP_{i,t} + \varepsilon_{i,t}^n \quad (7)$$

Each  $\beta$  measures the incremental percentage of smoothing achieved by each channel described earlier,<sup>1</sup> and  $\beta^n$  measures the part of the shock to GDP that is not smoothed. The  $\beta$  coefficients are not constrained; a negative value indicates amplification, rather than smoothing, of a shock. The  $\alpha_t$  coefficients capture time fixed effects.

<sup>1</sup> Table 3 presents how the  $\beta$  coefficients changed over time. Capital depreciation (equation 4) and net tax and transfers (equation 5) channels are reported jointly because of data availability issues.

Shock smoothing, although on the rise, remains limited in WAEMU countries (Table 3).<sup>6</sup> A large share of shocks to GDP (about 83 percent in the recent period) is not smoothed in the WAEMU, which generates substantial consumption volatility (and likely welfare losses). In particular, net taxes and transfers and public and private savings do not have a statistically significant effect on consumption smoothing. The main (statistically significant) smoothing mechanism in the recent period has been factor income (most likely remittances, which have been shown to be countercyclical). Smoothing has modestly increased over the past decades. The limited amount of smoothing likely reflects a number of factors: (i) limited access to credit markets, which reduces the scope for countercyclical fiscal policies (with possible adverse implications for investment volatility too); (ii) the fact that most aid flows tend to be procyclical; and (iii) the absence of significant risk-sharing mechanisms at the level of the region.

<sup>6</sup> A relative contribution of each channel can vary in function of data coverage.



Table 3. WAEMU: Channels of Output Smoothing

Risk-smoothing channels <sup>1</sup>	B coefficient <sup>2</sup>		
	1980–2010	1980–94	1995–2010
Factors income flows	0.068** [-1.91]	0.170 [0.39]	0.205*** [2.84]
Capital depreciation and net tax and transfers	0.098 [-1.27]	0.138 [1.30]	-0.006 [-0.04]
Saving			
Public	0.004 [0.90]	0.261 [0.51]	0.151 [1.24]
Private	0.055 [0.46]	0.087 [0.61]	-0.179 [-0.54]
Unsmoothed	0.878*** [8.56]	0.884*** [7.94]	0.830*** [2.83]

Source: IMF staff estimates

<sup>1</sup> Indicates the risk-smoothing channels identified by equations (4)–(7) in Box 2.

<sup>2</sup> Reports the percentage of smoothing achieved by each channel; \*\*\*, \*\*, \* denotes significance at 1%, 5%, 10%, respectively.

## Selected References

- Asdrubali, P., B. Sorensen, and O. Yosha, 1996, “Channels of Interstate Risk Sharing: United States 1963–90,” *Quarterly Journal of Economics*, Vol. 111, pp. 1081–110.
- Babetski, J., L. Boone, and M. Maurel, 2004, “Exchange Rate Regimes and Supply Shocks Asymmetry: The Case of the Accession Countries,” CERGE-EI, Working Paper Series 206 (London: Centre for Economic Policy Research).
- Blanchard, O.J., and D. Quah, 1989, “The Dynamic Effects of Aggregate Demand and Supply Disturbances,” *American Economic Review*, Vol. 79 (4), pp. 655–73.
- Boone, L, 1997, “Symmetry and Asymmetry of Supply and Demand Shocks in the European Monetary Union,” CEPII, Working Paper 97/03 (Paris: CEPII).
- Clarida, R., and J. Gali, 1994, “Sources of Real Exchange Rate Fluctuations: How Important Are Nominal Shocks?” *Carnegie-Rochester Conference Series on Public Policy*, Vol. 41, pp. 1–56.
- De Grauwe, P., 2005, “Economics of Monetary Union” (London: Oxford University Press).
- Dufrénot, G., E. Houessou, and E. Nonfodji, 2007, “Politique budgétaire et dette dans les pays de l’UEMOA,” *Economica*.

- Frankel J., and A. K. Rose, 1998, "The Endogeneity of the Optimum Currency Area Criteria," *Economic Journal, Royal Economic Society*, Vol. 108 (449), pp. 1000–25.
- Karras, G., 2006, "Is Africa an Optimum Currency Area? A Comparison of Macroeconomic Costs and Benefits," *Journal of African Economies*, Vol. 16 (2), pp. 234–58.
- Kireyev, A., 2012, "Monetary Policy under a Fixed Exchange Rate Arrangement: The Case of WAEMU." Unpublished.
- Rand, J., and F. Tarp, 2002, "Business Cycles in Developing Countries: Are They Different?" *World Development*, Vol. 30 (12), pp. 2071–88.
- Zdzienicka, A., 2010, "The Dynamics of Structural Shocks," *IUP Journal of Monetary Economics*, Vol. 8 (3), pp. 31–59.

## The Impact of the Malian Crisis on the WAEMU<sup>7</sup>

*The economic spillovers from the Malian crisis have been limited so far, reflecting that Mali trades significantly with only three countries in the region and other economic and financial linkages are not very strong. The main risks, should the political and security situation worsen in 2013, would be a further outflow of refugees and the spread of terrorist violence, which could destabilize neighboring countries.*

### Background

In the first quarter of 2012, Mali suffered the double shock of a conflict in the north of the country and a military coup in Bamako. After the Malian army suffered a string of setbacks at the hands of Touareg separatists in northern Mali, in March 2012 mid-ranking officers in Bamako staged a coup, overthrowing the government and forcing the resignation of President Touré. The power vacuum was exploited by a coalition of Touareg separatists and terrorist groups, which took control of the north of the country.

Mediation efforts resulted in a gradual return to the constitutional order. In April, the president of the National Assembly took over as interim president and appointed an interim prime minister. In August, the cabinet was reshuffled and expanded to broaden representation.

In January 2013, the French military intervened to stop the advance of the terrorist groups and restore territorial integrity. After terrorist groups advanced to key cities in central Mali without significant resistance, the Malian government solicited military assistance from France, which, in cooperation with the Malian army, halted the terrorist groups' advance and counterattacked.

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<sup>7</sup> Ermal Hitaj is the author of this chapter.

## Linkages between Mali and Other WAEMU Countries

While exports to other West African Economic and Monetary Union (WAEMU) economies are rather limited, Mali's imports from the region are nonnegligible. Gold constitutes about 75 percent of Mali's exports, and WAEMU-bound exports add up to only about 11 percent of the total (Table 4). Imports from other WAEMU countries have increased by about 50 percent over the past three years and made up 38 percent of Mali's total imports in 2011. Senegal has become an increasingly large source of imported goods (cement and petroleum products), accounting for CFAF 338 billion, or 21 percent of total imports in 2011. Imports from Benin and Côte d'Ivoire are also significant, whereas imports from other WAEMU countries are negligible. The fact that these three countries are also those through which imports get into Mali raises the possibility that some of this trade may be transit not properly recorded.

**Table 4. Mali: Trade Flows**

	2009		2010		2011		Average 2009–11	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
	(in CFAF billions)							
Bénin	3.2	63.8	2.7	113.0	8.1	119.8	4.7	98.9
Burkina Faso	15.0	2.2	21.4	3.3	47.6	2.5	28.0	2.7
Côte d'Ivoire	16.3	143.0	19.8	113.0	42.4	127.4	26.2	127.8
Guinée Bissau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niger	1.3	0.0	1.7	0.2	2.3	0.0	1.8	0.1
Sénégal	48.0	162.3	43.5	239.6	54.4	338.2	48.6	246.7
Togo	0.8	30.5	1.0	27.0	3.2	16.9	1.7	24.8
WAEMU	84.7	402.0	90.1	496.2	158.0	604.8	110.9	501.0
Rest of the world	755.6	772.1	899.1	1196.7	974.2	976.9	876.6	981.9
	(in percent of total trade)							
Bénin	0.4	5.4	0.3	6.7	0.7	7.6	0.5	6.6
Burkina Faso	1.8	0.2	2.2	0.2	4.2	0.2	2.7	0.2
Côte d'Ivoire	1.9	12.2	2.0	6.7	3.7	8.1	2.6	9.0
Guinée Bissau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Niger	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
Sénégal	5.7	13.8	4.4	14.2	4.8	21.4	5.0	16.5
Togo	0.1	2.6	0.1	1.6	0.3	1.1	0.2	1.8
WAEMU	10.1	34.2	9.1	29.3	14.0	38.2	11.0	33.9
Rest of the world	89.9	65.8	90.9	70.7	86.0	61.8	89.0	66.1

Source: Central Bank of West African States.

Note: WAEMU = West African Economic and Monetary Union.

The number of Malian emigrants in WAEMU countries is considerable and inward remittances significant. There were more than 1 million Malians living abroad in 2010 (about 7 percent of the population),<sup>8</sup> with Côte d'Ivoire, Nigeria, and Niger as the top three destinations. Annual remittances have added up to about 4 percent of GDP on average over the past decade. The number of immigrants in Mali is much lower (about 163,000 in 2010, mostly from neighboring countries), and remittances outflows have hovered around 1 percent of GDP.

Financial linkages between Mali and the rest of the WAEMU are limited. The main one is likely to be Malian government securities purchases by WAEMU-area banks outside Mali (see next section and Table 5). Although there is no good information on other cross-border financial flows within the WAEMU, these linkages are likely to be very small.

## Economic Developments in 2012 and Implications for Other WAEMU Countries

The economy shrank owing to the coup d'état, the conflict in the north, and the reduction in donor support. The coup and the ensuing violence had a negative effect on industrial activity, and the drastic reduction of donor support led to a contraction of the construction and public works sector. Travel to Mali was brought to a halt by the deterioration of the security situation, causing a reduction of the activity in the services sector. Despite

**Table 5. Mali: Domestic Debt Service Due in 2013**

	(in CFAF billions)	
	Malian banks	WAEMU banks
T-bonds		
Principal	13.2	4.6
Interest	3.0	0.9
T-bills		
Principal	66.7	52.9
Interest	3.1	2.6
Total		
Principal	79.8	57.5
Interest	6.1	3.5

Source: Malian Authorities.

Note: WAEMU = West African Economic and Monetary Union.

<sup>8</sup> Migration and Remittance Factbook 2011, World Bank.

strong growth in agriculture, gold, and cotton production, real GDP is estimated to have contracted by 1.5 percent.

The Malian crisis had a limited economic impact on other WAEMU countries. The drop in Malian imports of construction materials has contributed to a fall in Senegal's cement production and exports. Beyond that, there is little evidence that exports from other WAEMU countries have been substantially affected.

Mali's maturing public debt was rolled over and has had little impact on the WAEMU banking system. The government reached an agreement with banks, facilitated by the Central Bank of West African States, on rolling over its maturing Treasury bills and bonds. The amount of debt rolled over was CFAF 138 billion, of which CFAF 43 billion was due to WAEMU-area banks outside Mali. Although this is not negligible, it is only a fraction of bank holdings of WAEMU government debt.

The humanitarian and security repercussions have been significant. The violence in the north exacerbated the food crisis caused by the poor harvest of 2011, and resulted in the displacement of about 400,000 people, only about half of whom remain within Mali. The other half sought refuge in neighboring countries, with Mauritania, Burkina Faso, and Niger hosting about 96,000, 38,000,<sup>9</sup> and 53,000 refugees, respectively.

## **Economic Outlook for 2013**

The baseline scenario for Mali in 2013 would entail no further negative effect on other WAEMU countries. In 2013, the Malian economy is projected to recover. Real GDP growth would return to trend (4.8 percent), average inflation would decrease to below 3 percent, and the current account deficit (including grants) would increase (to 8 percent of GDP) as economic activity picks up and the authorities reconstitute their emergency food stocks. This deficit would be only partially financed by foreign direct investment and the resumption of project aid, implying that Mali would draw down foreign exchange reserves to finance the rest (about \$84 million). In this scenario, other WAEMU countries' exports to Mali would be expected to pick up. However, the refugee situation in neighboring countries is likely to remain subject to uncertainty until the situation in the north has normalized.

The outlook for 2013 is subject to subdued downside risks than usual owing to uncertainties related to the political and security situation. Although the

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<sup>9</sup> The United Nations Refugee Agency estimates the number of Malian refugees in Burkina Faso at 38,000 as of December 2012. This figure is a significant downward revision from their earlier estimate of 107,000, which was based on self-declaration by heads of refugee households. The new estimate was based on a biometric registration of all refugees, and a precise headcount of incoming refugees.

terrorists have been driven out of urban areas in the north and presidential elections were held in July, some of the terrorists are believed to have retreated into the rugged desert terrain, and the terrorist threat remains elevated. Setbacks in the government's attempts to stabilize the north of the country could worsen the security situation, weaken investor and consumer confidence, and slow down growth.

For neighboring countries, the main risk would be the spread of terrorist violence. The direct economic and financial impact would indeed be limited. Assuming import elasticity vis-à-vis output of 1.45,<sup>10</sup> a 2 percent<sup>11</sup> reduction in Malian real GDP would cause a reduction of WAEMU-area imports of about 3 percent, or CFAF 18 billion using 2011 data; the loss for Senegal would be about 0.1 percent of its GDP, assuming all countries are affected similarly. Another risk would be the inability of the Malian government to repay its debt to banks in other countries maturing in 2013, but the amount is limited (CFAF 57 billion, or less than 0.2 percent of the WAEMU GDP excluding Mali) and a rollover could presumably be envisaged as in 2012. The main risk for neighboring countries would likely be a period of prolonged instability in the north, which could lead to an expansion of terrorist activities in these countries and require them to further increase defense and security spending.

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<sup>10</sup> Senhadji (Senhadji, A., 1998, "Time Series Estimation of Structural Impact Demand Equations: A Cross-Country Analysis," *IMF Staff Papers*, Vol. 45 [2].) estimates average short-run and long-run income elasticity of imports at 0.45 and 1.45, respectively. This chapter conservatively assumes a rapid reaction of Malian import demand to income changes.

<sup>11</sup> A 2 percent decline in GDP is predicated on a similar drop in services and industrial production as in 2012, and a lower growth in the primary sector.

## Fiscal Discipline in the WAEMU: Rules and Markets<sup>12</sup>

*This chapter explores the extent to which rules and market discipline are effective in ensuring fiscal sustainability in the West African Economic and Monetary Union (WAEMU). After evaluating the responsiveness of sovereign interest rates to governments' fiscal behavior, the chapter finds that an improvement of the effectiveness of market discipline in WAEMU would necessitate further development of the regional financial market. In addition, fiscal aspects of the WAEMU's regional surveillance framework could be reconsidered to improve both design and enforceability.*

### Introduction

Achieving fiscal discipline in a monetary union without a central fiscal authority, though crucial for its stability, is more challenging than elsewhere. A monetary union is likely to increase economic and financial interconnectedness among its members. Although regional integration is itself a welcome development, it also brings new risks. One of them is that debt sustainability issues in one country could have a higher impact on the other members. Close financial linkages, such as large holdings of government debt by banks in other countries of the union, can indeed be a powerful channel of transmission of a fiscal crisis in one country to the rest of the union, with implications for the stability of the latter, as has been seen in the euro area. Although ensuring fiscal sustainability in all the countries may be vital for the survival of a monetary union, some of its members may actually have incentives to overborrow in the absence of a credible commitment that no country will be bailed out by the others should it face an unsustainable debt burden. Countries with weaker fiscal situations may indeed benefit from the credibility of those with stronger public finances, and face lower interest rates than they would otherwise.

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<sup>12</sup>This chapter was prepared by Ermal Hitaj.



Fiscal discipline can in principle be supported by rules and financial markets. Fiscal rules can be useful in anchoring expectations and providing macroeconomic stability (Morris, Ongena, and Schuknecht, 2006), and have been viewed as a central pillar of the policy coordination framework that aims at ensuring the stability of a monetary union. Designing such rules is a delicate exercise: they need to help preserve fiscal discipline while leaving scope for countercyclical policies, because fiscal policy is the main tool to cope with asymmetric shocks in a monetary union. Market discipline can also help if a number of conditions are met, including free movement of capital, a credible no bail-out commitment, no monetization of the debt, and sensitivity of sovereign interest rates to fiscal behavior (Alexander and Anker, 1997).

This chapter explores the extent to which rules and market discipline are effective in ensuring fiscal sustainability in the WAEMU. It first evaluates the responsiveness of interest rates on sovereign debt issued in the regional market to governments' fiscal behavior, thus gauging the market's ability to signal the need for fiscal tightening. It also reviews the design and enforcement mechanism of fiscal rules in the WAEMU and their effectiveness. Finally, the chapter discusses possible ways to improve the effectiveness of the regional surveillance framework and market discipline.

## **The Role of the Regional Market in Fostering Fiscal Discipline**

The regional government debt market has become an important source of financing for a number of WAEMU countries (Table 6). The elimination of Central Bank of West African States (BCEAO) statutory advances to governments from 2003 served as a catalyst for the government securities market, which was sustained by excess liquidity in the banking system (Sy, 2010). A few countries have accounted for the bulk of the issuances, which consist mostly of Treasury bills with a maturity of less than a year (Diouf and Boutin-Dufresne, 2012). Furthermore, foreign participation in the WAEMU government securities market remains marginal, and trade in the secondary market limited.

Whereas the regional market responds to fiscal variables, borrowing costs seem to be driven mostly by the relative supply and demand for excess bank reserves. An increase in domestic debt has a positive and significant impact on the interest rate, suggesting that the regional market does discriminate across sovereigns based on their fiscal behavior. However, the magnitudes of the effects of the WAEMU-level excess reserves and overall fiscal balance indicate that availability of and demand for bank reserves in the regional market are the main determinants of borrowing costs. This suggests a currently limited role of WAEMU financial markets in enforcing fiscal

### Box 3. Estimating the Disciplining Effect of the Regional Debt Market

The objective is to assess the relationship between interest rates requested by investors on the regional market and the fiscal behavior of sovereigns. The dataset used covers all WAEMU countries during 1997–2011. All data used in the estimations are annual. The dependent variable is the average short-term annual interest rate a country is charged by the market.

The estimates in Table 5 are obtained through the Arellano-Bond estimation technique, which accommodates a dynamic equation specification while controlling for time-invariant country characteristics. The variables used are as follows:

- (i) Fiscal variables: the overall fiscal balance as a share of GDP and the general government's debt-to-GDP ratio. One would expect higher deficit and debt ratios to lead to higher interest rates, as they both increase the probability of default and therefore the credit risk premium. The debt variable used here is domestic debt, which to a large extent is composed of debt issued in the West African Economic and Monetary Union (WAEMU) market. External debt remains mostly owed to donors, and in the past decade has been relieved in all WAEMU countries, whereas regional market debt continued to be serviced.
- (ii) The level of excess bank reserves in the region. With banks being the main investors, a higher level of excess reserves is likely to lead to lower interest rates.
- (iii) The WAEMU overall fiscal balance-to-GDP ratio. This variable gives a sense of how much demand there is in the market for bank excess reserves. One would expect a higher WAEMU fiscal deficit to lead to higher interest rates. This variable is calculated separately for each country, excluding the country's own fiscal balance to avoid multicollinearity.
- (iv) The inflation rate, a standard variable in explaining nominal interest rates.
- (v) A composite index provided by International Country Risk Guide measures political risk, which has been significant in a number of WAEMU countries.

**Table 6. WAEMU: Treasury Bills Issuance**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	(CFAF billions)										
Benin	0.0	0.0	0.0	0.0	23.4	45.6	0.0	40.1	119.7	119.8	237.7
Cote d'Ivoire	0.0	0.0	16.3	15.7	47.5	0.0	164.8	103.0	538.3	1245.9	2278.8
Mali	12.0	0.0	15.2	21.0	114.9	44.1	53.1	30.5	54.1	99.5	119.6
Senegal	42.9	0.0	23.0	45.3	35.5	50.8	67.2	63.2	82.0	94.7	238.8
Burkina Faso	0.0	51.9	30.9	41.5	43.3	50.9	46.9	61.0	34.3	43.6	160.8
Niger	0.0	0.0	0.0	0.0	30.0	23.3	50.0	35.0	0.0	35.0	64.5
Guinea-Bissau	0.0	0.0	0.0	0.0	6.0	6.7	0.0	0.0	0.0	0.0	0.0
Togo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	15.0	30.0	60.0
WAEMU	54.9	51.9	85.4	123.5	300.5	221.4	382.0	342.7	843.4	1668.5	3160.2

Source: Central Bank of West African States.

Note: WAEMU = West African Economic and Monetary Union.

**Table 7. Determinants of Interest Rates in the WAEMU**

Overall balance to GDP	−0.153*** (0.001)	−0.0577 (0.274)
Domestic debt to GDP	0.0944** (0.013)	0.103*** (0.006)
Inflation	0.0608** (0.016)	−0.0201 (0.487)
Excess reserves	−0.787*** (0.000)	−1.290*** (0.000)
WAEMU overall balance to GDP	−0.498*** (0.000)	−0.228* (0.099)
Political risk rating		0.0502*** (0.000)
L.Int Rate	0.736*** (0.000)	0.528*** (0.000)
Observations	52	47

Source: IMF staff estimates.

Note: p-values in parentheses. WAEMU = West African Economic and Monetary Union.

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01.

discipline. These results are in line with those from Sy (2010), who finds that supply and demand conditions are the most important determinants of the yield curve in the WAEMU. They likely reflect the limited development of the financial system, which means in particular that banks have limited investment opportunities for their excess reserves, and the quasi-absence of other investors.

## The Role of the Regional Surveillance Framework

The regional macroeconomic surveillance framework in the WAEMU includes key fiscal rules. Three of the four first-order convergence criteria are of a fiscal nature: the basic fiscal balance should record a surplus, the overall public debt-to-GDP ratio should be less than 70 percent, and governments should not accumulate arrears. Second-order criteria also include a number of fiscal targets, but they are less directly aimed at the stability of the monetary union.

All WAEMU countries now have debt ratios way below the convergence criterion (Table 8). The latter was designed at a time when all WAEMU countries were overindebted, with debt ratios way above 70 percent of GDP. With Côte d'Ivoire having reached the completion point under the HIPC Initiative in 2012, all WAEMU countries have now benefitted from substantial

Table 8. WAEMU First-Order Convergence Criteria, 2001–12

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 Est.
Basic fiscal balance/GDP ( $\geq 0$ percent) <sup>1</sup>												
Benin	-3.0	-2.8	-0.1	-0.5	-1.4	0.1	1.5	-1.1	-1.5	1.5	-0.2	0.4
Burkina Faso	-2.5	-3.7	-2.9	-3.2	-3.5	-4.5	-5.8	-4.9	-1.9	0.4	1.2	-0.8
Côte d'Ivoire	1.1	-0.4	-1.7	-1.3	-1.6	-1.6	-0.6	-1.6	-1.0	-1.6	-4.0	-3.8
Guinea Bissau	-6.9	-5.8	-7.0	-12.0	-7.2	-6.2	-7.7	-6.7	3.2	1.0	2.9	1.5
Mali	-1.7	-1.3	-0.3	-0.7	-1.2	-0.4	-1.2	-1.2	0.4	0.2	-1.1	-1.1
Niger	-3.7	-1.9	-2.1	-2.2	-1.5	1.1	-0.2	1.9	-2.8	-1.0	-0.1	0.9
Senegal	-1.2	1.2	0.2	-0.5	-1.2	-4.7	-2.6	-2.4	-2.1	-1.8	-4.2	-3.0
Togo	1.5	0.3	2.7	1.4	-2.0	-2.8	-2.7	-0.7	-1.4	1.3	-1.7	-4.2
WAEMU	-0.8	-0.9	-1.1	-1.3	-1.8	-2.1	-1.6	-1.8	-1.3	-0.6	-2.1	-2.0
<i>Number of countries violating</i>	6	6	6	7	8	6	7	7	6	3	6	5
Total debt/GDP ( $\leq 70$ percent)												
Benin	54.0	47.7	36.5	33.8	37.2	11.6	21.9	25.6	28.0	30.2	30.3	33.3
Burkina Faso	0.0	0.0	0.0	0.0	0.0	0.0	23.2	22.1	27.2	27.2	28.0	29.3
Côte d'Ivoire	175.2	150.7	133.6	120.4	107.2	107.1	75.6	75.3	66.5	66.4	71.2	50.9
Guinea Bissau	208.3	230.7	217.3	195.6	179.3	176.9	187.5	157.6	163.8	49.0	44.2	46.9
Mali	88.7	56.1	51.6	48.4	48.3	19.9	21.0	20.8	22.9	32.8	30.1	31.4
Niger	85.2	88.9	69.9	58.8	52.3	17.2	25.1	21.0	27.9	23.7	21.9	39.9
Senegal	77.3	80.3	69.2	68.0	57.3	37.2	23.5	23.9	34.2	35.7	40.0	45.0
Togo	108.0	93.4	92.4	82.5	72.6	82.5	112.9	84.0	75.9	48.5	46.3	46.5
WAEMU	110.1	96.3	82.9	75.3	67.0	54.9	48.4	42.8	45.4	43.4	43.5	40.9
<i>Number of countries violating</i>	6	5	3	3	3	3	3	3	2	0	1	0
Overall fiscal balance (including grants)												
Benin	-4.8	-5.1	-1.7	-1.2	-2.3	-0.3	0.2	-1.7	-4.3	-1.6	-1.8	-0.7
Burkina Faso	-3.9	-4.9	-3.0	-4.5	-5.0	16.6	-5.7	-4.4	-4.8	-4.5	-2.5	-3.2
Côte d'Ivoire	0.9	-1.1	-2.1	-1.7	-1.7	-1.8	-0.8	-0.6	-1.6	-2.3	-4.3	-4.3
Guinea-Bissau	-5.4	-3.6	-1.0	-4.6	-4.9	-2.3	-2.7	1.7	2.7	-2.5	-2.8	-1.9
Mali	-3.2	-3.8	-1.3	-2.6	-3.1	31.3	-3.2	-2.2	-4.2	-2.7	-4.1	-2.1
Niger	-3.5	-3.0	-2.8	-3.6	-2.0	40.3	-1.0	1.5	-5.4	-2.4	-3.0	-3.5
Senegal	-2.4	0.0	-1.3	-3.1	-3.0	-5.7	-3.7	-4.6	-4.8	-5.2	-6.7	-5.9
Togo	-0.1	-0.4	2.4	1.0	-2.4	-2.8	-1.9	-0.9	-2.8	-1.6	-2.9	-6.6
WAEMU	-1.6	-2.1	-1.7	-2.4	-2.7	6.9	-2.2	-1.9	-3.5	-3.1	-4.0	-3.8

Sources: Country authorities and IMF staff estimates.

Note: WAEMU = West African Economic and Monetary Union.

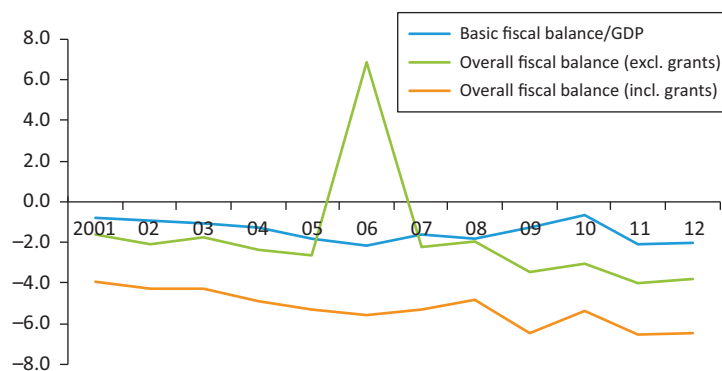
<sup>1</sup> Total fiscal revenues, excluding grants, minus total expenditures excluding foreign-financed investment expenditure. From 2009, total fiscal revenues plus budget support grants plus counterpart of HIPC/MDRI-related spending for both current and capital spending less current expenditure and capital expenditure financed by own resources.

debt relief and have debt ratios way below 70 percent of GDP. This major structural break raises the issue of whether the existing ceiling remains appropriate.

The basic fiscal balance criterion has rarely been met, raising issues about its relevance and credibility. Most countries have repeatedly missed the target over the past 10 years (Table 8 and Figure 4). This begs the question of whether policies were inadequate (in light of the repeated breaches) or if the criterion itself needs to be reconsidered.

Another issue that could warrant reconsideration is monitoring and enforcement. The Excessive Deficit Procedure, while outlining a sequence of remedial steps, does not stipulate a clear timeline or specify the mitigating circumstances that could temporarily exempt a country from the process. A deviating country is given 30 days to develop an adjustment strategy, which can benefit from financial assistance from the Union. If a country cannot come up with corrective measures or they are poorly executed, it is liable to sanctions, which can include publication of a statement on the country's economic situation, withdrawal of the Union's assistance, recommendation to the BCEAO to review its intervention policy toward the country, and finally suspension of financial support from the Union. It is not clear how much time a country is given to take the correcting measures and whether, in case adjustment fails, the process reverts to the very beginning, or to the last fulfilled step. Furthermore, the acceptable adjustment and the monetary value of the sanctions are not specified; in fact, financial sanctions have never been implemented. The ambiguity of the foregoing corrective mechanism is compounded by the leeway provided by Article 71 of the WAEMU Treaty, which states that if a member country is experiencing economic distress or is susceptible to such distress because of exceptional circumstances, the (unanimous) WAEMU Council can exempt it from the obligation to meet part or all of the convergence criteria.

Figure 4. WAEMU Fiscal Balance



Sources: Country authorities and IMF staff estimates.

## **Strengthening the Surveillance Framework and Market Discipline**

Deepening the regional market would increase market discipline. The WAEMU financial market, while having developed substantially in the last decade, is still relatively shallow. This likely results in imperfect pricing of sovereign borrowing. Market monitoring may also be hampered by banks' limited capacity to assess fiscal sustainability. Further market development, and the associated increasing reliance of sovereigns on this kind of financing, can be expected to increase market discipline. Improving information quality and availability, which can then be used by market participants for pricing purposes, would also help. Banks, on their side, may need to improve their analytical capabilities. Finally, the supervision authorities could consider introducing a nonzero risk weight for government paper in the financial institutions' capital adequacy calculations.

The ceiling for the public debt ratio could be lowered. The current ceiling was set at a time when debt ratios were much higher. Recent research conducted by Bank and Fund staff in the context of the debt sustainability framework suggests that a ceiling of 70 percent of GDP may be higher than desirable from the perspective of limiting the risk of debt distress. It could be lowered to around 50 percent, which is the level suggested by Bank and Fund staff for countries with low or medium quality of policies and institutions in the sense of the debt sustainability framework (i.e., countries with a Country Policy and Institutional Assessment index lower than 3.75). Whatever its level, the ceiling should be seen as a debt level to avoid reaching, not as an optimal level.

The design of the fiscal balance criterion could also be reconsidered if its main objective is to preserve fiscal sustainability. The exclusion of foreign-financed capital expenditure from the current definition raises two issues: first, it excludes a substantial source of debt accumulation, which in the past was a major contributor to overindebtedness; second, it discriminates among sources of financing, to the detriment of regional financing at a time when it might actually be desirable to develop the regional market. An overall deficit target would allow better control over debt accumulation and would not create distortions. If the authorities were to move in this direction, the next issue to address would be how to set the ceiling for the overall deficit to both ensure debt sustainability and allow for countercyclical policy responses. A solution considered in the euro area has been to set a target for the structural (cyclically adjusted) balance. However, such an approach may be more challenging to implement in the WAEMU, due to the absence of clear business cycles and data quality and availability issues. A possible alternative approach would be to use the deficit level as a reference for the ceiling, which would stabilize the

debt ratio in the steady state. For instance, assuming that nominal GDP grows by 7 percent at the steady state (5 percent for real growth, and 2 percent for inflation, which is the BCEAO's objective), a deficit of 3.5 percent stabilizes the debt ratio at 50 percent. The ceiling could be set slightly below this level, while allowing it to exceed it temporarily (and by a limited amount) under exceptional circumstances.

Finally, the monitoring and enforcement mechanism may need to be strengthened. The WAEMU Commission encounters difficulties collecting the information it needs to do effective regional surveillance; for instance, the data on fiscal arrears do not seem easily available. The timeliness of information may also be an issue. Improving the availability, quality, and timeliness of information is critical if the regional institutions are to exercise meaningful surveillance. Another issue is enforcement. Although the design of the Excessive Deficit Procedure could perhaps be improved, the more fundamental issue is the readiness of member states to subject themselves to strong oversight and possible sanctions from their peers. This is obviously a highly political issue, and perhaps not an urgent one, but it will need to be addressed in the medium term. A first step should be increased transparency and dissemination of regional and national fiscal outcomes.

## **Selected References**

- Alexander, V., and P. Anker, 1997, "Fiscal Discipline and the Question of Convergence of National Interest Rates in the European Union," *Open Economies Review*, Vol. 8 (4), pp. 335–52.
- Diouf, M. A., and F. Boutin-Dufresne, 2012, "Financing Growth in the WAEMU through the Regional Securities Market: Past Successes and Current Challenges," IMF Working Paper 12/249 (Washington: International Monetary Fund).
- International Monetary Fund and World Bank, 2012, "Revisiting the Debt Sustainability Framework for Low-Income Countries" (Washington).
- Masson, P. R., and O. Dore, 2002, "Experience with Budgetary Convergence in the WAEMU," IMF Working Paper 02/108 (Washington: International Monetary Fund).
- Morris, R., H. Ongena, and L. Schuknecht, 2006, "The Reform and Implementation of the Stability and Growth Pact," ECB Occasional Paper Series (Frankfurt: European Central Bank).
- Sy, A.N.R., 2010, "Government Securities Market in the West African Economic and Monetary Union: Review," *African Development Review*, Vol. 22 (2), pp. 232–302.



## External Stability Assessment<sup>13</sup>

*The West African Economic and Monetary Union (WAEMU) current account deficit has hovered around 5 percent of GDP during the last decade and has been financed mainly by aid and foreign direct investment. Official reserves coverage remains adequate and the real effective exchange rate is broadly in line with the region's fundamentals. Nonprice competitiveness, however, needs to improve.*

### Balance of Payments

The region's current account deficit has hovered around 5 percent of GDP during the last decade (Figure 5A). In 2012, the current account deficit increased substantially, reflecting exceptional factors such as reconstruction efforts in Côte d'Ivoire and investment in mining in Burkina Faso and Niger. The current account deficit is projected to remain high in 2013 for similar reasons, but would decline subsequently as Côte d'Ivoire's reconstruction needs subside. All WAEMU countries have experienced current account deficits of various magnitudes over the past decade, with the exception of Côte d'Ivoire, which used to record surpluses until recently (Figure 5B).

The current account deficit is financed mostly through aid. Official transfers (grants) increased substantially in the second half of the 2000s, averaging 4.5 percent of GDP in the past five years (Figure 5C). Official loans, with the exception of a 2009 spike, have remained stable at about 1 percent of GDP. Foreign direct investment is another stable source of financing (about 1.5–2 percent of GDP).

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<sup>13</sup> The authors of this chapter are Aleksandra Zdzenicka and Christina Kolerus.



## Official Reserves Adequacy

Official reserves coverage remains adequate. Foreign exchange reserves declined in 2012, reflecting the large increase in the region's current account deficit. However, they still amounted to CFAF 6,777 billion at end-2012 (about USD 13 billion) covering more than five months of next year's imports excluding intraregional trade (Figure 5D), about 50 percent of broad money, and about 100 percent of short-term external liabilities. Reserves therefore look ample according to traditional metrics. An alternative methodology to assess adequacy suggests, however, that reserves are not excessive.<sup>14</sup> This approach takes into account the cost of holding reserves and their benefits in terms of mitigating the impact of macroeconomic volatility. According to this approach, the optimal reserve coverage in the WAEMU varies between 5 and 10 months of imports, depending on the interest rate differential with the rest of the world.<sup>15</sup> This approach, however, does not take into account the access to reserves guaranteed by the French Treasury under the franc zone arrangements.

## Price Competitiveness

The real exchange rate remains broadly in line with fundamentals. The real and nominal effective exchange rates for the WAEMU have depreciated slightly by about 1 percent in the last 12 months. Among WAEMU member states, the largest depreciation occurred in Senegal and Niger. Model-based assessments (Box 4) do not suggest a significant misalignment of the real effective exchange rate.

## Structural Competitiveness

Survey-based indicators point to low nonprice competitiveness. Various indicators rank WAEMU countries among the worst performers.

- The World Bank's 2013 Doing Business Report ranks on average WAEMU countries 167 among 185 countries. Many WAEMU countries (and the aggregate) moved down in the ranking compared to previous years, suggesting worsening deterioration in the business climate (at least in relative terms). The region faces particular challenges in protecting

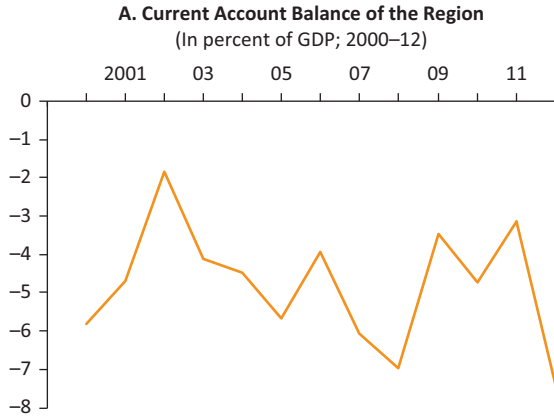
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<sup>14</sup> E. Dabla-Norris, J.I. Kim, and K. Shorono, 2011, "Optimal Precautionary Reserves for Low-Income Countries: A Cost-Benefits Analysis," IMF WP 11/249 (Washington: International Monetary Fund).

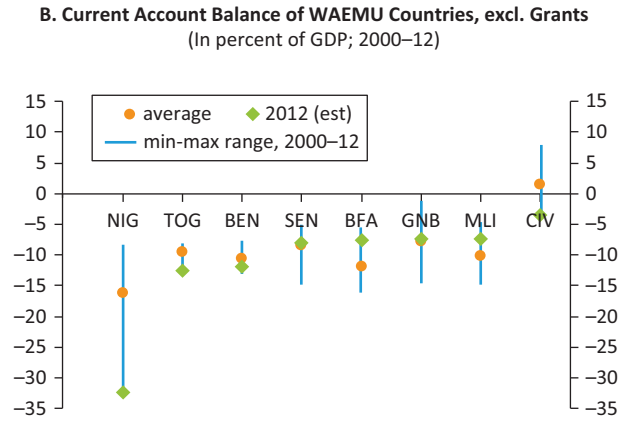
<sup>15</sup> See last year's report for more detail (IMF Country Report no. 12/59, March 2012).

Figure 5. WAEMU: External Sector Developments

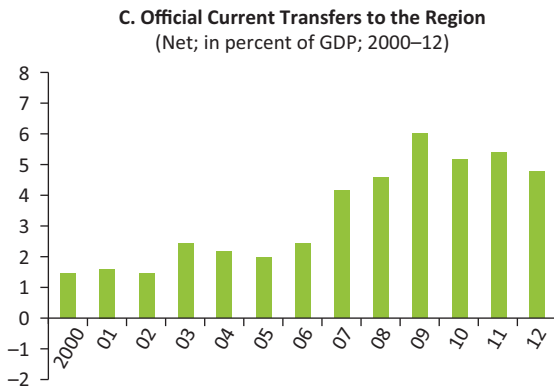
The current account deficit has hovered around 5 percent of GDP...



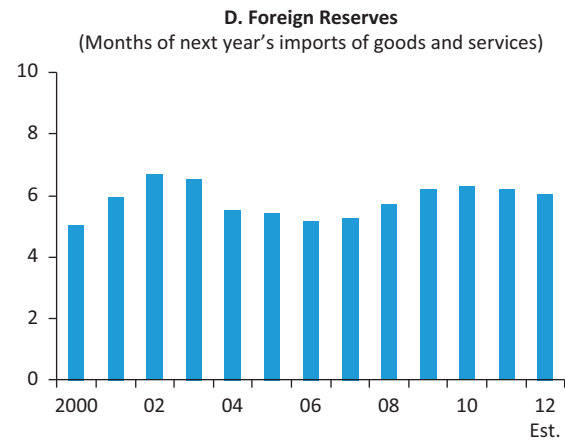
...with a range of situations across countries.



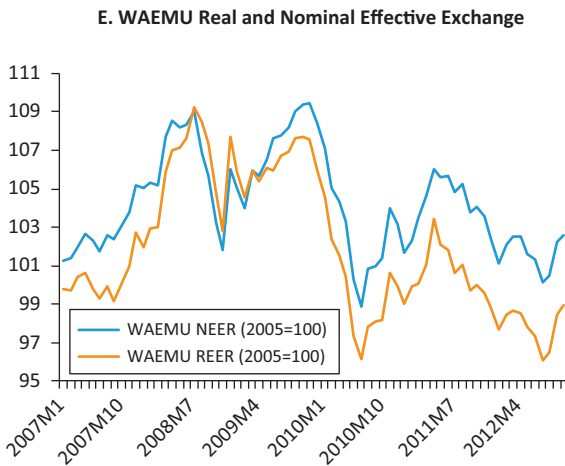
Official flows have constituted the main source of external financing.



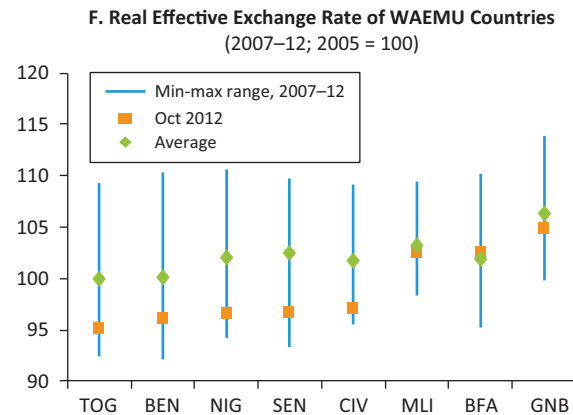
Reserve coverage remains adequate.



Real and nominal effective exchange rates have continued to depreciate...



...with some variations across countries.



Sources: BCEAO, DTTS, IMF staff calculations.

Note: WAEMU = West African Economic and Monetary Union.

**Box 4. Various Approaches to Assess the Real Effective Exchange Rate**

The macroeconomic balance approach estimates the exchange rate adjustment necessary to close the gap between the equilibrium current account balance, based on economic fundamentals, and the underlying current account projected over the medium term. The exchange rate adjustment is computed using WAEMU country-specific trade elasticities estimated by Tokarick (2010).<sup>1</sup>

The equilibrium real exchange rate is estimated as a function of medium-term fundamentals (e.g., terms of trade, openness, productivity differentials).

**Table 9. WAEMU: Real Effective Exchange Rate Assessment**

	CAB/GDP		REER <sup>1</sup>
	Norm	Underlying	
Macrobalance	-3.9	-6.1	3.6
ERER	...	...	-5.2
Ext. sustainability	-3.7	-6.3	4.1

Source: IMF staff estimates.

<sup>1</sup> “-” indicates undervaluation.

The external sustainability method compares the underlying current account balance with the balance that stabilizes net foreign assets at its 2011 level (48 percent of GDP).

The results from applying these three approaches are reported in Table 9. They show relatively small deviations from equilibrium, both positive and negative, which suggest no significant misalignment.

<sup>1</sup> S. Tokarick, 2010, “A Method for Calculating Export Supply and Import Demand Elasticities,” IMF WP 10/180 (Washington: International Monetary Fund).

investors’ rights, enforcing contracts, starting a business, and accessing financing. Supply of infrastructure remains inadequate, and procedures for paying taxes and registering propriety continue to be cumbersome.

- The recent World Economic Forum’s Global Enabling Trade Report ranks five WAEMU countries 125.6 on average out of 144 countries. Factors identified as having the highest negative impact on the ease of exporting include access to trade financing and production inputs, availability and use of information, burdensome procedures, and production technologies and skills.

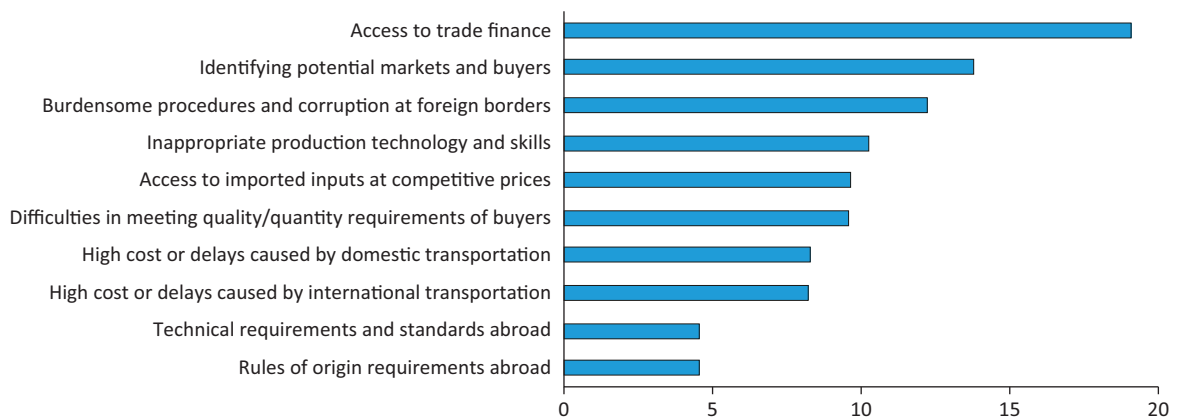
**Table 10. WAEMU: “Doing Business”**

	2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>	2013
Benin	172	173	176	175
Burkina Faso	154	151	149	153
Côte d’Ivoire	168	170	177	177
Guinea-Bissau	175	181	178	179
Mali	155	148	145	151
Niger	171	172	175	176
Senegal	151	157	162	166
Togo	162	158	161	156
<b>Average</b>	<b>164</b>	<b>164</b>	<b>165</b>	<b>167</b>

Source: World Bank, Doing Business Indicators.

<sup>1</sup> Adjusted by data corrections.

**Figure 6. WAEMU: Most Problematic Factors for Exporting (Percent of responses)**



Source: World Economic Forum, The Global Enabling Trade Report, 2012.

## Debt Sustainability in the WAEMU<sup>16</sup>

*Thanks to debt relief, all West African Economic and Monetary Union (WAEMU) countries now have public debt-to-GDP ratios way below 70 percent, the ceiling set by the regional surveillance framework, and have low or moderate ratings for the risk of debt distress according to debt sustainability analyses (reflecting prudent fiscal policies, often under Fund-supported programs). Countries have tended to reaccumulate debt in the wake of debt relief, broadly in line with expectations. Overall, there is no indication of a significant deterioration of the overall debt sustainability outlook in the WAEMU. There are new risks, however, related to the characteristics of debt issued (increasingly) on the regional market, which has relatively short maturities and high interest rates.*

All WAEMU countries now have public debt ratios way below the convergence criterion. With Côte d'Ivoire reaching the HIPC Initiative completion point in June 2012, all WAEMU countries now have public debt-to-GDP ratios around or below 50 percent—that is, way below the ceiling of 70 percent set by the regional surveillance framework. Total public debt in the WAEMU as a percent of WAEMU GDP has slightly decreased from 2009 to 2011, and is expected to decrease again by end of 2012 to about 40 percent.

Public debt ratios have tended to increase in the wake of debt relief. This can be seen by focusing on the five countries for which the debt relief process was completed in 2006 with the delivery of Multilateral Debt Relief Initiative (MDRI) relief—namely, Benin, Burkina Faso, Mali, Niger, and Senegal.

Figures 8–10 show that the public debt ratio increased in all these countries. There is, however, a broad range of situations, with some countries recording only very limited increases (e.g., Burkina Faso) and others larger ones (particularly Senegal).

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<sup>16</sup> Douglas Shapiro is the author of this chapter.

Public debt accumulation was generally in line with expectations. This can be seen by comparing projected debt ratios in debt sustainability analyses (DSAs) conducted by Bank and Fund staff after MDRI relief with actual developments. Most older DSAs were projecting some debt accumulation post-MDRI relief, reflecting that debt ratios were low after debt relief and that the fiscal space thus created was expected to be at least partly used. Developments in Burkina-Faso, Mali, and Niger have been very close to expectations, whereas debt accumulation was faster than expected in Benin and Senegal, likely reflecting the impact of various unanticipated shocks.

When one takes into account countries that have received debt relief recently, the overall debt sustainability outlook has clearly improved in the WAEMU. A simple way to assess the evolution of debt sustainability is to look at the recent history of DSA risk ratings. Ratings have not deteriorated since MDRI relief was provided in 2006 to the five countries mentioned earlier, which currently all face a low or moderate risk of debt distress.<sup>17</sup> The three countries that benefitted from debt relief more recently (Côte d'Ivoire, Guinea-Bissau, Togo) have improved their ratings and now face a moderate risk of debt distress (Table 11).

Table 11. WAEMU DSA Ratings

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Benin			●	●	●	●	●	●	
Burkina Faso	●		●	●	●	●	●	●	
Côte d'Ivoire			●		●		●	●	
Guinea-Bissau		●	●		●	●	●		
Mali		●		●	●		●	●	●
Niger		●	●	●		●	●		
Senegal			●	●	●	●	●	●	
Togo			●	●	●	●	●	●	

Source: WAEMU Joint World Bank/IMF Debt Sustainability Analyses.

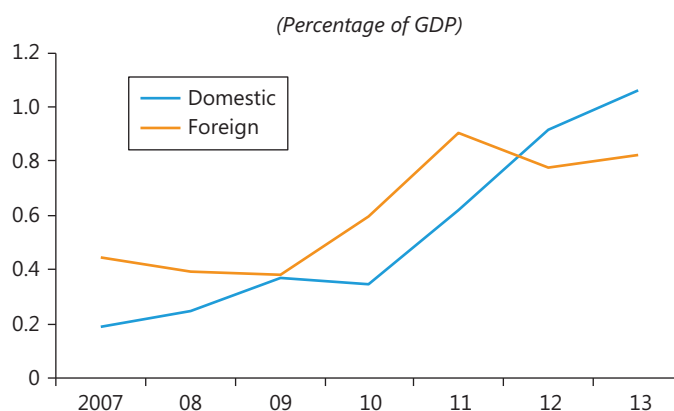
Note: WAEMU = West African Economic and Monetary Union.

Debt distress ratings legend: ● Low ● Moderate ● High ● In Debt Distress

<sup>17</sup> Benin actually recorded an improvement. Burkina Faso and Mali incurred rating changes during that period, but are back to the rating they had in 2006 or 2007.

In all countries, the share of domestic debt in public debt has increased. This reflects, to a large extent, debt relief that has affected only external debt (Table 12). The share of domestic debt to GDP did not increase substantially, with the exception of Senegal (Figures 8–10). However, domestic debt composition has changed in recent years, following the elimination of BCEAO financing and with the development of the regional debt market. This shift may have significantly changed the risk characteristics on domestic debt, because financing raised on the regional market has relatively short maturities and relatively high interest rates. This point is well illustrated in the case of Senegal, which has also relied recently on financing from international markets.

**Figure 7. Senegal Interest Payments**



Source: IMF staff estimates.

**Table 12. WAEMU: Domestic Debt as Share of Total Debt, 2007–12**

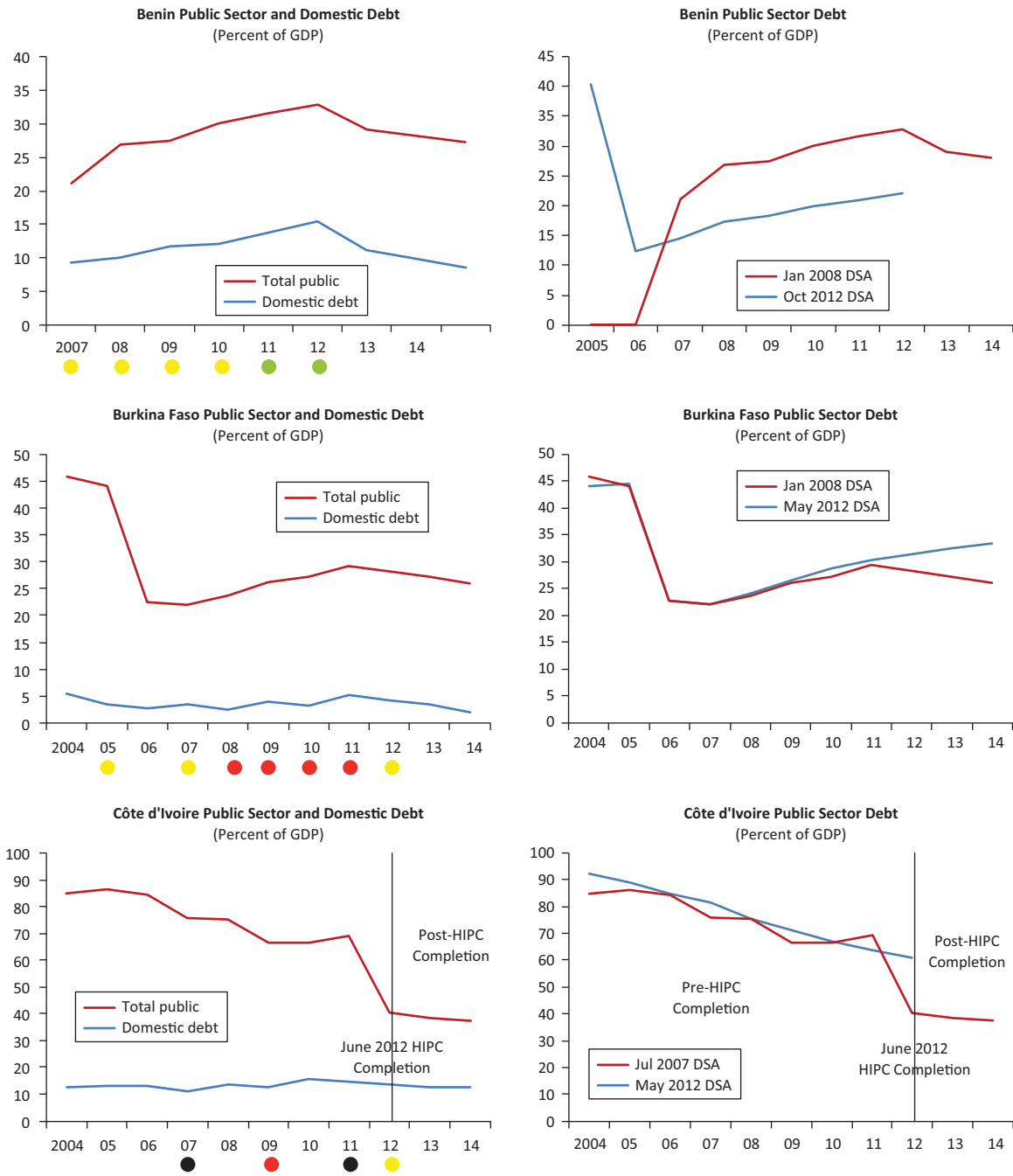
	2007	2008	2009	2010	2011	2012 Est.
	(Percent of total debt)					
Benin	42.3	39.2	42.2	40.1	45.6	46.4
Burkina Faso	14.8	11.8	15.1	11.7	18.6	13.9
Côte d'Ivoire	14.3	17.8	19.0	23.8	22.5	30.0
Guinea-Bissau	20.5	22.1	22.0	61.1	59.5	55.2
Mali	11.1	9.1	9.3	13.3	15.7	16.1
Niger	36.0	33.2	28.8	28.8	28.5	13.8
Senegal	23.8	18.2	21.1	23.1	28.1	27.3
Togo <sup>1</sup>	23.5	33.4	27.4	64.6	66.5	60.8
WAEMU	17.8	21.1	20.8	25.6	27.6	28.8

Source: IMF, African Department database.

Note: WAEMU = West African Economic and Monetary Union.

<sup>1</sup> Togo's domestic debt has been revised up since the country's last debt sustainability analysis.

Figure 8. Benin, Burkina Faso, Côte d'Ivoire: Total Public and Domestic Debt

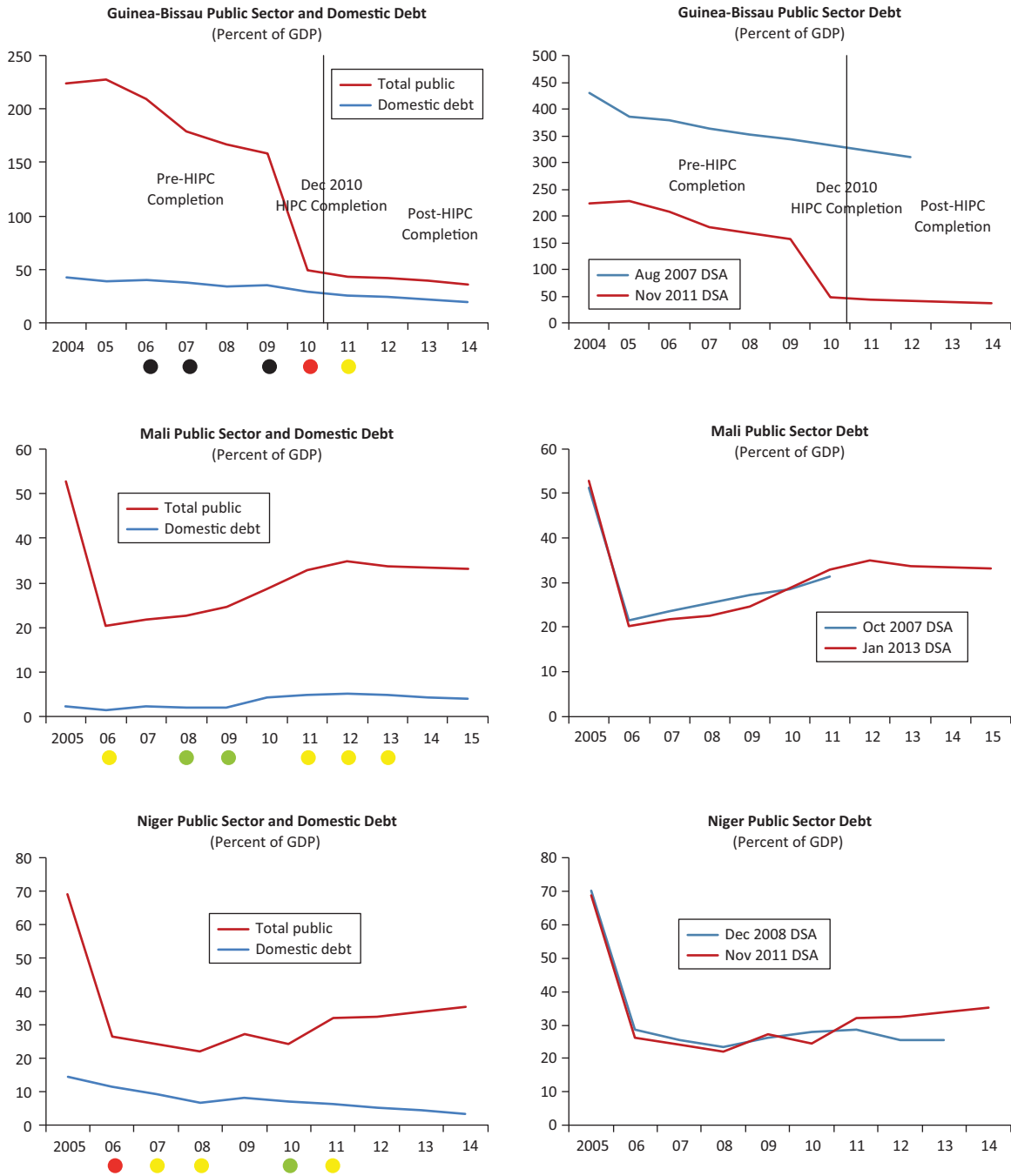


Source: WAEMU Joint World Bank/IMF Debt Sustainability Analyses.

Note: Circles represent DSA ratings for respective years following Table 11 legend: green for low, yellow for moderate, red for high, and black for in debt distress. DSA = debt sustainability analysis; WAEMU = West African Economic and Monetary Union.



Figure 9. Guinea-Bissau, Mali, Niger: Total Public and Domestic Debt



Source: WAEMU Joint World Bank/IMF Debt Sustainability Analyses.

Note: Circles represent DSA ratings for respective years following Table 11 legend: green for low, yellow for moderate, red for high, and black for in debt distress. DSA = debt sustainability analysis; WAEMU = West African Economic and Monetary Union.

Figure 10. Senegal, Togo: Total Public and Domestic Debt



Source: WAEMU Joint World Bank/IMF Debt Sustainability Analyses.

Note: Circles represent DSA ratings for respective years following Table 11 legend: green for low, yellow for moderate, red for high, and black for in debt distress. DSA = debt sustainability analysis; WAEMU = West African Economic and Monetary Union.