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SELECTED ISSUES

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WEST AFRICAN ECONOMIC AND MONETARY UNION

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April 17, 2025

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Acronyms, Abbreviations and Country Composition of Regional Arrangements

AfCFTA	African Continental Free Trade Area
AMU	Arab Maghreb Union
ASEAN	Association of Southeast Asian Nations
BEN	Benin
BFA	Burkina Faso
CAN	Canada
CEMAC	Central African Economic and Monetary Community
CENSAD	Community of Sahel–Saharan States
CET	Common external tariff
CHN	China
CIV	Côte d'Ivoire
COMESA	Common Market for Eastern and Southern Africa
DEU	Germany
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EU	European Union
FRA	France
GBR	United Kingdom
GNB	Guinea-Bissau
GVC	Global value chain
ICT	Information and communication technology
IGAD	Intergovernmental Authority on Development
IND	India
ITA	Italy
JPN	Japan
KOR	Korea
MERCOSUR	Southern Common Market
MEX	Mexico
MLI	Mali
NAFTA	North American Free Trade Agreement
NER	Niger
NTM	Nontariff measure
OECD	Organization for Economic Cooperation and Development
OHADA	Organization for the Harmonization of Business Law in Africa
REC	Regional economic community
ROW	Rest of the world
SACU	Southern African Customs Union
SADC	Southern African Development Community
SEN	Senegal

TBT	Technical barriers to trade
TGO	Togo
USA	United States
WAEMU	West African Economic and Monetary Union
WTO	World Trade Organization

Throughout the paper, regional arrangements refer to the following country composition:

Africa: all countries on the African content including both sub-Saharan Africa and North Africa.
AMU: Algeria, Libya, Mauritania, Morocco, and Tunisia.
CEMAC: Central African Republic, Cameroon, Chad, Republic of Congo, Gabon, and Equatorial Guinea.
CENSAD: Benin, Burkina Faso, Central African Republic, Chad, Comoros, Côte d'Ivoire, Djibouti, Egypt, Eritrea, The Gambia, Ghana, Guinea-Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Togo, and Tunisia.
COMESA: Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia, and Zimbabwe.
EAC: Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda.
ECCAS: Angola, Burundi, Central African Republic, Cameroon, Chad, Democratic Republic of Congo, Republic of Congo, Gabon, Equatorial Guinea, Rwanda, and São Tomé and Príncipe.
ECOWAS: Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.
IGAD: Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda.
SACU: Botswana, Eswatini, Lesotho, Namibia, and South Africa.
SADC: Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Tanzania, South Africa, Zambia, and Zimbabwe.
Sub-Saharan Africa: 45 sub-Saharan African countries in the IMF's African Department.
WAEMU: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

DOMESTIC REVENUE MOBILIZATION IN WAEMU[1]

Domestic Revenue Mobilization (DRM) is critical for financing economic and social development and ensuring debt sustainability in WAEMU, especially in light of rising interest, high security spending, and the prospective reduction in foreign aid. It is a cornerstone of the authorities' reform programs and one of the most pressing policy challenges. Over the last two decades, DRM in WAEMU has improved overall, but it has shown a persistently large heterogeneity—and even divergence—in revenue performance across countries. The secondary criterion of the suspended Convergence Pact, which sets a 20 percent floor on the tax to GDP ratio, remains a high bar for most WAEMU countries, reflecting a generally narrow tax base, weak enforcement capacity, and high informality, among other factors. Going forward, a renewed commitment to streamline tax systems, rationalize exemptions, and improve compliance would durably support revenue mobilization. Regional surveillance mechanisms should ensure effective implementation and enforcement of regional DRM commitments, while enhancing regional cooperation on revenue administration, as well as supporting collaboration and knowledge transfer within the union.

A. Background

1. DRM is one of the most pressing policy challenges in WAEMU and a cornerstone of most authorities' reform programs. Boosting domestic revenue is essential to support fiscal consolidation efforts and meet the Sustainable Development Goals (SDGs), including poverty and inequality reduction, as well as adequate access to basic public services (e.g., health, education, water, and electricity), while covering high security spending needs. DRM is also critical to rebuild buffers to increase resilience to future shocks, as well as to ensure both debt sustainability and financial stability, especially in light of tightening financing conditions (with rising yields and shortening maturities on regional sovereign issuances), risks of crowding out the private sector (due to systemic liquidity shortages), and prospective reduction in foreign aid. The WAEMU Convergence Pact (2015)—suspended and expired in 2020—included a secondary convergence criterion on the tax-to-GDP floor being 20 percent, which remains extremely important and should be preserved in a future adoption of a fiscal rule. WAEMU also receives technical assistance on DRM from the IMF and other partners.

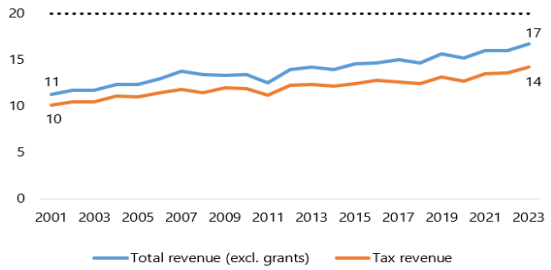
2. Since 2001, WAEMU revenue has increased significantly overall, however with large heterogeneity across member countries (Figures 1 and 2).[2] Total revenue (excluding grants)

[1]Prepared by Ljubica Dordevic (AFR) and Anamaria Maftei (FADT1), with much appreciated insights on revenue administration by Rene Ossa (FADR2) and Fayçal Sawadogo (FADT1) on tax potential and IMF WoRLD, and excellent research support by Fiona Hesse-Triballi. We would like to thank Luca Antonio Ricci, Christophe Waerzeggers, Mario Mansour, Lawrence Norton, and the authorities for their suggestions and comments.

[2] In Figure 1, we use BCEAO data since 2001 which is the first year for which the data is internally consistent, i.e., the sum of the country-level values matches the WAEMU value. In Figure 2, we focus on 2022, because (unlike for other WAEMU countries) BCEAO reports Togo data on gross basis, so—for comparison—we draw Togo data on net basis from IMF fiscal department's database WoRLD last available in 2022. Note that in BCEAO data total revenue generally doesn't exactly match the sum of tax and non-tax revenues, so the 2022 total revenue in Figure 1 is slightly different than the sum of its components in Figure 2. Annex 1 presents the comparison between BCEAO data, WoRLD, and IMF country teams' macroframeworks showing that they are greatly aligned.

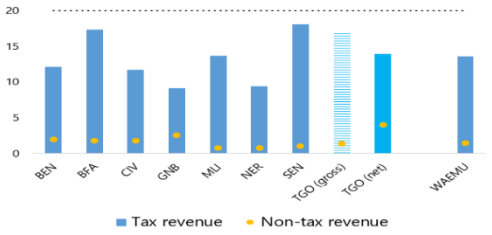
increased from 11 percent of GDP to 17 percent of GDP between 2001 and 2023, and tax revenue from 10 to 14 percent of GDP over the same period – with the latter far below the 20 percent floor indicated by the Suspended Pact. Tax revenue accounts for most of total revenue in all countries (over 80 percent share on average), ranging from 9 percent of GDP in Guinea Bissau to 18 percent of GDP in Senegal.

Figure 1. Revenue
(percent of GDP, 2001-2023)



Source: BCEAO/Tableau des Operations Financiere de l'Etat (TOFE)
Notes: WAEMU = Sum of countries.
Dashed line indicates a secondary criterion of the suspended Convergence Pact, being 20 percent floor on tax-to-GDP ratio.

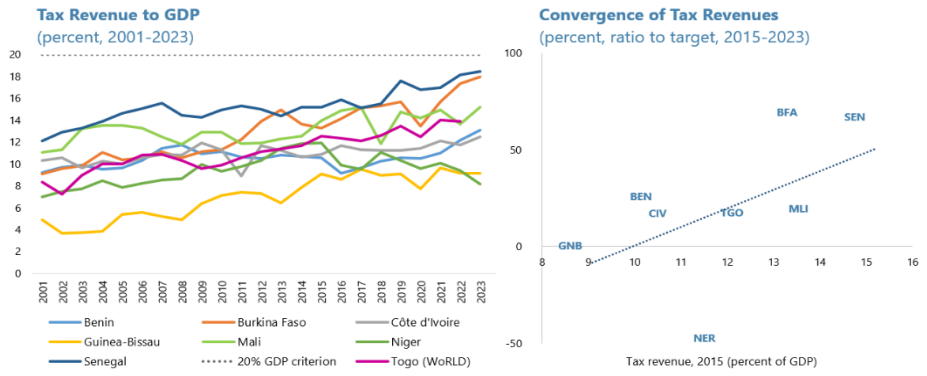
Figure 2. Tax and Non-Tax Revenue
(percent of GDP, 2002)



Source: BCEAO; WoRLD for TGO net
Notes: Total revenue doesn't match the sum of tax and non-tax revenues.
For Togo, BCEAO reports gross tax revenues, while WoRLD reports net tax revenues (last available for 2022). The difference is mainly due to VAT refunds.
Dashed line indicates a secondary criterion of the suspended Convergence Pact being 20 percent floor on tax-to-GDP ratio.

3. Moreover, there has been a divergence in tax revenues between countries, with those originally having the strongest tax collection accounting for the bulk of the progress at the regional level. Figure 3 shows that Senegal and Mali—which had the highest tax collection as a share of GDP in 2001—improved significantly and still rank in the top 3 in 2023. In contrast, other countries (except Burkina Faso, which marked the strongest progress) are closing the gap slowly or not at all, so the country heterogeneity of tax revenue to GDP remains high. When focusing on a more recent period—i.e., from 2015 when the criterion was first set at 20 percent of GDP—we can see in Figure 3 that countries that were closer to the 20 percent tax revenue target in 2015 are closing the gap faster than those that started off from a lower level of tax revenue (with Niger even recording a sharp reduction). Convergence would require the opposite to be the case.

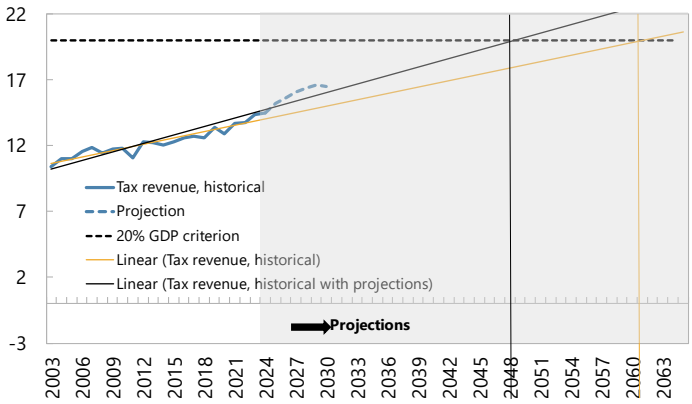
Figure 3. Progress in Achieving the Tax-to-GDP Target



Sources: BCEAO, WoRLD for Togo and IMF Staff Calculations.

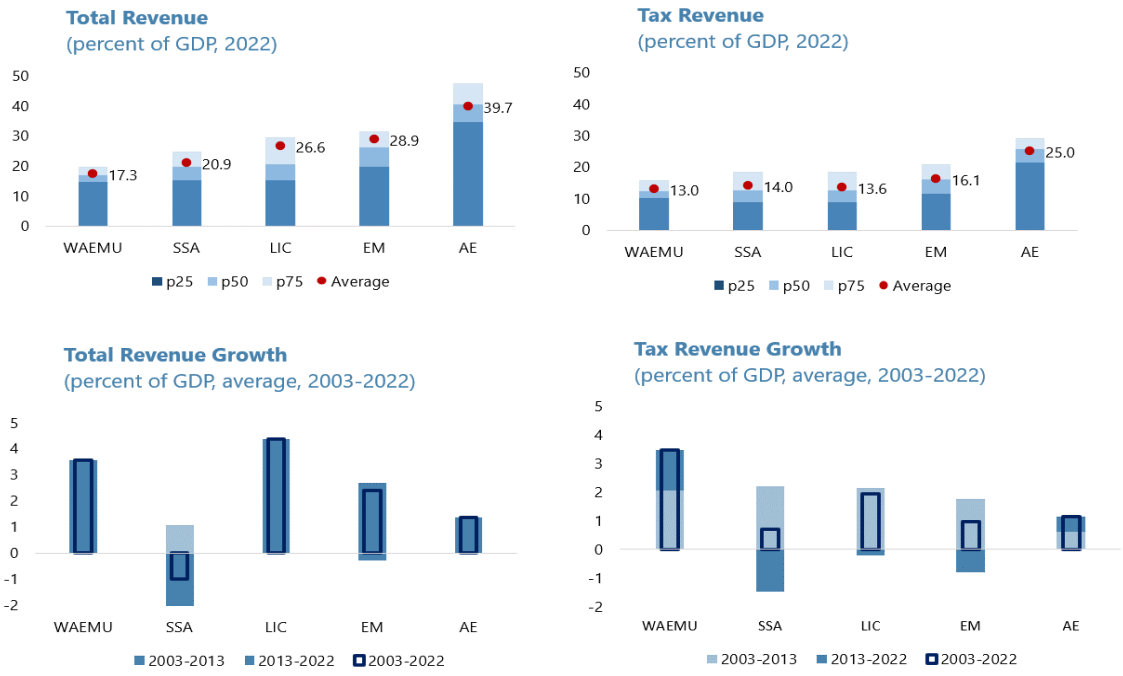
4. Despite stronger revenue growth over the last two decades than most peers (especially in taxes), the WAEMU region lags behind its peers in 2022 revenues (Figure 5). Simple comparisons of medians and averages between WAEMU and peer groups show that WAEMU is below other SSA and LIC countries for total revenue, and slightly even for tax revenue, while lagging EM and AE significantly. Much of the growth recorded over the last two decades of available data in WAEMU is attributed to tax revenues, whose growth outperformed all peer groups analyzed. Nevertheless, based on a trend calculated via both past trends and current staff projections, it will take WAEMU until 2048 to reach the 20 percent GDP tax revenue target. This timeline extends to 2061 if the trend is only based on historical data (Figure 4).

Figure 4. Government Tax Revenue
(percent GDP)



Source: IMF Staff Calculations.
Note: The suspended Convergence Pact had a convergence criterion on the tax-to-GDP floor being 20 percent.

Figure 5. Distribution of Total Revenue and Tax Revenue

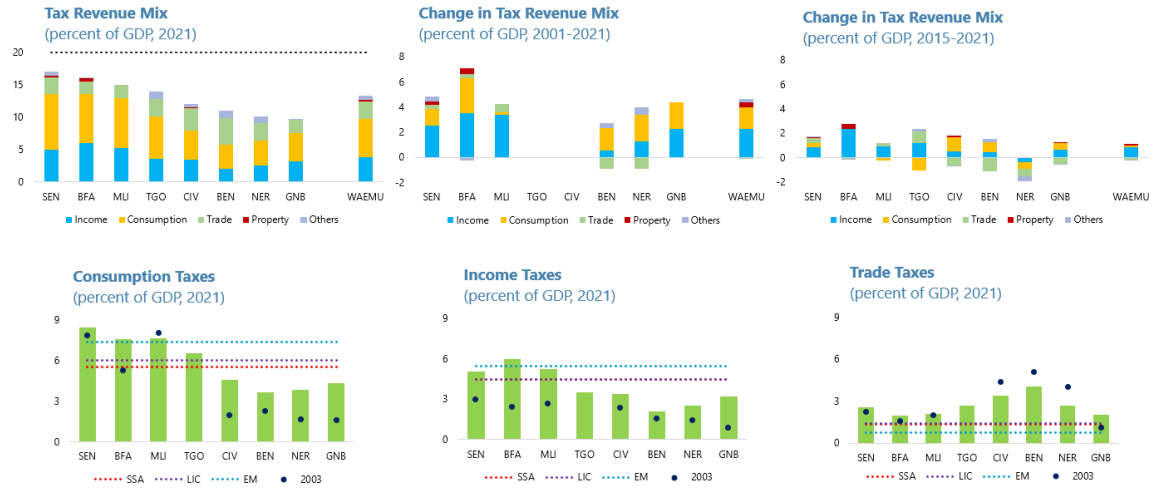


Source: IMF WoRLD.
Note: The time interval is based on data availability for all WAEMU countries.

B. Tax Revenue Sources

5. The WAEMU has been undergoing a tax transition, shifting reliance from trade taxes to income and consumption taxes (Figure 6). Comparing data for 2015 and 2021 (as the earliest and the latest years with data availability for the main tax revenue components for all countries), most WAEMU countries rely primarily on consumption taxes followed by income taxes as the main sources of tax revenue, except Benin that still relies comparably more on trade taxes. Property and other taxes are very low, albeit slightly growing in a few countries. Income and consumption tax increased in most countries as a share of GDP, while trade tax stagnated or decreased in most countries. WAEMU has had a Common External Tariff (CET) in place since 2000, which was extended to the ECOWAS in 2015, and reliance on trade taxes has been declining slightly since 2015.[3]

Figure 6. Sources of Tax Revenue



Source: IMF WoRLD

Notes: The data for 2001 is only available for six countries, with the earliest year of data for all countries being 2015.

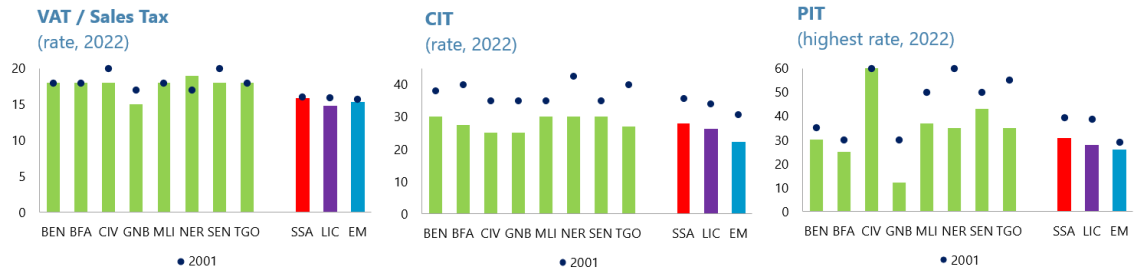
6. Regional tax harmonization in WAEMU is quite advanced *de jure* (Figure 7) but remains not fully effective *de facto*. The evolution of the legal framework for tax coordination in the WAEMU reflects the key objective of ensuring that national tax policies do not distort the functioning of the internal market through tax competition. Three elements describe tax harmonization: equalization of tax rates, a common definition of national tax bases, and uniform application of agreed rules (IMF, 2013). On value-added tax (VAT), there is a requirement of a VAT rate range at 15-20 percent, with exceptions at a lower rate 5-10 percent for up to 10 goods and services from an exhaustive list provided in the regional legislation (Directive 02/98/CM, Directive 02/2009/CM)[4]. For corporate income tax (CIT), there is a requirement of a single CIT rate ranging

[3] Regulation n°02/97/CM/UEMOA of November 28, 1997, adopting the Common External Tariff of the West African Economic and Monetary Union (WAEMU).

[4] A common framework for the taxation of excise goods is established in three directives on petroleum products (Directive 06/2001/CM), tobacco (Directive 01/2017/CM) and other goods and services deemed harmful (Directive 03/2009/CM).

25-30 percent (Directive 08/2008/CM). Although countries are aligned with WAEMU regional directives on statutory VAT and CIT rates, which fall within the prescribed range, some countries have very generous exemptions. Personal income tax (PIT), on the other hand, which is only partially subject to tax harmonization, shows wide variation across countries, with the highest rate in a country ranging from 10 percent in Guinea Bissau to 60 percent in Côte d'Ivoire.[5] The significant decline in both CIT and PIT rates in most WAEMU countries is in line with international trends.

Figure 7. Statutory Tax Rates



Sources: IMF WoRLD, US AID Collecting taxes database.

Note: a) VAT / Sales tax: A sales tax was in place in GNB until 2025. The earliest and thus comparison year for GNB is 2019. b) CIT: The earliest and thus comparison year for BFA, GNB and NER is 2000. c) PIT: The last year for GNB is 2015.

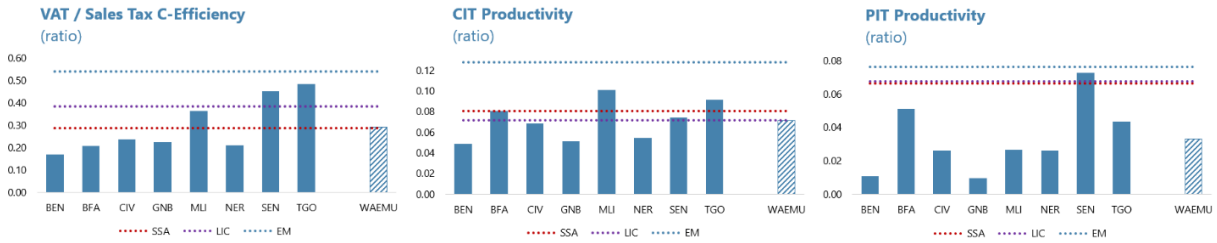
7. Furthermore, there is significant heterogeneity in how much WAEMU countries collect versus what would be implied by their statutory tax rates (Figure 8). VAT/sales tax C-efficiency[6], CIT productivity and PIT productivity[7] are key indicators used to evaluate the effectiveness of tax systems in mobilizing revenue. Lower values often signal issues related to narrow tax bases (exemptions and special regimes), weak compliance, and/or a large informal sector. Overall, these tax performance metrics underline disparities across countries and tax types. Some member states excel above the LIC and SSA averages and approach EM levels—such as Senegal in PIT productivity, Mali in CIT productivity and Togo in VAT C-efficiency. Meanwhile, Benin and Guinea Bissau show significant gaps across all three indicators, highlighting challenges in mobilizing tax revenue (e.g., Benin has very generous CIT exemptions and multiple rates).

[5] While there is no comprehensive PIT directive, the tax treatment of capital income sets minimum and maximum withholding tax rates, but investments in certain priority sectors can benefit from exemptions or special provisions (Directive 02/2010/CM).

[6] "VAT/sales tax collection efficiency" measures the ratio of actual consumption revenue to the potential revenue that would be collected if the tax rate were applied uniformly across all consumption, without exemptions or reduced rates. The measure should, however, be interpreted with caution, since it is impacted by deduction restrictions (VAT) or cascading on inputs (sales tax). For example, refund bottlenecks or denied credits artificially inflate C-efficiency, while creating a hidden cost for businesses and distorting their economic decisions.

[7] "CIT (PIT) productivity" evaluates the corporate (personal) income tax's effectiveness by comparing actual revenue to the product of the statutory CIT (PIT) rate and GDP, reflecting the extent to which corporate profits (individual income) are captured in the tax base. Productivity theoretically ranges between 0 and 1, with 1 representing a scenario where all corporate profits are fully taxed at the statutory rate without any exemptions or avoidance. However, in practice, values significantly below 1 are common due to deductions, tax incentives, and noncompliance. Comparing CIT productivity across countries should be contextualized with factors like economic structure, tax enforcement, and corporate behavior.

Figure 8. Tax Performance Indicators



Sources: IMF WoRLD, OECD, US AID Collecting taxes database.

Notes: a) VAT / Sales tax: A sales tax was in place in GNB until 2025. For BEN, 2017 data was used. b) PIT: 2002 data was used for GNB and 2005 for MLI.

C. Tax Potential

***Next, we estimate the tax potential of WAEMU countries*[8].**

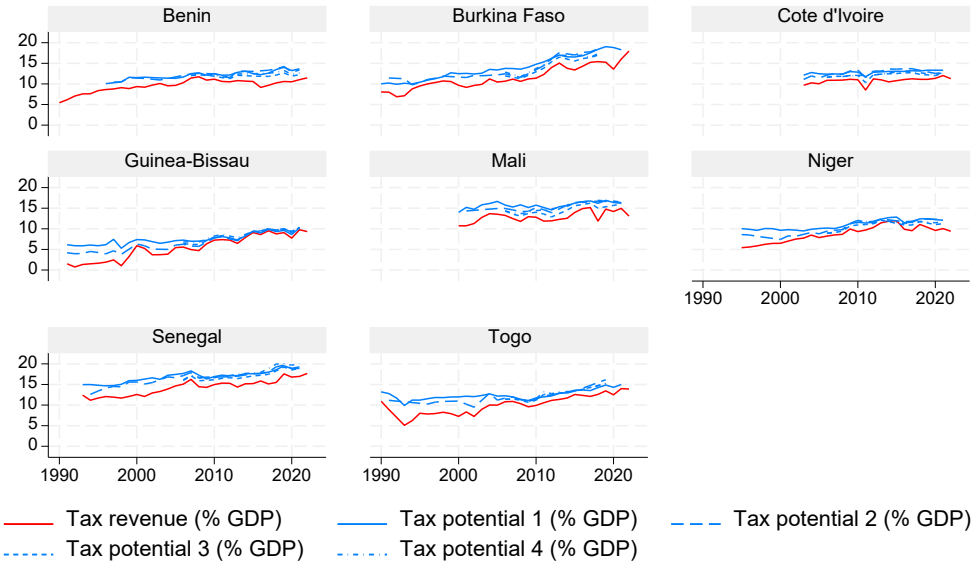
8. The stochastic frontier model is an econometric approach used to estimate a country's tax capacity by analyzing the gap between actual and potential tax revenue (based on given fundamentals)[9]. Annex 2 presents regression-based analysis which allows for separation of inefficiency effects from random noise in the observed data. The model assumes a functional relationship between tax revenue and explanatory variables—such as GDP, trade openness, governance, and demographic features—with a composed error term that accounts for inefficiency and random shocks. The inefficiency component captures deviations due to structural, administrative, or policy-related constraints, as evaluated at existing fundamentals (i.e., abstracts from the higher tax revenue that could be achieved by, e.g., enhancing governance).

9. Four different specifications are estimated, predicting various levels of the maximum potential tax-to-GDP ratio (Figure 9).[10] The tax gap represents the difference between actual and potential tax revenue. The degree of this gap varies by country and over time (see Annex 2 for regression equation and regression outputs). In Niger and Togo, the tax gap fluctuated strongly and narrowed over time, but tax revenue still falls short of its potential. Guinea-Bissau shows limited space for leveraging tax capacity, highlighting structural limitations. In Benin and Burkina Faso, inefficiencies have widened in recent years, indicating opportunities for better revenue mobilization.

[8] For similar approaches, see Binin and Kobyagda and (2021), Trinnou (2021), Dossa and Bakena (2024), and Dama et al. (2024).
[9] Non-tax revenue is excluded from the analysis due to outliers that can bias the estimates. Generally, relying on yields from natural resources for fiscal sustainability poses several risks: revenue volatility due to price fluctuations, resource depletion, economic instability from overdependence, and governance challenges like rent-seeking.
[10] The results should be interpreted with caution, as they are sensitive to the specification assumptions—as also discussed in similar studies—and as broad policy indicators for long-term revenue mobilization strategies, rather than as policy targets.

Overall, the results underscore unfulfilled revenue potential in WAEMU countries, with persistent challenges in closing the tax gap.

Figure 9. Tax Potential in WAEMU Countries

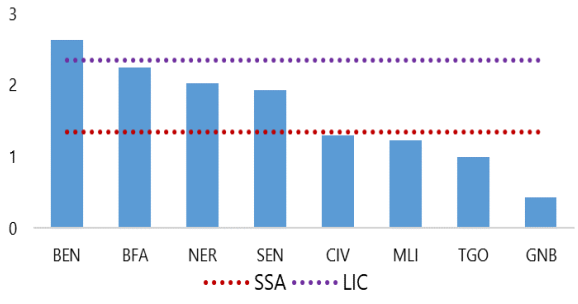


Source: IMF (WEO, WoRLD, Financial Development Index), World Bank (WDI), University of Gothenburg (Quality of Government Dataset), US AID (Collecting Taxes Database)

Notes: Tax potential 1-4 indicate Model specifications 1-4, respectively. The regression is estimated for low-income countries.

10. Given the macroeconomic characteristics of WAEMU countries, there is scope to raise more tax revenue (Figure 10). The below illustrates the tax gap as a percentage of GDP for several countries in 2021, compared to two benchmarks: the Sub-Saharan Africa (SSA) median (red dotted line) and the Low-Income Countries (LIC) median (purple dotted line). Among the countries, Benin has the highest tax gap, above the LIC average and indicating significant underperformance in tax collection relative to its potential. Burkina Faso exceeds the SSA average but falls below the LIC benchmark. Guinea-Bissau has the smallest tax gap, suggesting limited scope for increasing tax revenue, given current fundamentals. The remaining countries (Côte d'Ivoire, Mali, Niger, Senegal, and Togo) display varying levels of tax gaps, suggesting differing degrees of inefficiency or structural barriers in tax collection.

Figure 10. Tax Gap



Sources: IMF WoRLD, IMF Staff Calculations

D. Progress Achieved in DRM

11. The WAEMU region has made significant progress in DRM, but the pace of reforms remains insufficient to achieve the regional tax revenue objective (20 percent of GDP) in the near future.

12. Areas of advancement in DRM include examples such as:

- **Transition from reliance on international trade taxes to domestic revenue sources.** Several countries have prioritized reforms in property taxation. For instance, Niger abolished a two-year exemption on property taxes for income-generating real estate.
- **Limiting tax exemptions and preferential regimes.** WAEMU countries are now striving to produce annual tax expenditure reports (Decision 08/2015/CM), quantifying the fiscal impact of exemptions and special regimes on revenue. This effort aims to enhance transparency and accountability in tax practices.
- **Elimination of small, low-yield taxes with high administrative costs.** For example, Mali has undertaken a comprehensive reform of its General Tax Code and fiscal procedures. Guinea-Bissau has simplified its tax system by implementing a new VAT law and gradually deploying digital tax services. Benin has reformed its corporate income tax and personal income tax systems, moving toward simpler, broader-based tax models to enhance efficiency and revenue generation.
- **Progress on revenue administration.** Recent improvements in revenue administration include: i) strengthened fundamentals (registers of large and medium-sized taxpayers made reliable; implemented central administration structure; introduced prerequisites for results-based management and risk analysis); and ii) digital tools implemented (electronic declaration, telepayment, automated invoicing program). As a result, many operational indicators improved in several countries. In tax administration, the number of taxpayers filing regular returns increased significantly, VAT return ratios also improved as well as the number of geolocated taxpayers. In customs, administration functions—such as valuation and post-clearance audit practices or the risk-based clearance procedure—have also seen substantial positive changes.
- **The WAEMU also adopted a New DRM Action Plan in 2024,** with improvements over the 2019 Plan (Box 1).

Box 1. The New DRM Action Plan (2024)

In 2024, WAEMU adopted a new DRM Action Plan, modifying the 2019 plan (Decision 02/2019/CM). The 2024 DRM Action Plan introduces a Medium-Term Revenue Mobilization Strategy[1] aimed at coordinating reforms to promote efficiency and accountability. The previous Action Plan (2019) did not outline an equivalent strategy. However, the deadline for MTRS adoption by all WAEMU countries set for the end of 2025 under the new Plan, seems rather ambitious given the prerequisites of such strategies (broad consensus, sustained political commitment, comprehensive tax reforms etc.).[2] In the immediate term, tax policy/TADAT diagnostics could be prioritized for most countries. Critically, given the expired Convergence, Stability, Growth, and Solidarity Pact (PCSCS), the 2024 Action Plan is mainly motivated by weak performance in terms of tax revenues, and no longer refers to the non-compliance of member states with the secondary convergence criterion of 20 percent of GDP.

In terms of **tax and customs policies**, the amendments are marginal, highlighting the limited progress made by member states in adopting measures for improving DRM. An exception is the study on the methods of taxing agricultural profits, carried out at the request of the WAEMU Commission. The 2024 Action Plan no longer envisages a revision of Directive 03/2009 harmonizing excise duties, which proposed to expand the number of taxable products from 8 to 12, generalized the application of excises on all passenger vehicles (regardless of engine power), and increased the *ad valorem* rate on non-alcoholic and alcoholic drinks. However, in terms of property taxes, the new Plan aims to improve knowledge of taxable land through census and digitalization, and set up a one-stop shop to centralize land-related formalities. Concerning tax competition between member states due to tax expenditures, the 2024 Action Plan removes the previous references to the Mining Code and to the granting of exemptions in the research phase. For the investment phase, it limits exemptions to certain goods and services (without further specifications).

On **tax administration**, there are no substantial differences compared to the 2019 Action Plan, as the focus is mainly on generic revenue administration measures. Thus, the most important challenge will be to tailor these measures to the concrete situations faced by WAEMU members.

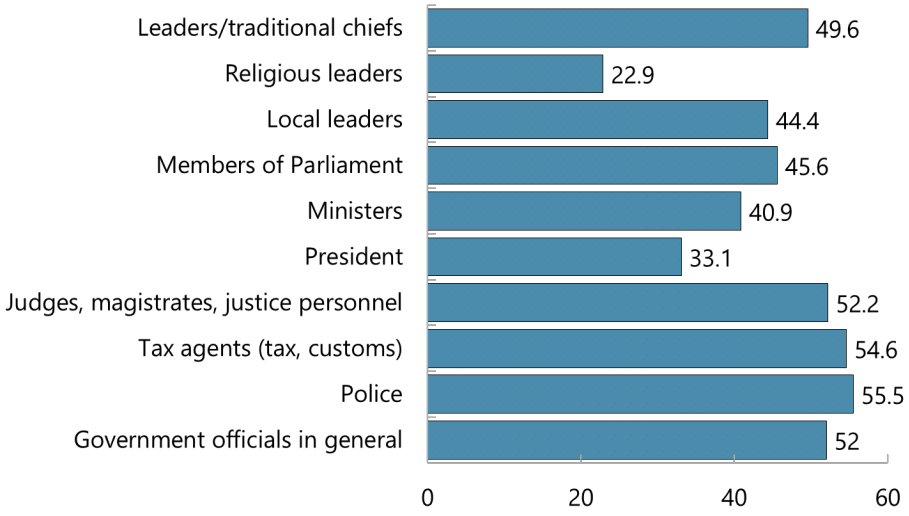
[1] Medium-Term Revenue Mobilization Strategy (MTRS) is a comprehensive national strategy to support revenue mobilization in the medium term, by coordinating reforms relating to legislation, tax policy, and tax and customs administrations.
[2] So far, among WAEMU countries, Benin, Burkina Faso, Cote d'Ivoire and Senegal have adopted MTRS, while it is in the pre-formulation stage in Togo.

E. Policy Recommendations

13. Before diving into policy recommendations, it is important to note that progress on DRM achieved to date, as well as policy recommendations, should recognize the structural challenges faced by WAEMU countries. These include, but are not limited to:

- **Sectors which are intrinsically difficult to monitor and tax correctly:** this includes both old sectors (such as informal ones) and new ones (such as, e.g., e-commerce);
- **High perception of corruption: which complicates tax compliance;** public institutions are often perceived as corrupt, as documented in the Afristat report (2019) and shown in Figure 11;

Figure 11. Opinion on the Level of Corruption within the Institutions in the WAEMU Region
(Opinion of the population aged 18 and over)



Source: Afristat, 2019, Integrated regional survey on employment and the informal sector in UEMOA member states, 2017-2018.

- **Security issues:** which complicate tax collections;
- **Increasing international tax competition**: many countries have a high dependence on large taxpayers, especially multinationals.

Regional Authorities

Strengthening revenue harmonization and surveillance of DRM reforms while enhancing regional cooperation on revenue administration and knowledge transfer in the Union is needed, while safeguarding the objectives of the WAEMU treaty in terms of neutrality of taxation on the mobility of capital and goods and services.

14. Specific policy actions could include:

- **Revise and Modernize DRM Directives.** A revision of the VAT directive could improve refund mechanisms, broaden the tax base, and address digital economy taxation. Similarly, updating the CIT directive is crucial to align with global tax reforms (e.g., by adopting a minimum corporate tax), limit tax competition through regionally agreed constraints, and unify the tax structure across sectors. Additionally, revising the capital income taxation directive would help address cross-border tax avoidance by simplifying and improving the neutrality of portfolio income taxation. Excise tax directives could benefit from a reassessment of their adequacy.
- **Consolidate and Evaluate Tax Incentives**. Authorities should: simplify and consolidate tax incentives by removing them from Investment Codes and placing them under the General Tax

Code; regularly review and assess the effectiveness of existing tax incentives, while considering a revision of Decision 08/2015/CM (Art. 5) on expenditure, and exclude from the benchmark tax system the incentives granted through regional directives; and ascertain that tax reliefs comply with regional frameworks to promote consistency and fairness.

- **Strengthen Surveillance of DRM Reforms.** Annual assessments of Member States' reforms and conformity with regional regulations have already been conducted for several years. Introduction of DRM measures in the quintennial plan of the New Convergence Pact should be accelerated, with all key elements: document the realization of the previous year, indicate the objectives for the current year and the following years, and clarify the measures taken and planned for each year towards achieving those objectives. Furthermore, the WAEMU Commission should also undertake regular analytical work on member states' tax practices. For example, its quarterly report on multilateral surveillance could deepen analysis of revenues. A stronger commitment might also be required in terms of: i) capacity building (e.g., impact assessment of tax measures); ii) legal framework (the WAEMU Commission's mandate to enforce recommendations or sanctions); and iii) institutional and political support for harmonizing tax policies and regulations across WAEMU.
- **Support Knowledge Transfer in the Union.** This could be done, e.g., by holding periodical workshops/seminars to share best practices among WAEMU countries and from countries outside of WAEMU.
- **Regional Cooperation and Exchanges in Revenue Administration.** The regional authorities could provide support to national bodies through direct capacity development or regional workshops to identify best practices in implementing recommended measures**.**

National Authorities

Ramp up efforts to simplify tax systems, broaden the tax base, and improve compliance.

15. Specific policy measures could include:

- **Ensure Compliance with Regional DRM Regulations.** Taxation in WAEMU countries is not always fully compliant with the harmonized tax frameworks, creating inconsistencies that hinder regional integration. This concerns both *de jure* compliance (e.g., tax incentives that deviate from the directives) and *de facto* application (e.g., unequal enforcement of tax laws). Addressing these gaps is crucial to improving tax revenue collection, ensuring fair competition, and strengthening economic cohesion within the union.
- **Conduct Regular Reviews of Tax Systems.** Identify opportunities to simplify the tax systems and rationalize exemptions. The focus of taxation should be on taxes that have the highest potential to boost revenue, while eliminating low-yield taxes. All countries should conduct thorough reviews of exemptions and special regimes to identify and eliminate those that do not serve a clear economic purpose, while ensuring that those preserved comply with the regional framework to promote consistency and fairness. These measures would also support transparency in taxation.

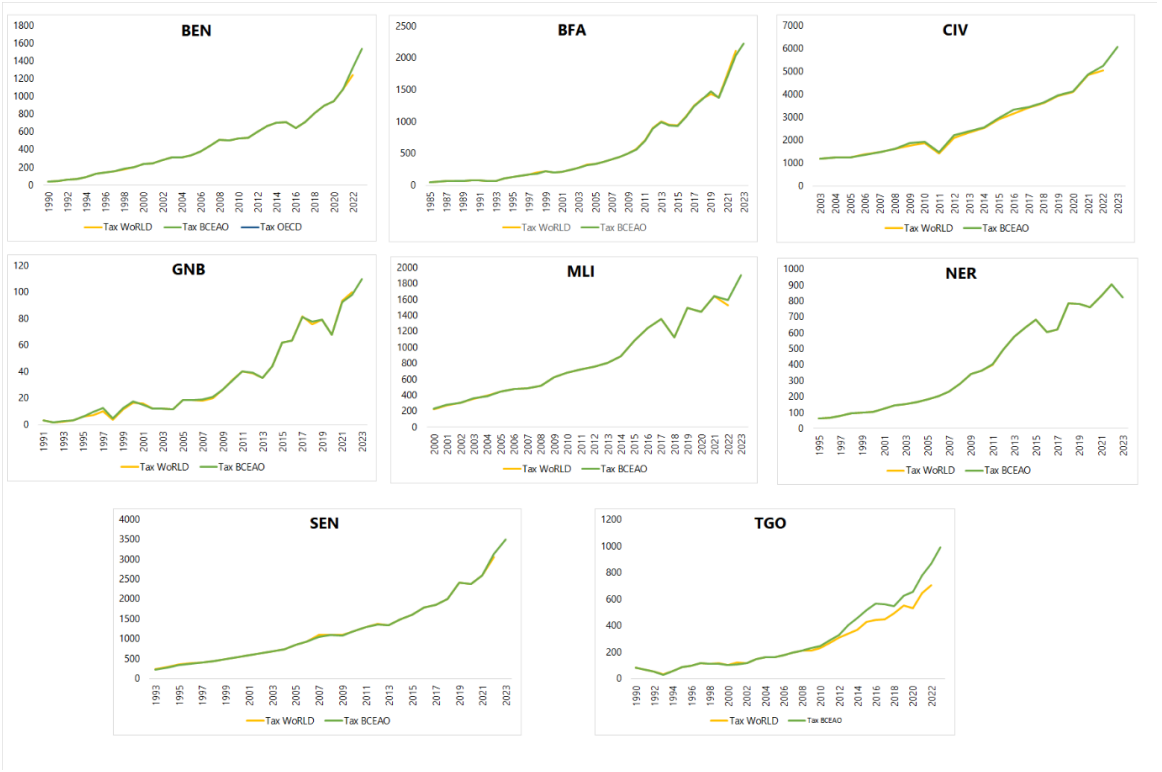
- **Strengthen Tax Sources Not Subject to the Regional Framework**. In these areas, member countries have more leeway to shape their tax regime:
    - **Property taxation.** Focus on systematic property valuations, enhancing local administrative capacities, and simplifying the tax code, to bolster fiscal health while ensuring fair contributions from property owners.
    - **PIT.** Enhance PIT progressivity by adjusting the tax schedules to ensure that higher incomes are taxed at appropriate progressive rates, addressing equity concerns. Streamline complex regimes to reduce inefficiencies and rationalize income exemptions to broaden the tax base.
    - **SME.** Simplify SME taxation to reduce compliance costs and incentivize formalization. Consolidate schemes (entrepreneurs and micro-enterprises) into a single regime and smoothen the tax burden to remove obstacles to growth.
- **Strengthen Revenue Administration.** This could be done by: i) strengthening the management and governance mechanisms of revenue administrations (improving risk management, better capitalization of investments in computerization and digitalization); ii) improving tax functions (optimizing tax registration procedures, investing in tax capacity building, and boosting tax literacy and awareness among the population; implementing large-scale automated cross-checking systems; modernizing revenue accounting, tax arrears management and VAT credit refunds); and iii) improving customs functions (strengthening customs valuation and clearance, implementing an automated risk management system, and strengthening post-clearance audit).
- **Ensure Good DRM Governance and Transparency, including through anti-corruption measures**. Such advancements would support trust in institutions and tax compliance.

Annex I. Data Sources Comparison

The Central Bank of West African States (BCEAO) set up an economic and financial database—called EDEN (*Entrepôt de Données Economiques et Financières*)—as part of making available to the public the statistical information it develops or collects, including to researchers, universities and research centers. The database contains 15,000 series grouped into six blocks, namely: Real sector; Monetary and financial sector; Public finance sector; External sector; Monetary issuance sector; and Social sector. The database is accessible at: https://edenpub.bceao.int/

The IMF's World Revenue Longitudinal Database (WoRLD) tracks government revenue trends in 193 countries since the early 1990s. WoRLD tracks directly 9 key components of tax and non-tax revenues, which together contribute about 82 percent of government revenue globally. WoRLD is updated annually to provide insight into recent developments affecting governments' fiscal position. The database is accessible at: https://www.imf.org/en/Topics/fiscal-policies/world-revenue-longitudinal-database. The WoRLD sample starts from 2015 because of detailed fiscal data availability for some countries, especially TGO and CIV. The TGO net value was used for the database, to ensure comparability to other countries.

Figure 1. Tax Revenue Comparisons



Annex II. Estimating Tax Potential

The stochastic frontier model for tax revenue takes the form:

$$\ln(TaxRev_{it}) = \beta_0 + \beta_1 \ln(X_{it}) + v_{it} - u_{it}$$

Where:

$TaxRev_{it}$ is the tax revenue collected by country i in year t.

X_{it} represents explanatory variables affecting tax revenue, such as GDP, trade openness, or governance indicators.

v_{it} is a two-sided symmetric error term representing statistical noise (e.g., measurement errors, external shocks). It is assumed to be normally distributed.

u_{it} is the one-sided non-negative tax inefficiency, capturing deviations from the frontier (maximum potential revenue) due to factors like tax evasion, exemptions, and administrative weaknesses. It follows a half-normal distribution.

True Random Effects are used, assuming time-invariant heterogeneity is uncorrelated with explanatory variables.

The inefficiency term u_{it} provides insights into the gap between actual and potential tax revenue performance. The tax effort is computed as:

$$Tax\ effort = exp^{-u_i}$$

where values close to 1 indicate higher efficiency.

Table 1. Stochastic Frontier Regression Estimates

VARIABLES	Model 1	Model 2	Model 3	Model 4
GDP per capita, PPP (constant 2017 international $)	2.98***	3.50***	1.89***	
	(0.29)	(0.38)	(0.40)	
GDP per capita, PPP (const $, squared)	-0.16***	-0.20***	-0.10***	
	(0.02)	(0.02)	(0.02)	
GDP per capita (constant 2010 US$)				0.29***
				(0.04)
GDP growth (annual %)				-0.01
				(0.01)
Agriculture, forestry, and fishing, value added (% GDP)	-0.11***	-0.03	-0.06***	-0.01
	(0.02)	(0.03)	(0.02)	(0.02)
Trade (% GDP)	0.20***	0.24***	0.23***	0.20***
	(0.02)	(0.02)	(0.02)	(0.03)
The Bayesian Corruption Indicator	-0.17**	-0.27***	-0.20***	-0.19***
	(0.08)	(0.06)	(0.06)	(0.05)
Total natural resource rents (% GDP)	-0.10***	-0.08***	-0.03**	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)
FDI, net inflows (% GDP)		0.00	0.01*	0.01**
		(0.01)	(0.01)	(0.01)
FD: Financial development index		0.37***	0.29***	0.27***
		(0.03)	(0.03)	(0.03)
Unemployment (% of total labor force) (ILO est.)		-0.02	-0.02**	-0.03**
		(0.01)	(0.01)	(0.02)
Inflation, consumer prices (annual %)		-0.02***	-0.01	-0.01
		(0.01)	(0.01)	(0.01)
Grants revenue			0.03***	0.02***
			(0.01)	(0.01)
Self-employed, total (% of total employment, ILO est.)			-0.34***	-0.25***
			(0.07)	(0.06)
Fragile States Index			0.27***	0.35***
			(0.10)	(0.10)
Constant	-10.48***	-11.15***	-5.01***	0.59
	(1.17)	(1.50)	(1.77)	(0.73)
Observations	1,221	946	607	547
Number of countries	54	51	47	49
U-sigma	0.323	0.260	0.141	0.157
V-sigma	0.0931	0.0929	0.0801	0.0662

Source: IMF (WEO, WoRLD, Financial Development Index), World Bank (WDI), University of Gothenburg (Quality of Government Dataset), US AID (Collecting Taxes Database), Fund for Peace (Fragile States Index).

Note: The regression is estimated for low-income countries. Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

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UNLEASHING THE BENEFITS OF INTRA-AFRICAN TRADE INTEGRATION FOR THE WAEMU[1]

A. Introduction

1. Trade integration can enhance economic performance and raise incomes in several ways. It promotes efficiency by allowing countries to export goods and services in which they have a comparative advantage, thereby enhancing resource allocation (the classical argument for free trade, see e.g., Smith, 1776; Ricardo, 1817; and Eaton and Kortum, 2002). By expanding market access, trade also enables firms to realize economies of scale (e.g., Melitz, 2003). By the same token, trade can help diversify domestic production, fostering the creation of new, higher productivity jobs that drive growth through structural transformation (e.g., OECD, 2019). Trade also fosters innovation and productivity by exposing domestic firms to international competition and new technologies. Further, a more open trade regime helps attract foreign direct investment, which brings capital, technology, and managerial expertise (e.g., Topalova and Khandelwal, 2004). Trade also helps diversify the sources of supply and demand, which can help dampen economic volatility (e.g., Caselli and others, 2020).

2. WAEMU members have been pursuing trade integration among themselves for many years, and the more recent creation of the African Continental Free Trade Area (AfCFTA) offers opportunities for broader continent-wide integration. By progressively eliminating tariffs and non-tariff measures, the AfCFTA aims to expand intra-African trade in goods and services, enhance competitiveness, and promote industrial development. [2] The agreement also seeks to improve the trade environment (structural factors that are not part of trade policies but nevertheless affect trade) by simplifying and harmonizing customs regulations and border processes. Furthermore, the AfCFTA aims to harmonize regulations for the provision of goods and services, investment regimes, and rules governing the protection of intellectual property rights, competition, and digital trade. In this way, the AfCFTA aims to eventually establish a single market on the African continent.

3. This paper takes stock of the results of trade integration efforts among WAEMU countries and discusses how intra-African trade integration through the AFCFTA and enhanced efforts by WAEMU members to enable trade among themselves could further boost incomes, drawing on analysis presented in Abbas and others (2023). Section B reviews trade and trade integration in the WAEMU, including by assessing trade flows and remaining trade barriers. Section C quantifies the potential benefits of deepening and broadening trade integration under the AfCFTA. Section D lays out policy implications.

[1] Prepared By Shushanik Hakobyan, Fiona Hesse-Triballi, Sergii Meleshchuk, and Hans Weisfeld.
[2] In this paper, the term "Africa" refers to the African continent, comprising both sub-Saharan Africa (SSA) and North Africa.

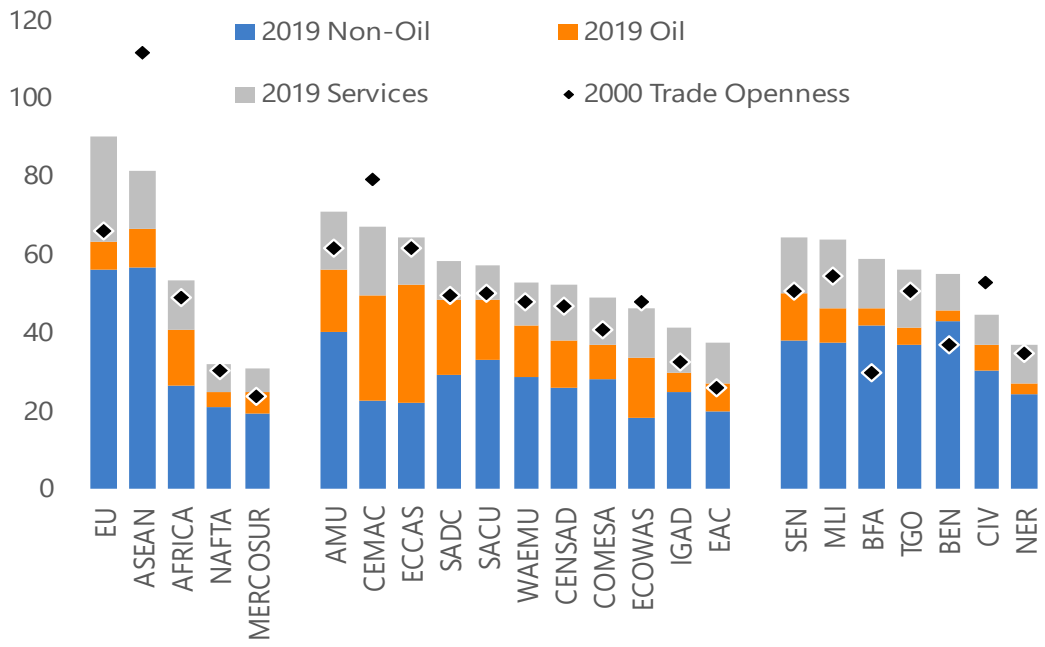
B. Taking Stock of Trade and Trade Integration in the WAEMU

WAEMU Member Countries' International Trade

WAEMU members' trade openness, integration into global value chains (GVCs), and export diversification remain limited.

4. WEAMU members' trade openness has risen only modestly over the past two decades, indicating room for further growth of trade. The WAEMU's trade openness (the sum of exports and imports a share of GDP), rose from 48 to 52 percent over 2000-19. This modest increase aligns with broader trends in Africa's trade openness (Figure 1).[3]

Figure 1. Trade Openness Across Regions, 2000 and 2019
(percent, exports and imports of merchandise and services trade as a share of GDP)



Sources: IMF, World Economic Outlook database, Atlas of Economic Complexity; and IMF staff calculations.

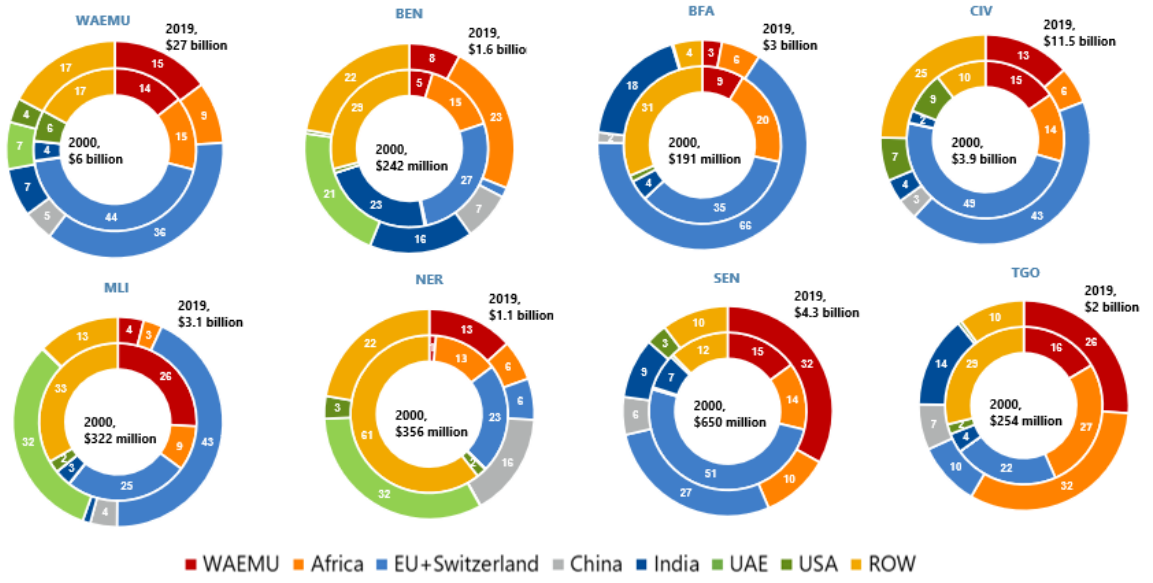
5. In line with the limited increases in openness, WAEMU members' trade with other African countries remains limited. On average, WAEMU members' exports to other African countries (including WAEMU members) accounted for only one-quarter of WAEMU countries' exports in 2019 (Figure 2). This share, while higher than intra-regional exports for the average

[3] The analysis in this chapter uses trade data reported by WAEMU countries to international organizations. There is also significant informal trade that is not captured in these statistics. For example, Lesser and Moisé-Leeman (2009) estimate that informal trade flows could account for as much as 30-50 percent of intraregional trade, and Benassi and others (2019) estimate that the ratio of informal to formal trade is 1 for Benin's imports and 5 for Benin's export to Nigeria.

African country at 15 percent, is substantially lower than in other world regions and regional arrangements such as the EU, where 60 percent of trade happens among EU member countries.

Figure 2. Major Export Destinations, 2000 and 2019

(percent of aggregate exports)



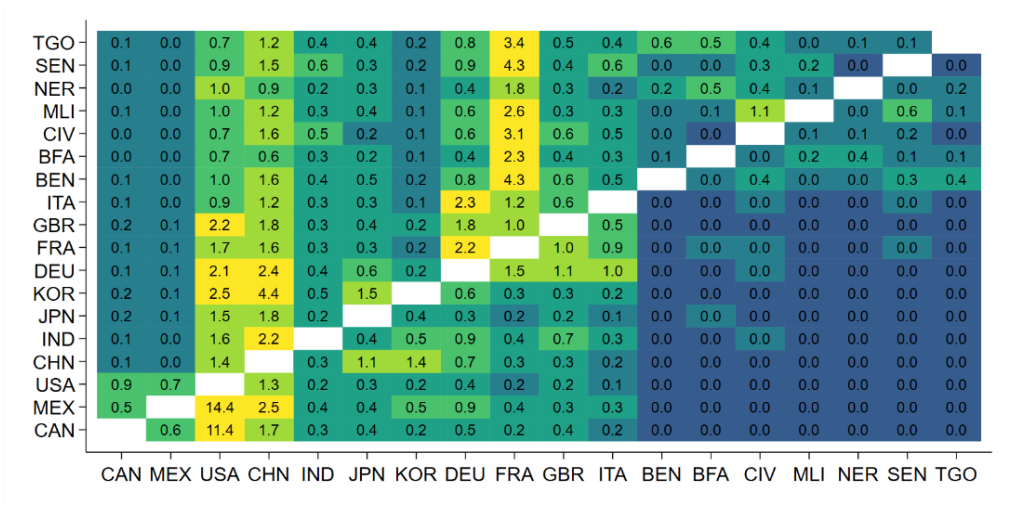
Sources: IMF, World Economic Outlook database, Atlas of Economic Complexity; and IMF staff calculations.

6. WAEMU member countries' integration into global value chains (GVCs) remains limited as well, suggesting room for greater such integration. Backward and forward linkages remain underdeveloped within the region and in connection with the global economy (Figure 3). Abbas and others (2023) found that GVC integration within WAEMU is approximately half that of the European Union (EU) and one-twentieth that of the former NAFTA countries, on average.[4] The study also found that while GVC integration can be attributed in part to country-specific factors such as the size of the economy and the presence in the region of a country with a technologically advanced and dynamic manufacturing sector, trade agreements also play a significant role, accounting for 40 percent of the GVC integration differences between African nations and comparators.

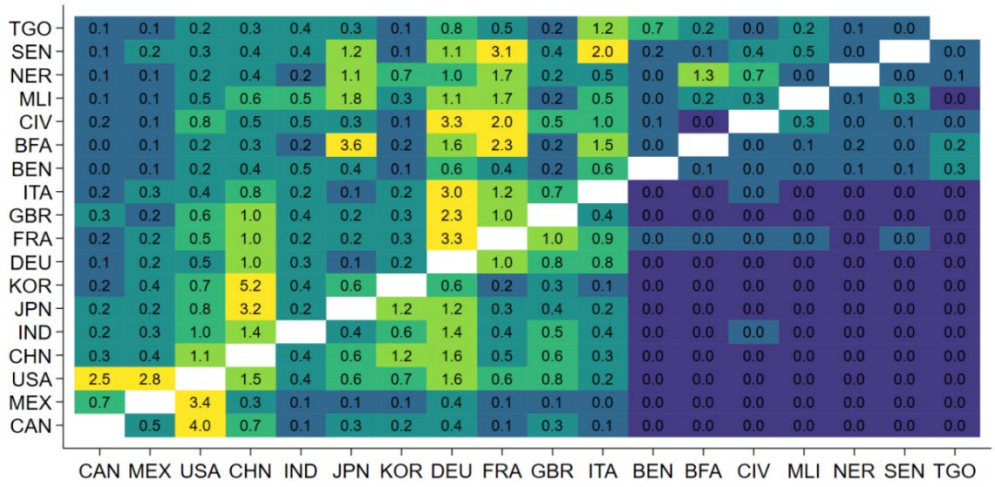
[4] Mancini and others (2023) provide complementary evidence on the limited extent of GVCs in SSA countries.

Figure 3. Bilateral Backward and Forward Linkages, Select Economies, 2021
(percent of gross exports)

Panel a) Backward Linkages



Panel b) Forward Linkages



Sources: EORA; and IMF staff calculations.
Note: "Backward linkage" refers to the value added of the column country embodied in the row country's exports, as a percentage of the row country's exports. "Forward linkage" refers to the value added of the row country embodied in the column country's exports, as a percentage of the row country's exports. Warmer colors indicate stronger linkages, signifying greater cross-border value chain integration. The figure shows that African countries' bilateral linkages are generally weaker, oriented outside their home region, and characterized by stronger forward than backward linkages.

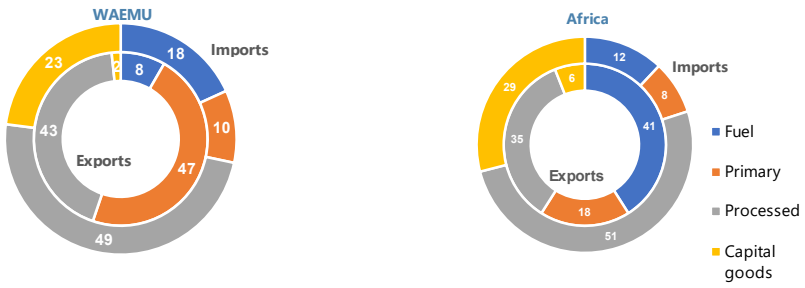
7. Further, WAEMU members' exports remain little diversified, particularly as concerns exports beyond the African continent, indicating room for diversification. Fuel and primary goods dominate exports beyond the African continent (Figure 4, panel a).[5] The proportion of processed goods in WAEMU members' exports to the rest of the world, standing

[5] Primary goods are those produced by the primary sectors of the economy—farming, forestry, fishing, and extractive industries—and other sectors where nearly all of the value of the product is contributed by one of the primary sectors of the economy.

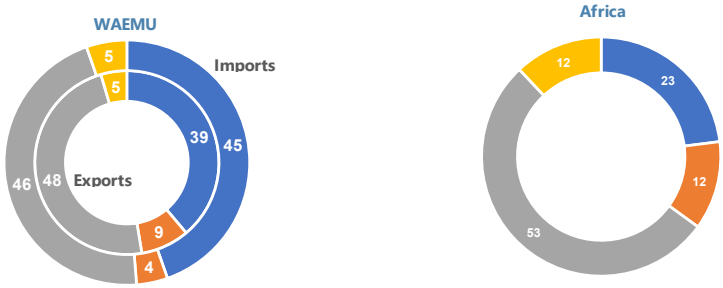
at 43 percent, falls short of the levels recorded in comparable regional trade agreements, such as the Association of Southeast Asian Nations (ASEAN), where it is 60 percent. This is consistent with the limited role of global and regional value chains in WAEMU members' trade. In comparison, WAEMU members' exports to African countries exhibit moderately greater diversification, suggesting that greater intra-African trade integration could provide further export diversification opportunites (Figure 4, panel b). This said, the hypothesis that an expansion of intra-African trade offers diversification opportunities relies on the assumption that the greater degree of diversification of intra-African exports is not fully explained by reexports of processed goods imported from the rest of the world.

Figure 4. Composition of Merchandise Trade, 2019
(percent)

Panel a) Trade with the Rest of the World



Panel b) Trade with Africa



Sources: IMF, World Economic Outlook database, Atlas of Economic Complexity; and IMF staff calculations.

Trade Policy-Related Reasons for WAEMU Members' Limited Trade Openness, GVC Integration, and Export Diversification

In analyzing obstacles to WAEMU's intra-African trade, we find that tariffs, non-tariff measures (NTMs, obstacles to trade that arise mainly from differences in national regulations), and a challenging trade environment (e.g., limited transport infrastructure and cumbersome Customs and border processes) hamper WAEMU members' trade with countries outside of ECOWAS. At the same time, NTMs and the challenging trade environment weigh on trade even among WAEMU members, and between WAEMU members and other ECOWAS countries. The continued presence of substantial NTMs even in trade among WAEMU countries reflects in part the fact that the WAEMU trade integration agreement does

not cover several important areas affecting trade, including harmonization of sanitary, phytosanitary, and technical regulations, and that differences persist in these regulations as a result. Similarly, the trade environment remains challenging even for trade among WAEMU countries, reflecting, among other things, the fact that the WAEMU trade integration agreement does not extend to efforts to streamline and harmonize Customs and border processes.

8. Reasons for the limited growth in WAEMU members' trade openness likely include the fact that WAEMU members have imposed substantial tariffs on imports originating outside of ECOWAS and face substantial tariffs when exporting to African countries outside of ECOWAS. Through the ECOWAS CET, WAEMU members impose tariffs averaging 9-10 percent on goods coming from outside the ECOWAS, and WAEMU members' exports to these countries face tariffs of 9-10 percent as well.

9. Non-tariff measures (NTMs) create additional barriers to trade between WAEMU members and other countries (Figure 5). NTMs are government regulations other than tariffs that can impact quantities and/or prices of traded goods. These include barriers that arise from behind-the-border differences between countries in national regulations in the areas of health and the environment (resulting in differences in sanitary and phytosanitary measures) and technical regulations (resulting in technical barriers to trade, TBTs).[6] NTMs between WAEMU countries and other African countries hinder trade by as much as tariffs of 15 percent would. This compares to trade among African countries more generally, where NTMs are equivalent to an import tariff of 18 percent on average, substantially exceeding the trade-constraining impacts of tariffs, see Abbas and others 2023.

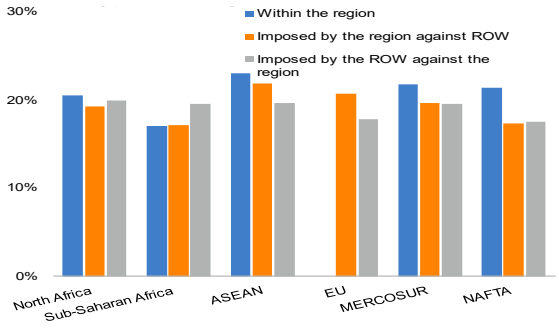
10. Perhaps surprisingly given WAEMU's longstanding efforts at integration among its members (Box 1), NTMs hamper even trade among WAEMU countries. This likely reflects the fact that the WAEMU agreement does not cover key areas such as sanitary, phytosanitary, and technical regulations. NTMs are estimated to hinder trade among WAEMU members by as much as import tariffs of 17 percent would (Figure 6).[7] Senegal and Cote d'Ivoire have the lowest NTMs against other WAEMU and African countries (at 10 percent) and Mali the highest (at 27 percent).

[6] UNCTAD (2018) provides an in-depth analysis of the extent and impact of NTMs in West Africa.
[7] Tariff equivalents of NTMs are estimated using the gravity regression, see Abbas and others, 2023 for details.

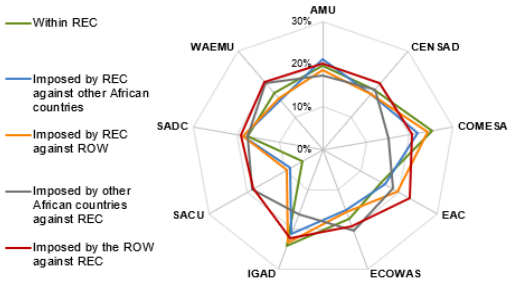
Figure 5. Non-Tariff Measures, 2019

(percent, tariff-equivalent weighted average)

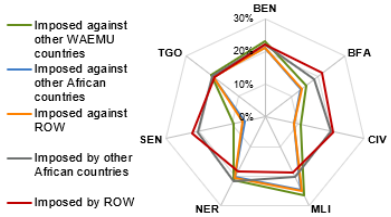
NTMs across Regions



NTMs across Trade Blocks



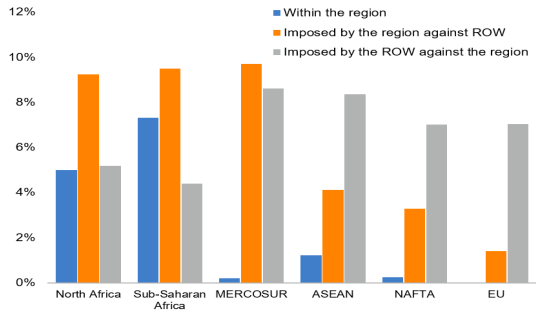
NTMs across WAEMU Countries



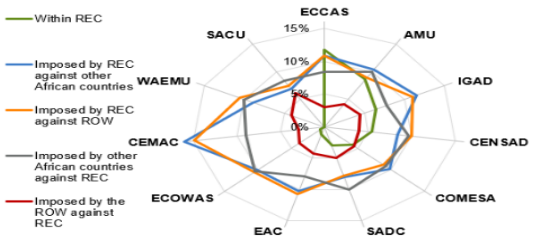
Sources: UNCTAD, TRAINS, and IMF Staff calculations.

Figure 6. Import Tariffs, 2019

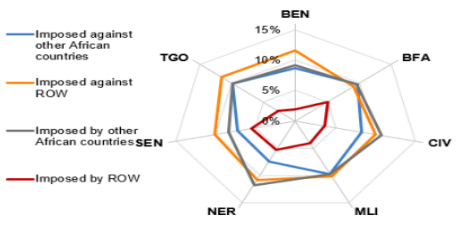
(percent, tariff-equivalent weighted average)



Import Tariffs across Trade Blocks



Import Tariffs across WAEMU Countries



Sources: UNCTAD, TRAINS, and IMF Staff calculations.

Box 1. Trade Integration in the WAEMU: Goals, Implementation, and Remaining Challenges

The WAEMU aims at creating freee trade and even a single market between its member states, based on common trade policies and the granting of the classic "four freedoms" (free movement of goods, services, capital, and labor, see Article 4 of the WAEMU Treaty as revised in 2003). In line with this:

- Building on the existence of common currency, WAEMU members started implementing a customs union in 2004 by adopting a common external tariff (CET) and tariff-free trade among themselves. In 2015, ECOWAS members adopted a CET as well, and the WAEMU countries, all of whom were also ECOWAS members, adopted the ECOWAS CET and started enjoying tariff-free trade with ECOWAS members (Guinea-Bissau did so in 2016).

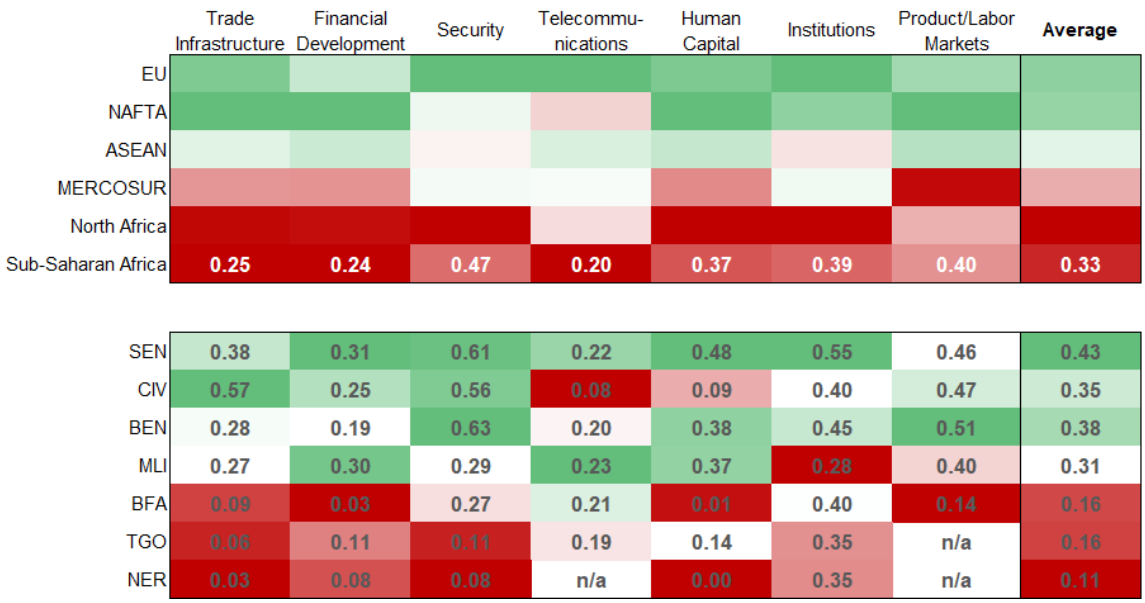
- WAEMU members have enacted measures to provide the "four freedoms". Beyond ensuring tariff-free trade between its members, they have prohibited restrictions on the movement of capital within the Union (for capital belonging to residents of the WAEMU members); and granted residents the right to move across member states and eliminated labor market discrimination based on nationality except for public service positions. Member states must notify and justify to the WAEMU Commission of any restrictions on the four freedoms (articles 79 and 94 of the WAEMU Treaty).

However, WAEMU countries have so far not agreed to harmonize a number of important elements that affect trade, and as a result the WAEMU is still some way away from establishing a single market. While the WAEMU Treaty covers the areas of import tariffs and movement of capital, as noted above, and a few others such as export taxes and competition policy, it does not extend to a number of issues that affect trade such as Customs procedures, sanitary and phyto-sanitary measures, and technical norms (World Bank 2020, Table 0.1, presents the areas covered in a range of African Regional Economic Communities).

11. A challenging trade environment creates additional obstacles to WAEMU members' trade, including within the WAEMU. Beyond restrictive trade policies and NTMs, the most important factor constraining intra-African trade is the challenging trade environment, such as limited transport infrastructure (including trans-border road, rail, port and air transport networks and border and Customs procedures), telecommunication infrastructure, financial development, human capital, and institutions, as well as restrictive product and labor market regulations. The trade environment in WAEMU countries is as challenging as in other Sub-Saharan African countries on average, with substantial heterogeneity across WAEMU countries (Figure 7). Burkina Faso, Niger, and Togo are ranked particularly low in terms of trade infrastructure, financial development, security, human capital development, and product and labor market regulations. In contrast, Senegal scores broadly high across the board, Cote d'Ivoire scores high in trade infrastructure and security and poorly on telecommunications, Benin does not show excessive weaknesses, while Mali scores poorly on governance.[8]

[8] Information on Guinea-Bissau's trade environment is not available.

Figure 7. Trade Environment Indicators, Latest Available
(index)



Sources: World Economic Forum's Global Competitiveness Report, Logistics Performance Index, Worldwide Governance Indicators, World Telecommunications/ICT Indicators, Institute for Health Metrics and Evaluation, World Development Indicators, and IMF staff calculations.
Note: Indices are normalized between 0 (low performance, shaded red) and 1 (high performance, shaded green), with the median for each indicator shaded white. Mercosur excludes Venezuela. Construction of the trade environment indicators is described in Abbas and others, 2023.

12. One element of the difficult trade environment relates to the fact that most WAEMU members still appear to continue to impose challenging Customs and border processes on traders. This likely reflects in part the fact that the WAEMU agreement also does not cover the streamlining and harmonization of these procedures. Improvements in these procedures ("trade facilitation"), can reduce the time and cost of trading significantly. On average, WAEMU members perform fairly well in terms of freedom of transit and transparency of trade regulations (Figure 8).[9] However, there is room to improve cross-border paperless trade procedures and implement more measures that benefit women and SMEs involved in trade. There is also significant heterogeneity across WAEMU countries in this respect. While Benin has implemented nearly 86 percent of potential measures to streamline processes, Mali has implemented only a third.

[9] The measures in the "transit" category include, for example, limits on physical inspection of transit goods, support for pre-arrival processing. 'Transparency' measures comprise publication of existing export/import regulations online, advance publication of new trade-related regulations, among others.

Figure 8. Trade Facilitation Measures, 2023

(share of implemented measures within each category, percent)

Category	Transparency	Formalities	Institutions	Transit	Paperless	Cross-border paperless trade	SMEs	Agriculture	Women	Overall Trade Facilitation Index
BEN	100	100	78	100	81	67	47	100	56	86
NER	80	67	33	83	59	61	47	50	33	62
TGO	73	67	56	92	56	44	87	33	44	59
CIV	53	75	44	67	74	6	73	67	22	55
SEN	27	50	67	67	56	72	0	75	11	54
BFA	67	58	56	42	37	22	27	42	44	46
GNB	53	54	44	67	30	11	7	17	11	38
MLI	73	29	56	50	19	22	33	0	0	34

Sources: UN Global Survey on Digital and Sustainable Trade Facilitation. The colors represent the share of implemented measures within each of the 9 categories, as well as an overall Trade Facilitation Index. The definition of the measures is available in the Digital and Sustainable Trade Facilitation: Global Report 2023.

C. AfCFTA Trade Integration: Quantifying Potential Benefits for the WAEMU

AfCFTA decisions have advanced substantially in recent years in key areas, notably tariffs, while discussions are still ongoing in several other areas. AfCFTA implementation offers the opportunity to boost trade and incomes substantially by lowering tariffs and NTMs on the African continent. Trade and incomes would rise much more if WAEMU members and other African countries were to combine AfCFTA implementation with improvements in the trade environment. This said, the AfCFTA envisages a process for the removal of NTMs that will most likely progress slowly, as NTMs will only be addressed one by one after traders bring them up.

13. All WAEMU members are parties to the AfCFTA—the world's largest trade agreement by the number participants. The agreement, signed by 44 African nations in 2018, came into effect in May 2019. The AfCFTA's objective is to boost incomes in Africa by expanding trade in goods and services, enhancing competitiveness through economies of scale, and promoting structural transformation and industrialization. For this, participating countries aim to eliminate tariffs on 97 percent of tariff lines, representing at least 90 percent of imports by value, by 2030. In addition, in line with recent trends in the design of preferential trade agreements, the AfCFTA aims for "deep" trade integration by not only lowering tariffs on merchandise trade but also making efforts to address behind-the-border regulations that result in NTMs that hinder trade. The AfCFTA also aims to facilitate trade by streamlining Customs and border processes; liberalize trade in services; and establish mechanisms for dispute settlement, among other things.

14. African countries including WAEMU members have made good initial progress in fleshing out the AfCFTA agreement. The signatories have reached consensus on at least key features of the protocols under the agreement encompassing trade in goods and services, investment, competition policies, and digital trade. A substantial majority of AfCFTA members, including all ECOWAS (and hence WAEMU) countries,[10] have submitted their tariff offers and schedules of concessions for key service sectors. Agreement has also been reached on rules of origin

[10] The tariff offer was submitted by ECOWAS as a bloc.

for 92 percent of tariff lines.[11] Signatories are yet to agree on the remaining rules of origin and finalize specifics of annexes to certain protocols (see Trade Law Centre, 2025) .

15. AfCFTA implementation, however, remains work in progress both in WAEMU members and other African countries. Some countries have already implemented their tariff offers in domestic legislation, and a select group of countries commenced trading certain goods under a pilot "Guided Trade Initiative" in October 2022.

16. We use a gravity estimation to quantify the effects of substantial progress in AfCFTA implementation on merchandise trade and welfare. The estimation proceeds in two steps, as in Abbas and others (2023). In the first step, we estimate the elasticity of bilateral trade flows to tariffs and non-tariff measures, as well as to various measures of the trade environment, including trade infrastructure, financial development, and security.[12] In the second step, we quantify the trade flows under several counterfactual scenarios that simulate the AfCFTA provisions. Finally, we calculate the resulting changes in trade openness and relate them to potential effects on real income per capita, using estimates from the literature.

17. If WAEMU members and other African countries were to make substantial progress in AfCFTA implementation, this would strengthen trade WAEMU members' trade noticeably, raising incomes. In our "AfCFTA scenario," we consider a 90 percent reduction in existing tariffs between AfCFTA signatories and a 50 percent reduction in the number of non-tariff measures, consistent with AfCFTA provisions and acknowledging the longer timeframe required to remove NTMs. The median WAEMU member country's openness would increase by 1.5 percentage points, associated with a 2 percent increase in long-term real income per capita.[13]

18. In these efforts, the assumed reduction in NTMs would have a more significant impact on WAEMU members' trade than the tariff reductions. A reduction of NTMs envisaged in the "AfCFTA scenario" will increase openness by an average one percentage point in WAEMU members, double the effect of the assumed tariff reductions.

19. However, the AfCFTA does not at present appear to envisage procedures that would allow a speedy removal of NTMs. Under current procedures, traders need to bring individual NTMs they may encounter to the authorities' attention one by one, and the authorities will then

[11] As of February 2024.

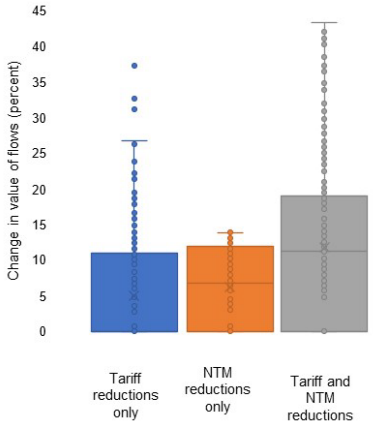
[12] In this step, we use the Poisson pseudo-maximum likelihood estimation method with the log of bilateral trade flows as a dependent variable. Independent variables comprise the log of weighted average bilateral tariffs plus one, log of weighted average number of NTMs (using bilateral trade in 6-digit products as defined by the Harmonized System as weights). In addition, we include log of bilateral distance, dummies for common language, colonial origin, and border, origin and destination fixed effects, and measures of trade environment (including interactions with bilateral distance). We call the estimated coefficients "elasticities" and use those elasticities in the counterfactual analysis.

[13] We use a semi-elasticity of 1.25 between openness and GDP per capita, representing a midpoint from the estimates found in the literature, as referenced in Abbas and others (2023).

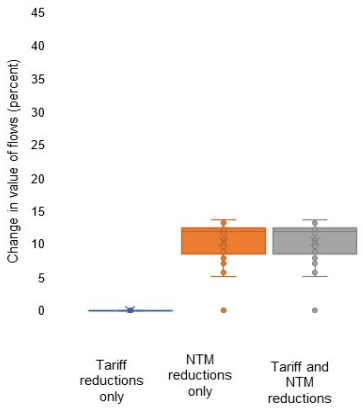
consider how to address the issue. Given the multitude of NTMs in bilateral trade, this process is likely to take a long time to make an appreciable dent in NTMs.

Figure 9. Effects of Implementing the "AfCFTA Scenario"

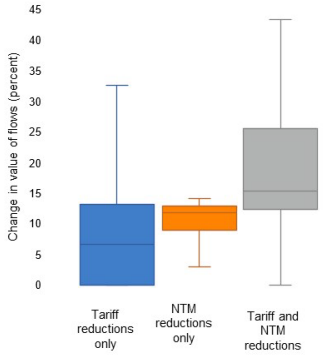
Panel a) Effect of AfCFTA on Trade within Africa (WAEMU Countries) (percent)



Panel b) Effect of AfCFTA on Trade within WAEMU (WAEMU Countries) (percent)



Panel c) Effect of AfCFTA on Trade within Africa (All Countries) (percent)



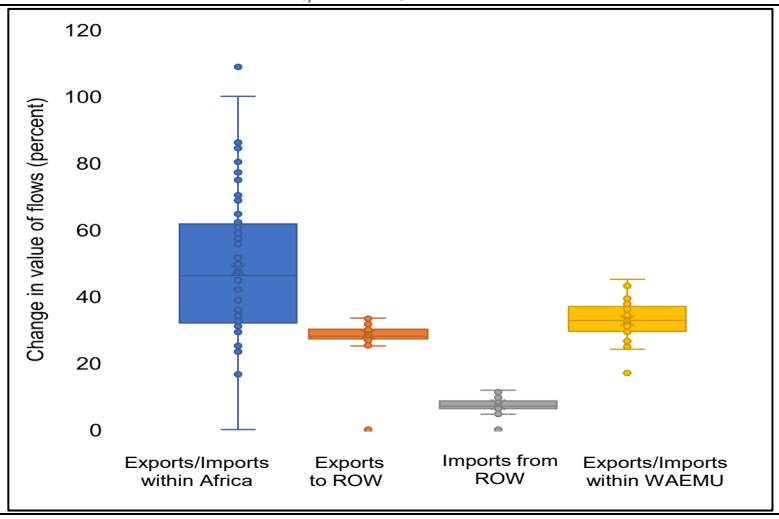
Sources: IMF staff calculations.
Note: The figure shows respectively the distribution of first-order impacts on intra-African trade flows i) of reductions in intra-African tariff barriers to one tenth of their current value, ii) of reductions in intra-African NTMs to one half of their current value, and iii) of both. The impacts are based on the gravity-estimated tariff and NTM elasticities described in Abbas and others (2023).

20. Trade and incomes would rise much more if WAEMU members and other African countries were to combine AfCFTA implementation with improvements in the trade environment. The "AfCFTA+ scenario" analyzes the impact of the AfCFTA scenario's tariff and NTM reductions in combination with enhancements in three key elements of the trade environment: infrastructure, financial development, and security. These improvements would lower transport costs, improve access to credit, and reduce investment risks. Specifically, if WAEMU members (and other African countries) were to both implement the AfCFTA scenario's tariff and NTM reductions and elevate their trade environment to the median performance level of the next-best performing free trade agreement (ASEAN or Mercosur, depending on the indicator), WAEMU members' median merchandise trade flow with other African countries could rise by more than 40 percent, while intra-WAEMU trade could increase by more than 30 percent (Figure 10). In addition, WAEMU members' (much larger) trade flows with countries outside of Africa would rise. All this would result in much greater increases in openness compared to the AfCFTA scenario and generate income gains of an estimated 10 percent.

21. While some ways of enhancing the trade environment, for example enhancing infrastructure, can entail high costs, actions to streamline administrative Customs and border procedures could conceivably come at lower cost. There are significant opportunities to bolster trade through the implementation of select such trade facilitation measures. For example,

implementing half of the outstanding [14] measures by WAEMU members could increase their openness by 1-2 percentage points, [15] which could raise incomes by 1.3-2.5 percent.

Figure 10. Effects on WAEMU Countries of Implementing the "AfCFTA+ Scenario"
(percent)



Sources: IMF staff calculations.
Note: The figure shows the distribution of first-order impacts of reductions in intra-African tariff barriers to one tenth of their current value, reductions in intra-African NTMs to one half of their current value, and improvements in trade infrastructure, financial development and domestic security that bring the median African country in line with the median of the "next best" major regional trade agreements. The box plots split the distribution of effects respectively into i) effects on intra-African trade flows, ii) African exports to the rest of the world, iii) African imports from the rest of the world, and iv) exports/imports within WAEMU. The impacts are based on the gravity-estimated tariff, NTM and trade environment elasticities described in Abbas and others (, 2023).

D. Conclusions and Policy Implications

Going forward, WAEMU member countries should pursue greater trade integration by helping move AfCFTA discussions forward in areas that remain to be fully agreed, and by implementing agreed steps, such as the progressive elimination of tariffs on intra-African trade. WAEMU countries may also wish to advocate with AfCFTA partners for a more ambitious process for removing NTMs, namely a pro-active and comprehensive effort at reviewing and aligning national regulations affecting trade. In parallel, WAEMU members may wish to drive forward trade integration among themselves, including by undertaking a pro-active and comprehensive effort at removing NTMs. They should also try to strengthen the trade environment in a cost-effective manner, including notably by streamlining and harmonizing Customs and border processes. In all these efforts, maintaining macroeconomic stability will be key for maximizing the benefits of trade integration, while strengthening workforce skills and enhancing safety nets to the extent possible will also be important.

[14] WAEMU countries have largest distance to frontier in the areas of digitalization of customs procedures and a supportive trade environment for women and SMEs, which represent key areas with the potential to improve trade facilitation.
[15] The results are computed by synthesizing findings from Abbas and others (2023) and UNESCAP estimates concerning the elasticity of trade flows in response to trade facilitation.

22. The analysis presented in this paper suggests that efforts at trade integration among WAEMU members have room for delivering greater results. WAEMU members' trade openness has grown only modestly in the past two decades, and their integration into global value chains and export diversification remain limited.

23. Three key factors continue to constrain WAEMU members' trade: elevated import tariffs, high non-tariff measures, and a challenging trade environment. All three elements continue to constrain WAEMU members' trade with countries outside of ECOWAS, while high non-tariff measures and the challenging trade environment continue to limit even trade between WAEMU members (and with other ECOWAS members).

24. Going forward, WAEMU countries should strengthen their trade and incomes by pursuing trade integration with other African countries through the AfCFTA as follows:

- **Help move AfCFTA discussions forward.** WAEMU members should collaborate with other AfCFTA signatories in finalizing negotiations on the remaining tariff lines and rules of origin, advancing discussions on services trade liberalization, and completing the annexes to the remaining protocols.
- **Implement AfCFTA agreements in domestic law to the extent that this has not yet been done**. This includes the new tariff schedules and rules of origin, any future agreements on services trade, and any other changes required by AfCFTA agreements. (Trade among WAEMU countries and between WAEMU and ECOWAS members will continue to benefit from zero tariffs.) WAEMU members also need to ensure that their Customs administrations are ready to implement AfCFTA tariffs and rules of origin. Further, WAEMU members should inform the business community about the opportunities AfCFTA creates and any related changes in Customs and border processes.
- **As regards the removal of non-tariff measures, WAEMU members may wish to advocate vis-à-vis other AfCFTA signatories for the adoption of a more ambitious approach.** AfCFTA member countries should start a pro-active and comprehensive process of reviewing and aligning behind-the border regulations that result in NTMs hindering trade. The AfCFTA's current process, whereby traders need to bring NTMs they encounter to the authorities' attention one by one, will likely enable only very slow progress.

25. In parallel, WAEMU members could usefully deepen trade integration among themselves by reducing NTMs through a pro-active and systematic effort. This would help boost trade within the WAEMU and could serve as a model for the continent-wide effort at reducing them. In this effort, WAEMU member countries could draw on learnings from other groups of countries that have sought to establish a common market, such as the EU. They may also be able to draw lessons from the continuing efforts to align business law made through the Organization for the Harmonization of Business Law in Africa (OHADA), to which they are parties.

26. Further, WAEMU members should seek to strengthen trade by enhancing the trade environment in the most cost-effective manner possible. Priorities will differ between countries.

Lowering trade costs by building substantial new transport infrastructure could provide a significant boost to trade (Fontagné and others, 2023), particularly where this infrastructure remains weak. At the same time, building new infrastructure is a costly undertaking, with the added challenge that the construction cost is immediate while the benefits occur only over time. In contrast, trade facilitation through streamlining and digitization of Customs and border processes could potentially be a more affordable effort given that it involves mainly a streamlining of administrative processes rather than the building of substantial new infrastructure.

27. To maximize the benefits of trade integration, maintaining macroeconomic stability will be key. In this regard, WAEMU members should continue efforts to strengthen domestic sources of fiscal revenue to offset any potential AfCFTA-related revenue losses. Estimates of potential revenue losses from AfCFTA implementation vary substantially across studies and African countries. Edwards and others (2023) provide an overview of the literature on potential fiscal revenue losses from AfCFTA implementation and present new estimations. They estimate that the eventual effects of tariff reductions on WAEMU members' fiscal revenue will be small (less than 0.1 percent of GDP for each WAEMU member). Nevertheless, to guard against any downward pressure on revenue, even if only transitory, governments should continue their efforts at enhancing domestic taxation.

28. Finally, it will be important to strengthen workforce skills and social safety nets. While the AfCFTA is expected to generate overall gains, some groups might face adverse impacts, at least initially. Investing in workforce skills will help workers take advantage of opportunities created by trade integration in a broader context of increasing skill requirements in the modern workplace; and strengthened social safety nets can offer targeted support during transition periods, ensuring that transition costs are contained while the benefits of trade integration are shared widely and equitably.

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FOOD SECURITY IN WAEMU: CURRENT CHALLENGES AND A WAY FORWARD[1]

Food insecurity in WAEMU has worsened over the last few years—mainly due to conflicts, climate, and affordability issues—with the Sahel zone being in a particularly difficult situation. The security environment is complex, while the region is also highly vulnerable to climate change and dependent on food imports. Further increases in food insecurity risk exacerbating social tensions and fueling further conflicts. If left unaddressed, food insecurity could have a lasting adverse impact on economic growth and development. Addressing food insecurity in a durable way requires solidarity, as well as well-targeted and coordinated efforts by national and regional authorities, in collaboration with partners.

A. Context

1. Food insecurity refers to the lack of reliable access to a sufficient quantity of affordable and nutritious food. It thus depends on: the availability of sufficient quantities and quality of food; access by households to sufficient quantities and quality of food; utilization of food (knowledge, access to water, health services); and stability over time across these three dimensions. Food insecurity can be chronic, due to structural factors (poverty, climate change), and/or acute, resulting from or compounded by transitory factors (e.g., conflict, natural disasters, displacement). The text figure describes the various levels of intensity of food insecurity.

Household Classification

In IPC 3,4, and 5 humanitarian assistance is urgently required

IPC 1 – NONE	IPC 2 – STRESSED	IPC 3 – CRISIS	IPC 4 – EMERGENCY	IPC 5 – CATASTROPHE
People are able to meet their basic food and other needs without major changes to their daily lives.	People are eating minimally adequate diets but must make significant changes to their lifestyles to support other non-food needs.	Some households are not consuming enough food and have high levels of malnutrition, while others are adopting irreversible coping strategies—such as selling assets that support their livelihoods—to support a limited diet.	People are facing extreme food shortages, acute malnutrition and disease levels are excessively high, and the risk of hunger-related death is rapidly increasing.	Even when using all of their coping strategies, people have almost no food and cannot support their basic needs. Starvation, death, destitution, and extremely critical acute malnutrition levels are evident.

Produced by USAID's Bureau for Humanitarian Assistance, January 2023

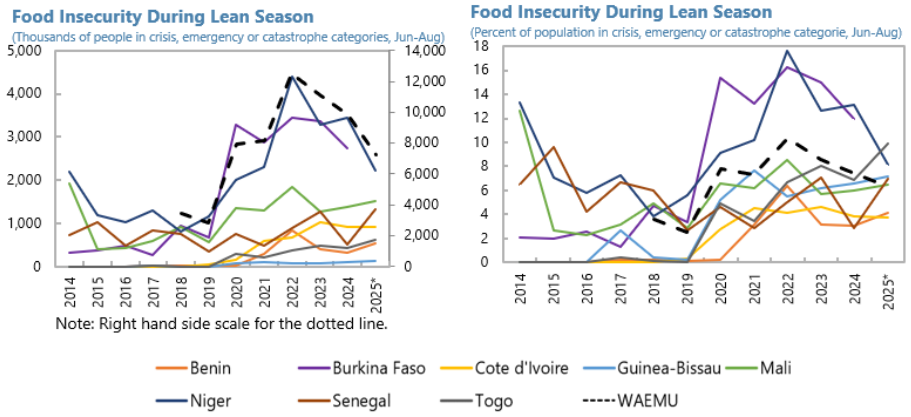
2. Since 2019, food insecurity has significantly increased in WAEMU, being especially severe in the Sahel zone (Figure 1 and Table 1). During the 2022 lean season[2]—the worst year on record using the *Cadre Harmonisé* framework for acute food security—more than 12.5 million people in the WAEMU region were in food insecurity, experiencing a situation of crisis, emergency,

[1]Prepared by Ljubica Dordevic (AFR) and Ollo Sib (WFP), with research support by Fiona Hesse-Triballi. The paper is part of IMF-WFP pilot collaboration. We would like to thank Luca Antonio Ricci and the authorities for their suggestions and comments.

[2] Lean season represents the period between harvests when food is most scarce, being from June to August in the WAEMU region.

or catastrophe (categories 3, 4 and 5, respectively, on the aforementioned 1-5 IPC scale). [3] This corresponded to more than 10 percent of the total WAEMU population analyzed, up from 2.8 million people in 2019 or 3 percent of the population analyzed. In 2024, 9.8 million people faced food insecurity accounting for 7 percent of the population analyzed. There is substantial heterogeneity across countries. For example, in 2024, the share of population experiencing food insecurity was as high as 13 percent of the population in Niger and 12 percent in Burkina Faso (both for more than 10 percent of the population analyzed for the fourth consecutive year). In the same year, Senegal and Benin had the lowest share of the population in food insecurity, at 3 percent.

Figure 1. Food Insecurity



Sources: Cadre Harmonisé (March 2024), IMF Staff Calculations, World Economic Outlook.
Notes: * 2025 is projected data and no data is available for Burkina Faso.
The categories crisis, emergency and catastrophe are respectively categories 3; 4 and 5 in the Cadre Harmonisé.
June-August represents the lean season, i.e. the period between harvests when food is most scarce.
For WAEMU: due to the lack of data for all eight member countries, the series starts in 2018.

3. The food security trends over the last 5 years in WAEMU countries reflect a dual narrative of progress and persisting vulnerabilities. One key problem is that a strong increase in production is contrasted by high population growth. On one hand, the region has shown a commendable rise in agricultural production for the 2023/24 crop season, with cereal outputs reaching 32.6 million tons—a 2 percent year-on-year and a 6.8 percent increase over the five-year average, according to PREGEC (March 2024). [4] Staples like rice, maize, and sorghum underpin these gains, bolstered by favorable climatic conditions and strategic agricultural policies. Tubers, particularly cassava and yam, further enhance the region's agricultural diversity, contributing to food security and economic stability. However, these achievements mask underlying challenges. Seasonal and transitory food insecurity affect several areas—mainly the Sahel—driven by conflict, climatic shocks, and economic pressures, while coastal nations (Senegal and Côte d'Ivoire) demonstrate greater stability, albeit not being immune to seasonal fluctuations. Indeed, protracted food insecurity remains a significant concern in countries such as Burkina Faso, Mali, and Niger. On the

[3] The subregion is currently discussing the implementation of chronic food security analysis through the *Cadre Harmonisé*. Once rolled out, it will offer a precise estimate of the population experiencing chronic food insecurity.
[4] PREGEC presentation on Agricultural production for 2023-2024 agricultural season (March 2024)

other hand, the significant population growth strains the positive contribution of larger production. Overall, per capita cereal availability at 221 kg in the 2023/24 season in WAEMU has declined (1 percent year on year, 2 percent over the five-year average). Based on *Cadre Harmonisé* projections from November 2024, food insecurity will remain high in 2025.

Table 1. WAEMU: Food Insecurity During the Lean Season (June to August), 2014-25

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025*
					(June to August, in thousands of people)							
Benin	-	-	-	18.6	30.8	19.5	14.6	281.6	830.1	412.1	309.4	531.6
Burkina Faso	333.5	371.0	478.7	257.2	954.3	687.5	3,280.8	2,867.1	3,453.5	3,351.0	2,734.2	-
Cote d'Ivoire	-	-	-	-	-	59.0	168.4	580.6	662.0	1,017.8	922.5	928.8
Guinea-Bissau	-	-	-	32.5	4.8	2.5	67.8	100.6	73.1	78.9	117.3	129.6
Mali	1,920.1	409.9	423.2	600.8	932.7	553.8	1,340.7	1,307.1	1,841.1	1,262.1	1,370.3	1,518.0
Niger	2,204.7	1,178.1	1,020.5	1,312.8	802.9	1,171.6	2,012.4	2,309.1	4,402.4	3,280.4	3,436.9	2,220.9
Senegal	738.7	1,039.6	484.5	829.2	751.1	341.3	766.7	490.5	881.3	1,263.3	518.5	1,334.1
Togo	-	-	-	21.8	8.5	-	281.5	204.1	389.0	487.3	423.2	624.6
WAEMU					**3,485.1**	**2,835.1**	**7,932.9**	**8,140.8**	**12,532.5**	**11,152.9**	**9,832.2**	**7,287.7**
					(June to August, in percent of total population analyzed)							
Benin				0	0	0	0	3	6	3	3	4
Burkina Faso	2	2	3	1	5	3	15	13	16	15	12	
Cote d'Ivoire					-	0	3	5	4	5	4	4
Guinea-Bissau				3	0	0	5	8	6	6	7	7
Mali	13	3	2	3	5	3	7	6	8	6	6	6
Niger	13	7	6	7	4	6	9	10	18	13	13	8
Senegal	6	10	4	7	6	3	5	3	5	7	3	7
Togo				0	0	-	5	3	7	8	7	10
WAEMU					**4**	**3**	**8**	**7**	**10**	**9**	**7**	**6**
					(June to August, year-on-year evolution in percent)							
Benin	-	-	-	-	66	-37	-25	1,832	195	-50	-25	72
Burkina Faso	-	11	29	-46	271	-28	377	-13	20	-3	-18	
Cote d'Ivoire	-	-	-	-	-	-	185	245	14	54	-9	1
Guinea-Bissau	-	-	-	-	-85	-49	2,622	48	-27	8	49	11
Mali	-	-79	3	42	55	-41	142	-3	41	-31	9	11
Niger	-	-47	-13	29	-39	46	72	15	91	-25	5	-35
Senegal	-	41	-53	71	-9	-55	125	-36	80	43	-59	157
Togo	-	-	-	-	-61	-100	-	-27	91	25	-13	48
WAEMU					-	**-19**	**180**	**3**	**54**	**-11**	**-12**	**-26**

Sources: Cadre Harmonisé (March 2024), IMF Staff Calculations, World Economic Outlook Database

Notes: * 2025 is projected data. The data reflects the people in crisis, emergency or catastrophe categories, or respectively categories 3; 4 and 5 of the Cadre Harmonisé.

June-August represents the lean season, i.e. the period between harvests when food is most scarce.

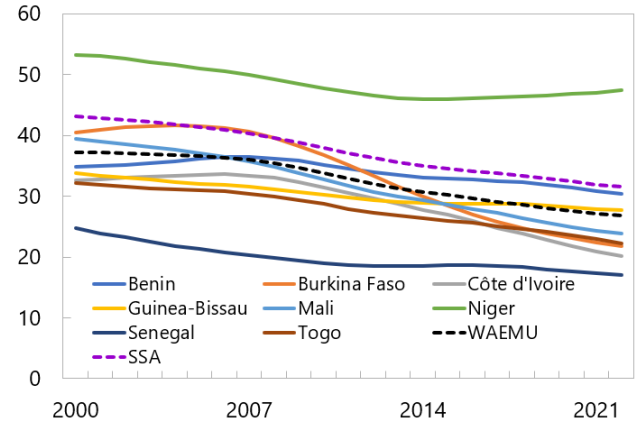
For WAEMU: due to the lack of data for all eight member countries, the series starts in 2018.

Large jumps in food insecurity in some cases are due to improvement in food security data between two years. This is, e.g. the case with Guniea-Bissau in 2020 and Benin in 2021.

4. Nutrition is still a major concern in WAEMU, despite significant progress made over recent decades (Figure 2 and Table 2). Acute malnutrition affects an estimated 16.7 million children under 5 years of age, particularly in the Sahel tri-border area (Burkina Faso-Mali-Niger)[5]. Chronic malnutrition (stunting)[6] affected over 25 percent of children under five in 2022, with nearly half of the children in Niger.[7] In 2024, 63 million people (41 percent of the total population) had insufficient food consumption in WAEMU, ranging from 14 percent in Côte d'Ivoire to 76 percent in Niger. These alarming figures underscore persistent challenges (including food insecurity) and the need for targeted interventions. Coordinated efforts are essential to address both immediate nutritional needs and underlying vulnerabilities among at-risk populations.

Figure 2. Chronic Malnutrition (or Stunting)

(percent of children under the age of five)



Source: World Bank Indicators.

Table 2. WAEMU: People with Insufficient Food Consumption, 2024

	Benin	Burkina Faso	Côte d'Ivoire	Guinea-Bissau	Mali	Niger	Senegal	Togo	WAEMU
Number of people (in million)	5	11	5	1	13	21	5	2	63
As a percentage of the population	35	47	14	35	55	76	26	20	41

Source: World Food Program (WFP), HungerMap.

[5] Acute malnutrition among children under 5 years old is also known as "global acute malnutrition", being the common measure of malnutrition in a given population.

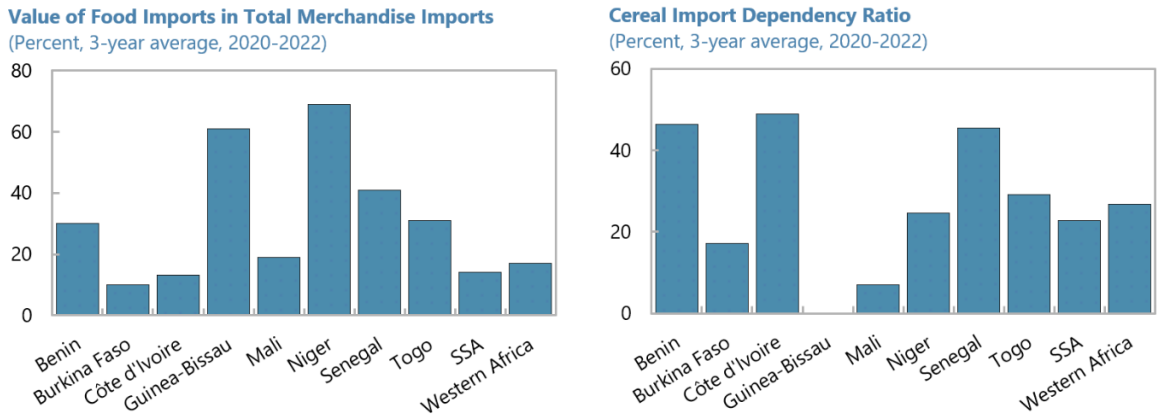
[6] Child growth is an internationally accepted outcome reflecting child nutritional status. Child stunting refers to a child who is too short for his or her age, as a result of chronic or recurrent malnutrition. Stunting is a contributing risk factor to child mortality and is also a marker of inequalities in human development. Stunted children fail to reach their physical and cognitive potential.

[7] Rapport de la réunion des Experts chargés de l'Agriculture, de l'Elevage et de l'Environnement -- 13ème Reunion du Comite de Haut Niveau sur la Securite Alimentaire et Nutritionnelle (Ouagadougou, du 14 au 16 mai 2024).

B. Drivers of Food Insecurity in WAEMU

5. The performance of food systems in WAEMU has been suboptimal due to conflicts, climate shocks, and affordability issues, and the region remains largely dependent on food imports (Figure 3).[8] Key factors challenging the food systems in this region include: (1) conflicts that disrupt food supply systems; (2) climate shocks (desertification, droughts, and floods) that reduce production capacity; and (3) economic and trade factors that make a nutritious diet inaccessible. The increasing frequencies and magnitudes of conflict and climate hazards, limited food production, barriers to regional trade, and soaring food prices constitute significant drivers of the food insecurity crisis in Western Africa.

Figure 3. Food Imports



Source: FAOStat. No data for Guinea-Bissau on the Cereal Import Dependency Ratio.

6. The first key driver of food insecurity in the region is the combination of conflict, insecurity, and population displacement, which negatively impacts livelihoods and puts pressure on resources. Fatalities due to security incidents are on the rise in WAEMU, reaching close to 14,000 people in 2024 (Figure 4). In 2023–2024, conflict and insecurity were the primary drivers of acute food insecurity across several countries in the WAEMU region, including Burkina Faso, Mali, Niger, and northern parts of Benin, Côte d'Ivoire, and Togo, while also hindering humanitarian operations:

- In 2023, Burkina Faso and Mali experienced significant increases in instability, with escalating insecurity pushing affected populations in both countries into food security Catastrophe (CH Phase 5). These communities faced extreme challenges accessing markets, sustaining livelihoods, and receiving humanitarian aid. The inability to reach conflict-affected populations has left many

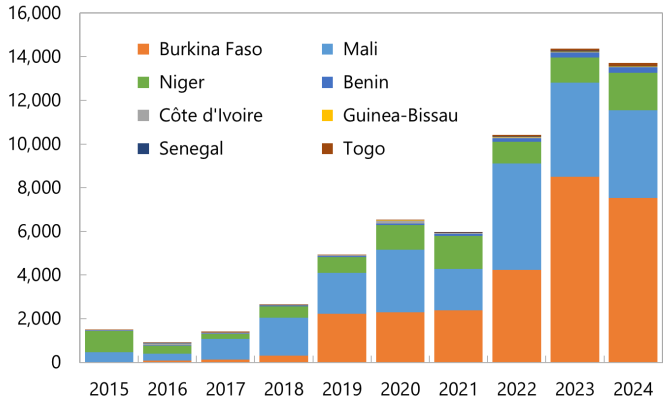
[8] Food systems refer to the range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution (storage, wholesale, retail, and transportation), consumption and disposal of food products.

communities vulnerable to worsening conditions, underscoring the need for coordinated humanitarian efforts. The insecurity remained high in 2024 in both countries.

- Insecurity in the Central Sahel continued to spread into northern regions of Benin, Côte d'Ivoire, and Togo, intensifying food insecurity due to cross-border displacement and disruptions to local economic activities. Extensive population movements—including the influx of internally displaced persons and refugees—disrupt agricultural and pastoral activities, as well as trade.

Figure 4. Fatalities Linked to Security Incidents

(number of fatalities)

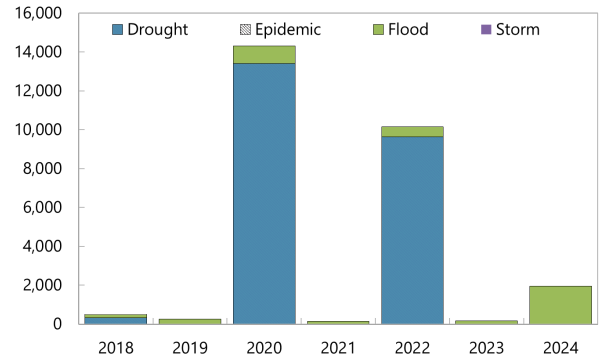


Source: ACLED, IMF Staff Calculations. Security incidents include battles, explosions, protests, riots, strategic developments and violence against civilians.

7. The second key driver is climate—as reflected in rising temperatures and frequent climate disasters (Figure 5)—which is adversely affecting agricultural production, limiting availability of food and basic services – especially in Sahel. Localized erratic rains, floods, and cumulative rainfall deficits pose significant risks to livelihoods in the region, which are heavily dependent on rain-fed agriculture and livestock. Box 1 discusses rainfall trends in main river basins in WAEMU.

Figure 5. Climate Disasters

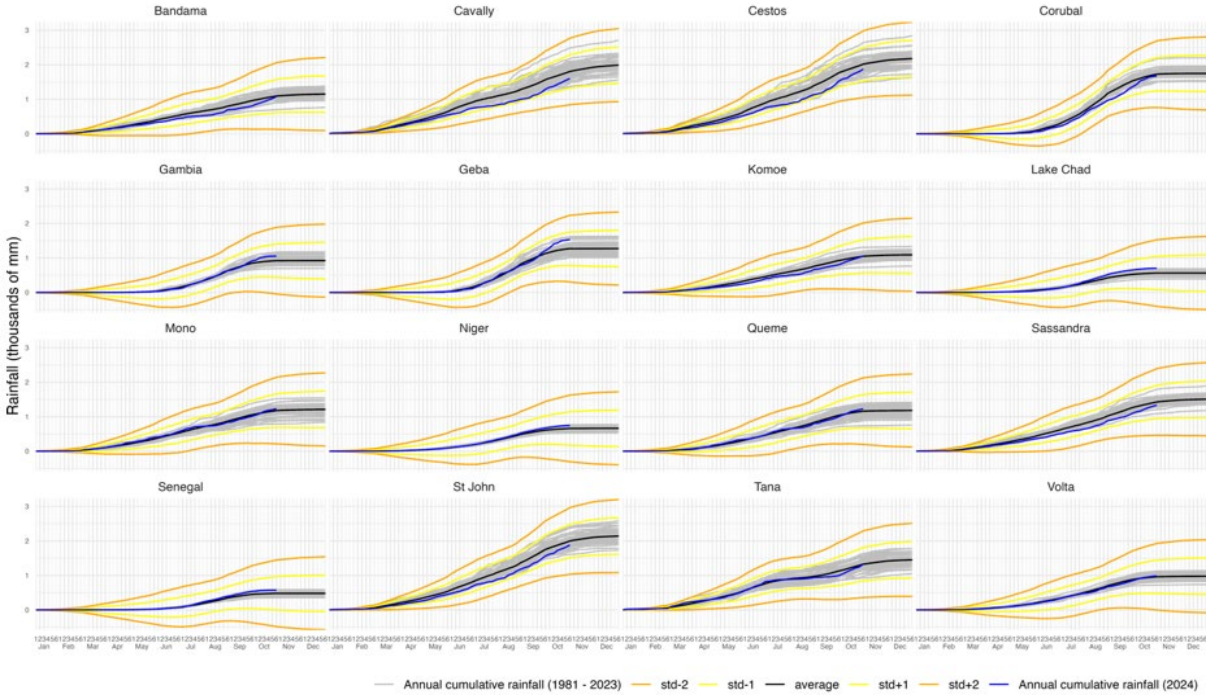
(number of people affected, thousands)



Sources: EMDAT, IMF Staff Calculations.

Box 1. Floods in WAEMU in 2024

The year 2024 was marked by the flooding that caused unprecedented losses of lives and livelihoods. As of August 2024, floods affected 3.5 million people across 14 countries in West and Central Africa.[1] This is mainly due to the increase in rainfall events, intensity, and amount, causing massive runoff which led to breakdowns of water retention infrastructures. The major 9 river basins (i.e., Gambia, Geba, Lake Chad, Mono, Niger, Queme, Senegal, Tana and Volta) of the 16 basins crossing the WAEMU region recorded higher rainfall than the historical average. The Government of Mali has declared a national emergency in response to devastating floods that have caused widespread destruction of property and loss of life across the country, with over 1.6 million hectares of land (including nearly 500,000 hectares of cultivated land) reported as flooded. In Niger, the situation was equally dire, with 222 reported deaths, 200 people injured, 44,600 houses destroyed, more than 350,000 people turned homeless, 86 schools in urgent need of repair in the worst-hit regions of Maradi, Zinder, and Tahoua, and the destruction of over 5,500 hectares of farmland and significant crop losses.



Source: Cumulative rainfall estimates over WAEMU portions of major river basins. These estimates are derived from CHIRPS Pentad data (https://doi.org/10.1038/sdata.2015.66).

[1] https://www.wfp.org/publications/regional-bureau-western-africa-flood-drought-response-september-2024

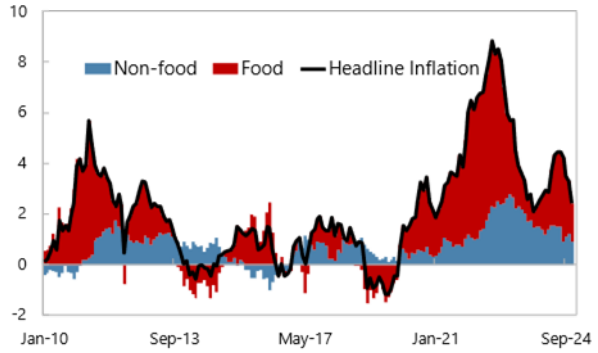
8. The compounded effects of conflict and climate change exacerbate food security. The Liptako-Gourma region, encompassing parts of Mali, Niger, and Burkina Faso, suffers from the combined effects of conflict and climate stress, with persistent droughts, erratic rainfall, and intensifying conflicts disrupting agricultural production and limiting food access. In Burkina Faso's Centre-Nord region, 30 percent of households have been displaced due to resource competition, further destabilizing livelihoods. This fragile environment exacerbates tensions between

communities, as non-state armed groups exploit resource disputes and climate shocks to fuel instability.

9. The third key set of drivers relates to food affordability and access. Food affordability is a major concern, with continued increases in food prices (Figure 6). Food inflation reached 4.8 percent in WAEMU in 2024 on average—being the main contributor to headline inflation—with food prices 36 percent higher in 2024 compared to 2015. Food prices have surged across the subregion, with increases ranging from 10 percent to over 100 percent in certain areas, driven by input inflation, supply deficits, and trade restrictions. Livestock prices remain high, except in Niger, where export difficulties have depressed prices. The Cost of Diet analysis (CoD) for Benin, Burkina Faso, Mali, Niger, Senegal, and Togo—conducted jointly by the Permanent Interstate Committee for Drought Control in the Sahel (*Comité Permanent Inter-État de Lutte Contre la Sécheresse au Sahel* – CILSS) and WFP—shows that the cost of calorie intake between January and July 2024 increased by 8 to 10 percent in Benin and Niger, 20 percent in Burkina Faso, and up to 50 percent in Togo, due to the rise in the price of basic cereals.[9] Nutritious food is on average 60 percent more expensive than energy-rich food. This situation considerably reduces access to healthy, nutritious food, especially for the most vulnerable households in the region. Some countries in the region have food subsidies, which are not an efficient instrument to make food affordable.

Figure 6. Contributions to Inflation

(percent)



Sources: BCEAO, IMF Staff Calculations.

10. With respect to access, trade barriers on agricultural products potentially exacerbate food insecurity in WAEMU, while revealing a lack of a unified strategy. Box 2 outlines these restrictions in WAEMU countries as of November 2024, largely a legacy of protectionist measures taken during the COVID pandemic. They vary from outright bans to conditional export requirements, creating significant barriers to regional trade and potentially exacerbating food insecurity in the region. WAEMU's overarching goal of promoting free trade within the union is undermined by these restrictions, which also go against the spirit of the Union—being the one of regional solidarity. While

[9] The Cost of the Diet (CoD) methodology estimates the minimum cost of a nutritionally adequate diet by selecting the least expensive combination of locally available foods that meet an individual's energy, macronutrient, and micronutrient needs. The calorie intake calculation in CoD analysis ensures that the minimum cost diet meets daily energy needs, while also considering overall nutritional adequacy. This methodology is widely used in food security assessments, policy-making, and program design to address affordability and accessibility of healthy diets (Cost of the Diet: A practitioner's guide).

exceptions (such as Niger permitting limited cereal exports to Burkina Faso and Mali) signal attempts at cooperation, they fall short of addressing broader regional needs.

Box 2. Trade Barriers to Food Security in WAEMU

Text Table. Trade Restrictions on Agricultural Products in WAEMU (November 2024, WFP Tracker)

Country	Trade Restrictions
Benin	Restrictions on the export of agricultural products (a payment of an export levy is needed), ban on the export of maize, and border closure with Niger
Burkina Faso	Ban on the export of cereals and cowpeas; ban on the export of live cattle
Mali	Ban on the export of cereals
Niger	Ban on the export of cereals (except Burkina Faso and Mali), and border closure with Benin
Togo	Restrictions on the export of agricultural products (a one-time export authorization needed and a payment of tax for each authorization)

Prevalence of Export Bans: Cereal exports are heavily restricted or outright banned in Burkina Faso, Mali, and Niger, significantly limiting access to staple foods within the region. Benin, in addition to banning maize exports, imposes levies on other agricultural products, creating financial burdens for exporters. These measures disrupt regional supply chains, exacerbating food shortages, and driving up prices in already vulnerable neighboring countries.

Conditional Exports in Togo and Benin: Togo mandates a one-time export authorization and taxes for each authorization, while Benin enforces export levies. These administrative and financial hurdles discourage trade, particularly for small-scale exporters. The additional costs and complexities of compliance diminish incentives to engage in regional agricultural trade, further reducing the flow of essential food products.

Border Closures: The closure of borders between Benin and Niger has created significant disruptions to both formal and informal trade. These closures hinder the availability of food in border regions that rely heavily on cross-border exchanges, leaving local populations particularly vulnerable to food shortages.

C. Policy Recommendations

11. The overarching goal is to achieve sustainable food security in WAEMU (and the broader West African region), while fostering a unified regional framework for addressing food security, aligned with ECOWAS and WAEMU priorities, by:

- Achieving food sovereignty through reliable and affordable sources of healthy, nutritious food, which would be locally grown (instead of relying on imported cereals);
- Strengthening governance and policy coherence to create a unified response to food crises;
- Increasing the resilience of food systems to shocks through sustainable agricultural practices and robust response mechanisms;
- Addressing chronic vulnerabilities by integrating social protection and agriculture programs;

- Building strong data systems to ensure that policies are evidence-based, targeted, and coordinated.

12. To ensure a focused and actionable approach, the policy recommendations are grouped into categories based on their priority and potential impact and presented as an Action Plan, guided by the food security targets in the short, medium, and long run (Box 3). Within each of the five categories, the actions are presented in order of priority, beginning with interventions most likely to have a significant and immediate impact on food security while remaining implementable. The Action Plan has been targeted to the National and Regional authorities, in collaboration with partners (Annex describes the landscape of institutional stakeholders for food security in the region), especially in the following areas: coordinating and unifying food policies in the region, among ECOWAS, WAEMU, and CILLS; developing effective instruments for food policy implementation; and leveraging on partners' operational capability.

Box 3. Intermediate Targets for Food Security

- **Short-Term**
  - Fully operationalize and fund National Response Plans (NRPs) in all member states
  - Remove trade barriers to facilitate regional food availability
  - Replenish and scale up the ECOWAS Regional Food Security Reserve to address immediate crises
- **Medium-Term**
  - Establish functional and sustainable Market Functionality Index across the region
  - Promote adoption of climate-smart agricultural practices in at least 50 percent of vulnerable farming communities
  - Increase national budget allocations to food security initiatives by 20 percent region-wide
- **Long-Term**
  - Achieve a 30 percent reduction in food insecurity prevalence in WAEMU by 2030
  - Align agricultural production growth with population growth rates to ensure stable food availability

Policy and Governance Reform

Objective: To establish a robust policy framework that ensures the long-term sustainability of food systems and effective response mechanisms to crises.

Key actions:

- **Enhance Governance and Coordination**: Harmonize policies and strategies with ECOWAS and CILSS to facilitate a unified regional response to food security challenges, which would improve governance and accountability.
- **Accelerate Development and Implementation of NRPs**: Develop and operationalize National Response Plans (NRPs) to address immediate crises, including mechanisms for stockpiling

essential food supplies and ensuring rapid distribution during emergencies. WAEMU could leverage its financial capacity for addressing for food insecurity to call for an effective coordination and monitoring of the NRPs implementation.

- **Align Agriculture and Social Protection Programs**: Foster better integration of agricultural programs with social safety nets to target vulnerable populations and address chronic food insecurity effectively.
- **Promote Free Movement of Food Products**: Remove trade barriers and restrictions to facilitate regional trade, ensuring that agricultural products reach areas of need.

Data and Evidence-Based Planning

Objective: To provide accurate, timely, and actionable data to guide policy decisions and prioritize interventions effectively.

Key actions:

- **Enhance Data Collection and Analysis:** Strengthen systems for collecting, analyzing, and disseminating food security and nutrition data to improve monitoring, research, and evidence-based policy development. In this context, it is important to improve accessibility and awareness of Systeme D'information Agricole Regional (SIAR) database (to ensure it is effectively utilized by stakeholders), and leverage on existing food security databases. To strengthen social safety nets, disseminate best practices and mobilize resources for improving social registries in member countries. It would be also useful to develop a comprehensive targeting approach for expansion of the geographic coverage of social registries, and to develop a comprehensive research, monitoring and evaluation plan to produce robust evidence on the impact of social protection program.
- **Promote Regional Food Security Research**: Partner with stakeholders to study the impact of trade restrictions, climate variability, and demographic trends on food security, and use findings to inform targeted interventions.

Financing and Resource Mobilization

Objective: To ensure sustainable and adequate funding for both emergency responses and long-term resilience-building efforts.

Key actions:

- **Increase National Budget Allocations**: Boost funding for NRPs to enhance readiness and response capacity during crises.
- **Explore Innovative Financing Strategies**: Facilitate sustainable financing solutions, such as leveraging sovereign funds, scaling up regional solidarity mechanisms, and engaging private sector partnerships.
- **Optimize Resource Utilization**: Expedite the use of financial and technical resources provided by institutions like BOAD to strengthen national food security initiatives.

Resilient Food Systems and Agricultural Practices

Objective: To build sustainable and climate-resilient food systems capable of meeting the growing needs of the region.

Key actions:

- **Invest in Sustainable Agricultural Practices**: Promote techniques like crop rotation, agroforestry, and climate-smart farming to enhance productivity and ensure environmental sustainability.
- **Strengthen Regional Food Reserves**: Enhance the operational capacity of the ECOWAS Regional Food Security Reserve and ensure timely replenishment to improve crisis response.
- **Integrate Agricultural Development with Market Functionality**: Develop tools like a customized Market Functionality Index to address systemic market inefficiencies and improve access to food.

Community Engagement and Local Capacities

Objective: To ensure interventions are culturally relevant, inclusive, and aligned with the needs of communities.

Key actions:

- **Engage Communities in Policy Implementation**: Mobilize local leaders to advocate for gender-sensitive policies, promote girls' education, and address harmful practices like child marriage.
- **Promote Awareness of Trade Regulations**: Strengthen efforts to popularize community regulations on the free movement of agricultural products to facilitate compliance and support regional trade.

Annex I. Institutional Stakeholders for Food Security

There are various institutional stakeholders in WAEMU at the national and regional levels with a mandate to support food security in the region.

A. National Bodies

- The **national early warning systems** (French: *Système d'Alerte Précoce* – **SAP**) play a critical role in coordinating food security analysis, collecting information on the food situation, and aiming to provide essential data for optimal management of the national food security stock and mitigation actions. The SAP's recommendations, based on expert meetings and other surveys, make it possible to develop the National Response Plan (NRP) to cope with food and nutritional difficulties, with possible adjustments depending on the evolution of the food situation. As a multi-stakeholder coordination platform, SAPs work closely with key national institutions, including meteorological services, national statistics bureaus, and market information systems.
  - The institutional anchor for early warning systems varies from country to country and has evolved over time, with the Ministry of Agriculture typically serving as the host institution. Its role and importance in food crisis prevention and early warning systems are central.
  - In Sahelian countries, SAPs are relatively well-organized and functional, whereas in coastal countries they are still in their early stages of development. Across all countries, however, SAPs are currently facing significant budget cuts and are being deprioritized.
- In recent years, **National Food Security Councils (SE-CNSA)** have been established. While SAPs focus on situational analysis and early warning, these councils serve as interministerial mechanisms for coordinating food security efforts.
- In line with the ECOWAS food reserve's defense lines,[1] **national food reserves** play a pivotal role in ensuring a *timely and effective response* to food crises, particularly during the lean season.
  - These reserves serve multiple critical functions:
    - **Meeting Humanitarian Needs**: Governments draw on reserves to provide immediate assistance to vulnerable populations during periods of acute food insecurity.
    - **Stabilizing Food Prices**: By releasing stocks into the market during shortages, reserves help control price volatility and ensure affordability for consumers.

[1] The West African storage system combines physical stocks and financial reserves. It is organized around four complementary lines of defense: 1) The first line of defense: local stocks, set up and managed by producer organizations (POs) or decentralized authorities; 2) The second line of defense: national security stocks, managed by states or co-managed by states and a pool of financial partners; 3) The third line of defense: the Regional Food Security Reserve (RFSR), set up and managed by the ECOWAS Commission, as well as national pooled stocks; 4) The fourth line of defense: mechanisms for solidarity and international assistance (UN humanitarian agencies, development partners, international NGOs), when no solution could be found in the first three lines of defense.

- **Solidarity Instrument**: National food reserves act as a form of solidarity, enabling support to neighboring countries or regions facing food crises.

- Despite their importance, **national food reserves face significant challenges** that hinder their ability to respond effectively to crises:
  - **Inadequate Stock Levels:** In WAEMU, the volume of national food reserves varies significantly by country but is generally insufficient to meet the growing needs. For instance, while the recommended volume is 5 percent of national annual cereal consumption, many reserves fall well below this threshold, limiting their capacity to cover food needs during crises.
  - **Storage Issues:** The absence or poor management of adequate storage facilities leads to significant post-harvest losses, reducing the availability and quality of stored food. In some countries, losses can exceed 20 percent of total reserves annually due to poor infrastructure.
  - **Management Inefficiencies:** Weak governance, insufficient technical capacity, and lack of transparency in the management of reserves limit their operational effectiveness.
  - **Financial Constraints:** Limited funding hampers the ability of governments to procure and maintain sufficient stocks, modernize storage facilities, and manage reserves efficiently.

B. Regional Institutions

- As a regional body for food security analysis and early warning, **the Permanent Interstate Committee for Drought Control in the Sahel** (French: *Comité Permanent Inter-État de Lutte Contre la Sécheresse au Sahel* – **CILSS**) maintains a systemic and functional link with the SAPs. Food security data and information produced by SAPs at the national level are aggregated by CILSS at the regional level through the *Cadre Harmonisé*. This consolidated information is utilized by the High-Level Committee on Food Security of WAEMU to develop and implement NRPs for the lean season.
- The **Regional Food Crisis Prevention Network (RPCA)** serves as a regional coordination platform, ensuring a collective effort among all key regional organizations, notably ECOWAS, CILSS, and WAEMU. Within the RPCA, the WAEMU Commissioner of Agriculture represents WAEMU and co-chairs alongside ECOWAS and CILSS, fostering collaborative action to address food security challenges.

C. Partners

- The **Food Security Cluster (FSC)**—jointly led by the Food and Agriculture Organization of the United Nations (FAO) and the World Food Program (WFP)—serves as a key platform for coordinating food security responses. The FSC brings together a network of partners, including governments, UN agencies, and international and local NGOs, to address critical aspects of food

security—availability, access, utilization, and stability—during and after humanitarian crises. Its collaborative approach ensures a comprehensive and effective response to food security challenges in affected areas.

- **The IMF has also increased its focus on food insecurity, by including elements in the conditionality of several current IMF-supported programs in WAEMU (Table below).** The IMF provides policy advice, capacity development, and financial support to help member countries tackle the food crisis. Under its lending facilities, it helps countries meet balance of payments needs associated with the global food shock. More specifically, a new facility, the "Food Shock Window" has been created, aiming to provide increased access under emergency financing instruments for countries that have urgent balance of payments needs associated with acute food insecurity, the rising costs of food and fertilizer imports, or substantial cereal export shortfalls. In WAEMU, some current IMF-supported programs include a food security-related conditionality. For example, in the ECF to Burkina Faso approved in September 2023, a structural benchmark requires the authorities to publish the audits of the implementation of cash transfer programs and all emergency food expenditure.

Table 1.WAEMU: Member Countries – Active IMF Supported Programs

Country	Type	Date Of Commitment	Food-related Conditionality	Detail
Benin	EFF ECF	8-Jul-22	Structural benchmark (1st review, met end-April 2023)	Submit to parliament a draft law to improve the organization and governance of the school feeding program (PNASI), covering the following aspects: (i) a sustainable financing strategy which includes the sharing of responsibilities between the central government, municipalities, and schools; (ii) a prioritization of coverage of the regions most susceptible to food insecurity risks; (iii) the adaptation and clarification of standards required for the delivery of food products to school canteens in order to promote the participation of local farmers; and (iv) gradually transferring the management of the PNASI to the Beninese authorities through the establishment of the National Institution in charge of school feeding.
Burkina Faso	ECF	21-Sep-23	Structural benchmark (continuous)	Publish information on the beneficial owners of entities awarded public procurement contracts to address food insecurity on the Ministry of the Economy, Finance and Perspective's website on a quarterly basis the quarter after the contract is awarded.
			Structural benchmark (continuous)	Publish on the Ministry of the Economy, Finance and Perspective's website annual (and to the extent possible, quarterly) budget execution reports which will also include information on the use of funds disbursed under the Food shock window.
			Structural benchmark (1st review, met March 2024)	Publish audits of the implementation of cash transfer programs and all emergency food expenditure on the Ministry of Economy, Finance and Perspective's website.
Cote d'Ivoire	EFF ECF	24-May-23		
	RSF	15-Mar-24		
Guinea-Bissau	ECF	30-Jan-23		
Mali	RCF	16-Apr-25		
	SMP	28-Mar-25 (Management approved)		
Niger	ECF	8-Dec-21	Indicative target	Floor on social protection spending, defined as expenditures from the Government's own resources allocated to the social sectors and those directly benefiting poor households, children, young people and women in vulnerable situations, the elderly, the disabled, victims of armed conflict and trafficking, refugees, or displaced persons and the unemployed. Vulnerability is the risk that individuals may fall into poverty, face food insecurity or be physically and financially unable to meet their basic needs.
	RSF	5-Jul-23		
Togo	ECF	1-Mar-24		

Source: IMF.

MODEL-DRIVEN MACROFINANCIAL POLICY ANALYSIS IN THE WAEMU[1]

This quantitative model for Macrofinancial Policy Analysis for the WAEMU was developed to deepen the Fund's engagement in macrofinancial surveillance in the region. By analyzing unobserved credit cycle dynamics and risks, and emphasizing macrofinancial linkages, the model helps assess the consistency between real and credit cycles, build alternative scenarios, offers medium-term macroeconomic projections, and support macrofinancial policy analysis.

A. Model Description[2]

1. Endogenous linkages between the real economy and the banking sector, along with macrofinancial policy challenges in WAEMU, were analyzed using a semi-structural model. Each behavioral equation has an economic interpretation in the model, although the coefficients are reduced-form ones rather than deep parameters as in DSGE models. The framework incorporates the New Keynesian modeling approach, which includes features such as monopolistic competition, nominal and real rigidities, and a non-neutral role for monetary policy in the short run. The key addition is the macrofinancial linkages, including a banking sector's solvency problem on the real economy. Additionally, the model decomposes all real variables into a trend component and a gap component, representing the deviation of the variable from its long-run trend.

2. Building on the earlier work of Carlos et al. (2022), the new model was designed to analyze unobserved credit cycle dynamics and risks, emphasizing the role of macrofinancial linkages and macroprudential policy. It also helps to examine the interaction between monetary and macroprudential policies, improving the understanding of side effects of macrofinancial linkages, intertemporal trade-offs, thus supporting the achievement of macroeconomic and financial stability objectives. Examples of side effects encompass: the effect of lower interest rates on excessive risk-taking and borrowing (which may lead to an accumulation of household or corporate debt and the formation of asset price bubbles); macroprudential policies (such as higher capital requirements for banks) can make credit less accessible for businesses and households, which may slow down economic growth or affect consumption. A new analytical approach for the WAEMU could further enrich macrofinancial analysis by generating medium-term projections, building different scenarios, and assessing linkages between credit, the real economy, and the effects of monetary and macroprudential policies. Additionally, it would improve understanding of how macroeconomic shocks impact bank solvency, while accounting for feedback from banking sector solvency shocks to the real economy. This approach ensures consistency in the key relationships

[1] Prepared by Knarik Ayvazyan (MCMSR), with suggestions and comments from Luca Antonio Ricci and Lawrence Norton.
[2] A detailed description of the model will be presented in the forthcoming IMF working paper.

between macroeconomic and financial variables, providing a consistent macroeconomic framework with feedback loops between the real and financial sectors.

3. The domestic economy in the model is described by aggregate demand, aggregate supply (the Phillips curve), uncovered interest rate parity (UIP), credit cycle, bank capital buffers and a monetary policy rule. The UIP condition and the monetary policy rule are described in the same way as in Carlos et al. (2022). Expectations are formed based on lagged effects and model-predicted future outcomes. The foreign economy block is exogenous to the model and is modeled as AR (1) processes, with the steady-state values reflecting the corresponding sample average. Advanced economies data is used to represent the foreign economy.

B. The Innovating Modeling Contribution: Credit Cycle and Bank Capital Buffers

4. The credit cycle block assumes that credit fluctuations are driven by the business cycle and the banking system's capital ratio relative to the supervisory threshold. Banks set their desired level of credit based on past credit levels, current economic activity, and their capital ratio relative to the supervisory threshold (Krznar and Matheson, 2017). Since banks cannot immediately adjust credit levels, these levels are slow to respond to fluctuations in output. For example, a strong economy and high capital buffers lead to an increasing level of credit.

5. The cyclical dynamics of credit are defined by equations 1 and 2.

$$C_{gap,t} = i_1 C_{gap,t-1} + i_2 Y_{gap,t} + \epsilon_t^c \quad (1)$$

where, $C_{gap,t}$ is the real credit gap[3], Y_{gap} is the output gap and ϵ_t^c is a shock to credit supply unrelated to aggregate demand and past credit adjustments:

$$\epsilon_t^c = i_3(Buf_t - Buf_{ss}) + \varepsilon_t^c \quad (2)$$

where, Buf_t is capital buffer (capital ratio relative to the supervisory threshold), Buf_{ss} is the steady-state level of capital buffers, calibrated as the historical long-term average of capital buffers and ε_t^c is white-noise shocks to real credit.

6. The model incorporates a feedback channel from the credit cycle to the business cycle. The credit channel derives from the failure of the Modigliani-Miller propositions, which assume that the level of bank capital and banks' financial structure are irrelevant to total cost of funding and lending. This concept is well described in Krznar and Matheson (2017) and implies that issuing new equity is costly, which affects credit supply. Undercapitalized banks may raise their capital adequacy ratio by cutting back on lending rather than raising equity, thereby potentially hurting economic

[3] The credit gap is defined as the difference between real private non-financial sector credit and its trend. The trend credit represents the long-term equilibrium (or "natural") level of credit consistent with the economy operating at its potential.

growth. Capital influences lending when breaking regulatory capital thresholds is costly and banks cannot easily issue new equity, conditions supported by empirical literature[4].

7. The banking system capital buffers, Buf_t, are defined as the deviation of the capital ratio K_t (regulatory capital to risk-weighted assets) from a time-varying regulatory requirement, K_t^* and are assumed to adjust in response to changes in the regulatory and economic environment (de Resende et al., 2016, 2024). Furthermore, capital buffers are assumed to be positively related to the credit growth gap $(C_t^g - C_{ss}^g)$, as banks are likely to accumulate more capital via retained earnings when credit grows faster, and profitability improves.

$$Buf_t = K_t - K_t^* \tag{3}$$

$$Buf_t = \rho^{Buf} Buf_{t-1} + (1 - \rho^{Buf}) Buf_{ss} + i_4(C_t^g - C_{ss}^g) + \varepsilon_t^{Buf} \tag{4}$$

The regulatory requirement is a random walk process without drift.

$$K_t^* = K_{t-1}^* + \varepsilon_t^{K^*} \tag{5}$$

8. Thus, banks play a crucial role in transmitting macroprudential policy to the broader economy. In response to changes in the macroprudential policy stance, banks adjust their capital buffers (Equations 3 and 4), which in turn influence credit supply (Equations 2 and 1) and, ultimately, output (Equation 6). For instance, a tightening of the macroprudential stance or higher capital requirements can lead to lower capital buffers, ultimately reducing credit supply and dampening both credit and real economic cycles.

9. Regulatory changes to capital requirements are formally the primary tool for implementing macroprudential policy in the WAEMU, but have been little used. The prudential framework established in 2018 allows the BCEAO to implement macroprudential measures and aligns with its financial stability mandate.[5] However, the Financial Stability Committee of the West African Monetary Union (CSF-UMOA) and the BCEAO's Macroprudential Policy Committee (CPMP) have so far made limited reliance on macroprudential measures[6].

[4] Jimenez et al. (2009) found that a capital crunch led to a credit crunch in Spain, while Aiyar et al. (2014) observed that tighter capital requirements caused banks in the U.K. to reduce lending. Brun et al. (2013) and Gambacorta and Marques-Ibanez (2011) found that stricter capital requirements and weaker bank capital positions restricted loan supply, particularly during the global financial crisis. Adrian and Shin (2010) showed that banks manage assets to maintain capital ratios, magnifying the effect of capital on lending. Carlson et al. (2011) and Bridges et al. (2014) confirmed a significant relationship between capital ratios and lending, with heterogeneous responses across sectors. De Nicolo (2015) suggested that higher capital requirements negatively impact both bank lending and real activity, in both the short and long term. Other studies (e.g., Berrospide and Edge, 2010) found modest effects of capital shocks on loan growth, while Calza and Sousa (2005) noted threshold effects in the real economy. Meeks (2014) concluded that increased capital requirements lower lending, raise credit spreads, and reduce aggregate expenditure.

[5] The BCEAO's mandate in the area of financial stability is defined in Article 9 of its Statutes, which stipulates that the BCEAO shall ensure the stability of the financial and banking system of the WAEMU.

[6] According to the 2023 WAEMU FSAP findings, since its establishment in 2010, the CSF-UMOA — which has not always met the minimum frequency prescribed by regulations — has rarely issued recommendations on the implementation of macroprudential instruments.

10. The countercyclical capital buffer (CCyB) is part of WAEMU's macroprudential toolkit but has been set to zero since its creation[7]. The tool consists of an additional capital buffer requirement, typically built up during the expansionary phase of the credit cycle, which can then be flexibly used during a downturn. The recent COVID-19 experience as well as empirical research highlight the benefits of having releasable capital buffers, as discussed by studies such as Couaillier et al. (2022a, 2022b) and Mathur et al. (2023). The "headroom"—the capital buffer above regulatory requirements—determines whether banks reduce lending pro-cyclically in response to shocks. Relaxing the CCyB can create additional headroom, thereby encouraging banks to maintain credit provision during adverse conditions.

11. Moreover, international experience with capital buffer tools suggests that maintaining a positive buffer, even when the economy is in neutral territory, facilitates the release of the buffer. The positive neutral rate offers a baseline level of protection against aggregate stresses. The theory highlights the benefits of maintaining releasable capital buffers in normal times (Lang and Menno, 2023). A gradual increase in buffer requirements has only small effects on credit, primarily through a "pricing" channel. However, the release of capital requirements when they are binding can have a much larger effect through a "quantity" channel. Furthermore, according to the latest adjustment in the Basel Core Principles (BCBS, 2024), supervisors can require banks to maintain releasable capital buffers, which could include the CCyB or other releasable buffers (Principle 16).

C. Aggregate Demand is also Affected by the Credit Cycle

12. In the aggregate demand equation, the behavior of output gap (Y_{gap}), which is defined as the deviation of the log of real output from its potential level, is explained by its lag, monetary condition index (MCI), the output gap of the foreign economy (${Y^*}_{gap}$), the credit shocks (ϵ_t^c), and aggregate demand shock (ε_t^Y). For instance, unmodeled influences such as fiscal policy can be attributed to the aggregate demand shock. Notably, the credit shocks (ϵ_t^c) in the demand function allow us to model the feedback effects between the output gap and other macroeconomic variables due to the credit crunch assumption. An expansion of private credit that is unrelated to demand and past credit adjustments is assumed to increase aggregate demand. MCI shows the weighted average effects of the deviations of the real interest rate from its neutral level (RR_{gap}), plus the risk premium ($Prem$) and deviation of the real exchange rate from its trend level (Z_{gap}). The changes in risk premium are negatively correlated with the deviation of the currency coverage ratio (share of foreign assets in BCEAO sight liabilities) from its long-term trend. The real exchange rate is defined as the nominal exchange rate (domestic currency per unit of foreign currency), adjusted for differences in price levels in domestic and trading economies.

$$Y_{gap,t} = \beta_1 Y_{gap,t-1} - \beta_2 MCI_t + \beta_3 {Y^*}_{gap,t} + \beta_5 \epsilon_t^c + \varepsilon_t^Y \quad (6)$$

$$MCI_t = \beta_4 (RR_{gap,t} + Prem_t) + (1 - \beta_4)(-Z_{gap,t}) \quad (7)$$

[7] IMF Survey on Macroprudential Policy for WAEMU countries.

D. The Conventional Part of the Model: Aggregate Supply, UIP, and Reaction Function

13. The forward-looking open economy Phillips curve for headline inflation (ΔCPI_t) depends on past headline inflation (ΔCPI_{t-1}), inflation expectations (ΔCPI_{t+1}), and real marginal costs (RMC_t). The RMC_t is a function of the domestic and foreign factors: the output gap ($Y_{gap,t}$); the real exchange rate gap ($Z_{gap,t}$).The coefficient α_1 capture persistence in the price evolution, the coefficients α_2 capture the contemporaneous pass through from the real marginal costs and α_3 captures the influence of the gap in the real marginal costs on inflation (the slope of the Phillips curve).

$$\Delta CPI_t = \alpha_1 \Delta CPI_{t-1} + (1-\alpha_1)\Delta CPI_{t+1} + \alpha_2 RMC_t + \varepsilon_t^{CPI} \quad (8)$$

$$RMC_t = \alpha_3 Y_{gap,t} + (1-\alpha_3) Z_{gap,t} \quad (9)$$

14. As in Carlos et al. (2022) the arbitrage condition between real returns on domestic and foreign interest rates gives rise to the UIP condition. This relationship is presented in a general form that allows for degrees of exchange rate flexibility and capital controls:

$$S_t = h_2(S_{t-1} + \overline{\Delta S_t}/4\,) + (1-h_2)[e_1(S_{t-1} + 2/4(\overline{\Delta 4CPI_t} - \overline{\Delta 4CPI_t}^{\,*} + \overline{\Delta Z_t})) + (1-e_1)(E_t S_{t+1} + (-RS_t + RS_t^{\,*} + Prem_t)/4)] + \varepsilon_t^S \quad (10)$$

where S_t is the nominal exchange rate (domestic currency per one unit of foreign currency), S_{t+1} is expected and S_{t-1} lag of nominal exchange rate, RS and $RS_t^{\,*}$ are respectively the domestic and foreign nominal annualized interest rates, and ε_t^S is a shock that captures unexpected deviations from the UIP. $\overline{\Delta S_t}$ is the possible change in the exchange rate driven by the differential between the domestic inflation target $\overline{\Delta 4CPI_t}$ steady state of foreign inflation($\overline{\Delta 4CPI_t}^{\,*}$) and the variation of the real exchange rate from its equilibrium level $\overline{\Delta Z_t}$. The coefficient h_2 reflects the degree of exchange rate rigidity and in the case of WAEMU, it is assumed to be close to unity (allowing just for the possibility of minor commissions around the peg). The coefficient e_1 reflect the degrees of capital controls. Since the CFAF has been pegged to the French franc and later to the euro since its inception, with only one devaluation in 1994, the desired exchange rate variation and the long-term variation of the real exchange rate are both assumed to be zero ($\overline{\Delta S_t}$ = 0 and $\overline{\Delta Z_t}$ = 0), consistent with purchasing power parity (PPP).

15. The monetary policy rule describes the evolution of short-term nominal interest rates consistent with the UIP conditions and macroeconomic stability objectives[8]. Despite the peg, the existence of capital controls gives to the BCEAO some independence in monetary policy. In equation (11) below, this is captured by the parameter h_1 (if h_1=1 the CB loses control over the interest rates; if h_1=0, and CB fully sterilizes interventions in the FX market, it retains full control over the interest rates). Equation (11) describes the BCEAO reaction function as aiming to stabilize inflation and maintain a fixed exchange rate, by adjusting short-term interest rates to mitigate macroeconomic fluctuations and influence reserve accumulation. The BCEAO operates under a hard

[8] Extending Taylor rules with additional terms is a common practice in the literature, including within the WAEMU region (see, for instance, Tenou, 2002; BCEAO, 2013; Shortland et al., 2014; Diabate, 2016, Carlos et al. 2022).

peg of the CFAF to the Euro and a decline in reserves towards low levels triggers a monetary policy response[9]. In practice, between 2016 and 2019, the BCEAO tightened its monetary policy when FX reserves fell, even if inflation was low, to ensure a level of foreign exchange reserves compatible with maintaining the fixed parity of the CFA Franc. Short-term nominal interbank interest rate (RS_t) are hence assumed to respond to (i) deviations of the 4-quarter-ahead year-on-year inflation forecast from its target, (ii) the output gap, and (iii) deviation of risk premium from its steady-state level (which is influenced by the reserve coverage). Indeed, maintaining exchange rate parity may require monetary policy adjustment when the currency coverage affects the risk premium.

$$\mathrm{RS}_t = h_1((4(E_t S_{t+1} - S_t) + RS_t^* + Prem_t) + (1-h_1)(\gamma_1 RS_{t-1} + (1-\gamma_1)(RS_t^n + \gamma_2(\Delta 4CPI_{t+4} - \overline{\Delta 4CPI_t}) + \gamma_3 Y_{gap,t} + \gamma_4(Prem_t - Prem_{ss}) + \varepsilon_t^{RS} \quad (11)$$

$$Prem_t = d_1 Prem_{t-1} + (1-d_1)Prem_{ss} - d_2 CCR_{gap,t} + \varepsilon_t^{Prem} \quad (12)$$

$$CCR_{gap,t} = k_1 CCR_{gap,t-1} + k_2(\mathrm{RS}_t - RS_t^n) + k_3(Z_{gap,t}) + \varepsilon_t^{CCR} \quad (13)$$

The deviation of the currency coverage ratio or CCR (share of foreign assets into BCEAO sight liabilities) from its long-term trend ($CCR_{gap,t}$) leads to the changes in risk premium. In turn, $CCR_{gap,t}$ depends on the nominal interest rate and real exchange gaps. The CCR long term value was chosen at 68 percent, close to the value at end 2024. The nominal interbank interest rate also is a function of its own lagged value (RS_{t-1})—which has the effect of smoothing the policy rate, the neutral nominal interest rate (RS_t^n in levels) consistent with economic equilibrium (equal to the sum of the trend real interest rate and the model-consistent inflation expectations), and monetary policy shock ε_t^{RS} . The monetary authority is forward-looking and uses model-consistent inflation expectations, $\Delta 4CPI_{t+4}$.

E. Model Parametrization and Calibration

16. A mix of Bayesian estimation and calibration is used in setting parameter values (Annex I). The parameterization of the business cycle part of the model relies on a similar calibration exercise in Carlos et al. (2022). The newly introduced parameters for the financial block were first calibrated using regression analysis and then estimated based on Bayesian estimation techniques. Model structural parameters were estimated with Bayesian estimation techniques, using the information of observable variables, during the full range of the examined period, 2004Q1 to 2024Q3. The Bayesian estimation procedure started with the construction of the likelihood of the model by employing Kalman filtering. Then, combining the prior knowledge of the parameters based on previous studies (Carlos et al., 2022) with the information contained in the data, we estimated the mode of the posterior distributions by maximizing the log posterior function. Finally, the Metropolis-Hastings algorithm was utilized to get the full information of the posterior distributions and evaluate the marginal likelihood of the model.

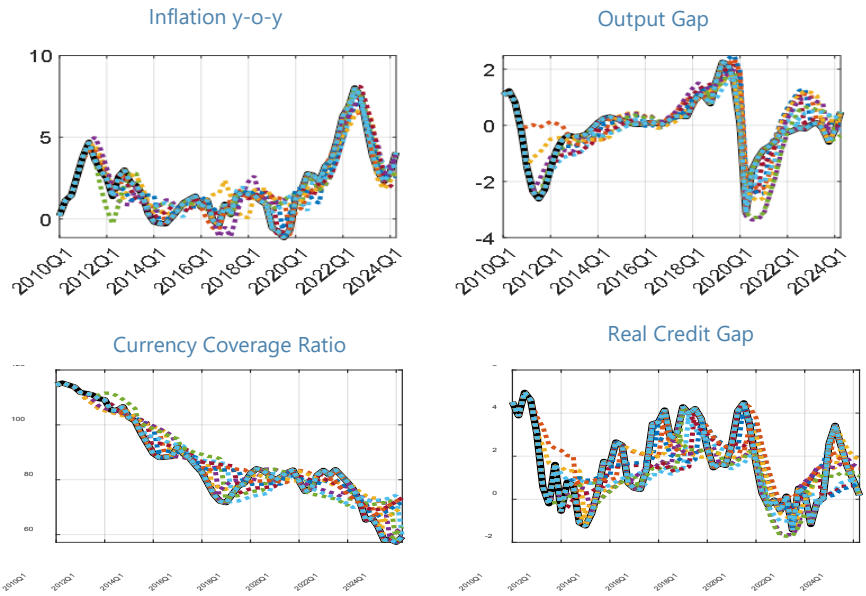
[9] There is no formal rule for targeting the CCR. However, Article 76 of the BCEAO statutes specifies a minimum threshold of 20 percent for its level of FX reserves, below which, if maintained on average for three consecutive months, would trigger a reassessment of the monetary policy stance, and remedial actions would have to be taken.

17. Steady-state parameters are calibrated to reflect either the target level of variables or historical data averages. Calibrated parameters in non-structural equations, primarily for trends, are set to achieve a gradual adjustment or smooth dynamics of model variables towards their steady states. The standard deviations of shocks are generally calibrated, unless indicated as estimated. This is done carefully to get reasonable dynamics of gaps and trends as revealed when the calibrated model is applied to filter the historical data.

F. Model Simulation and Historical Data Interpretation

18. The model's predictive power is evaluated using a pseudo-out-of-sample forecasting exercise. An analysis of out-of-sample projections begins in 2010Q1, assuming all foreign and unobserved variables (based on information from the entire sample) are observed throughout the forecast period. All other variables are known until the quarter preceding every forecast realization over the next 8 quarters. Figure 1 represents simulations of inflation, output gap, currency coverage ratio and real credit gap, in which the solid black line represents actual data. The model has good forecasting capabilities since the projected values do not diverge from observations particularly when economic shocks are not large. Differences between the model's forecasts and actual outcomes may also arise from policy mistakes, such as temporary deviations in monetary policies (or macroprudential policies, if historically employed) from the model-prescribed stabilization rules.

Figure 1. Model Based Simulations and the Actual Data

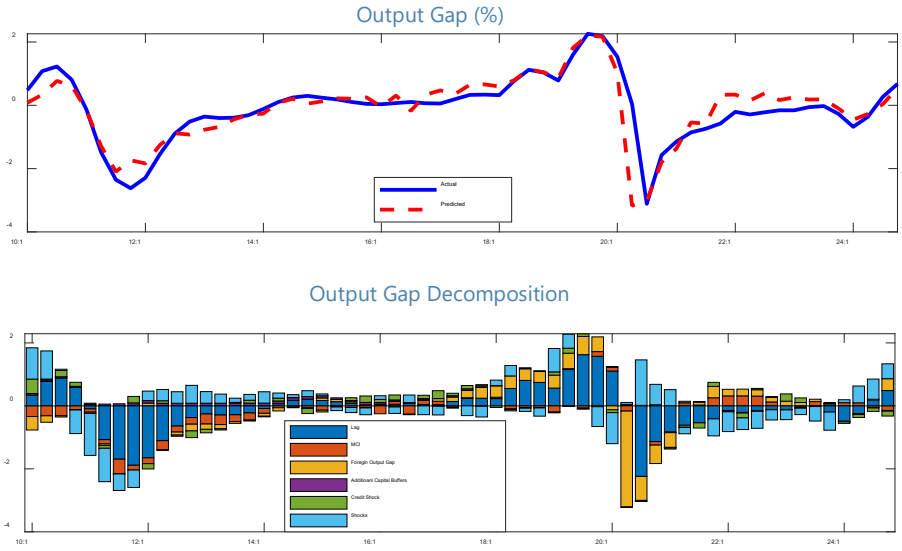


Source: IMF staff estimates.
Legend: The black solid line represents actual, observed values of selected variables, while the dotted lines in color represent their projected values at particular quarters in the forecasting period.

19. Figure 2 displays the decomposition of the business cycle (output gap). It shows that the output gap became negative during 2011 due to the Ivorian crisis and the drought in the Sahel countries, then moved around zero and started to increase until the COVID-2019 pandemic and

turned negative again during the pandemic. After the start of the pandemic, favorable monetary conditions, the gradual recovery of foreign output, and credit demand have all stimulated output and its recovery. There are also other unmodeled factors represented as adverse shocks, including the large fiscal package adopted in 2020, which shows up as a large positive shock in mid-2020. The feedback from financial sector shocks to the business cycle does not amount to much. However, this may be an artifact of the historical observations, as there was no financial crisis or significant financial stress in the WAEMU during the period chosen for analysis.

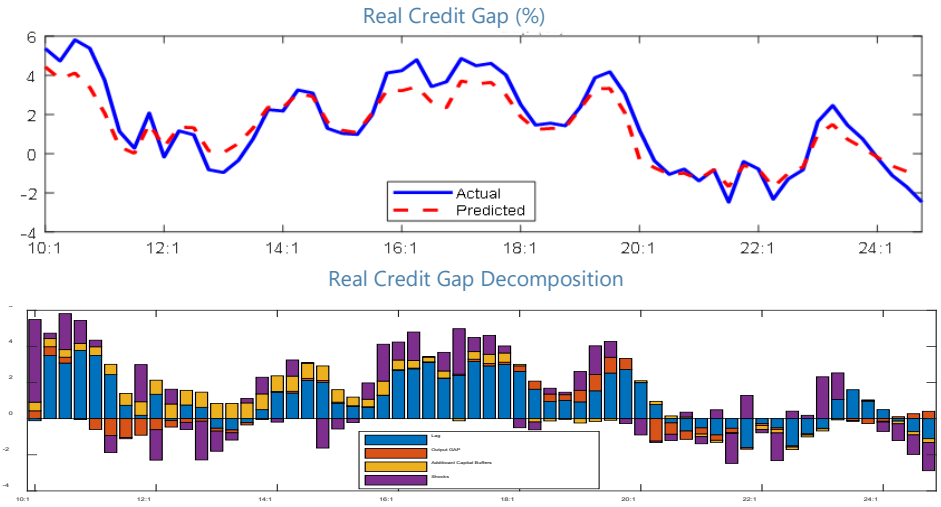
Figure 2. Historical Decomposition of Business Cycle



Source: IMF staff estimates.

20. The decomposition of the credit gap shows that the positive credit gap is narrowing significantly and is expected to turn somewhat negative by the end of 2024. Since late 2023, the positive credit gap has been narrowing and is projected to become somewhat negative by the end of 2024, in line with expectations of slower credit growth (Figure 3). The positive contribution from the favorable business cycle is being outweighed by the strong inertia of the credit gap, capital buffers being below their steady-state level, and the effects of credit shocks, which capture demand shocks and other credit determinants not explicitly modeled. Capital buffers above their steady-state level, along with the underlying persistence of credit, were major contributors to the positive credit gap from 2010 to 2018.

Figure 3. Historical Decomposition of Credit Cycle



Source: IMF staff estimates.

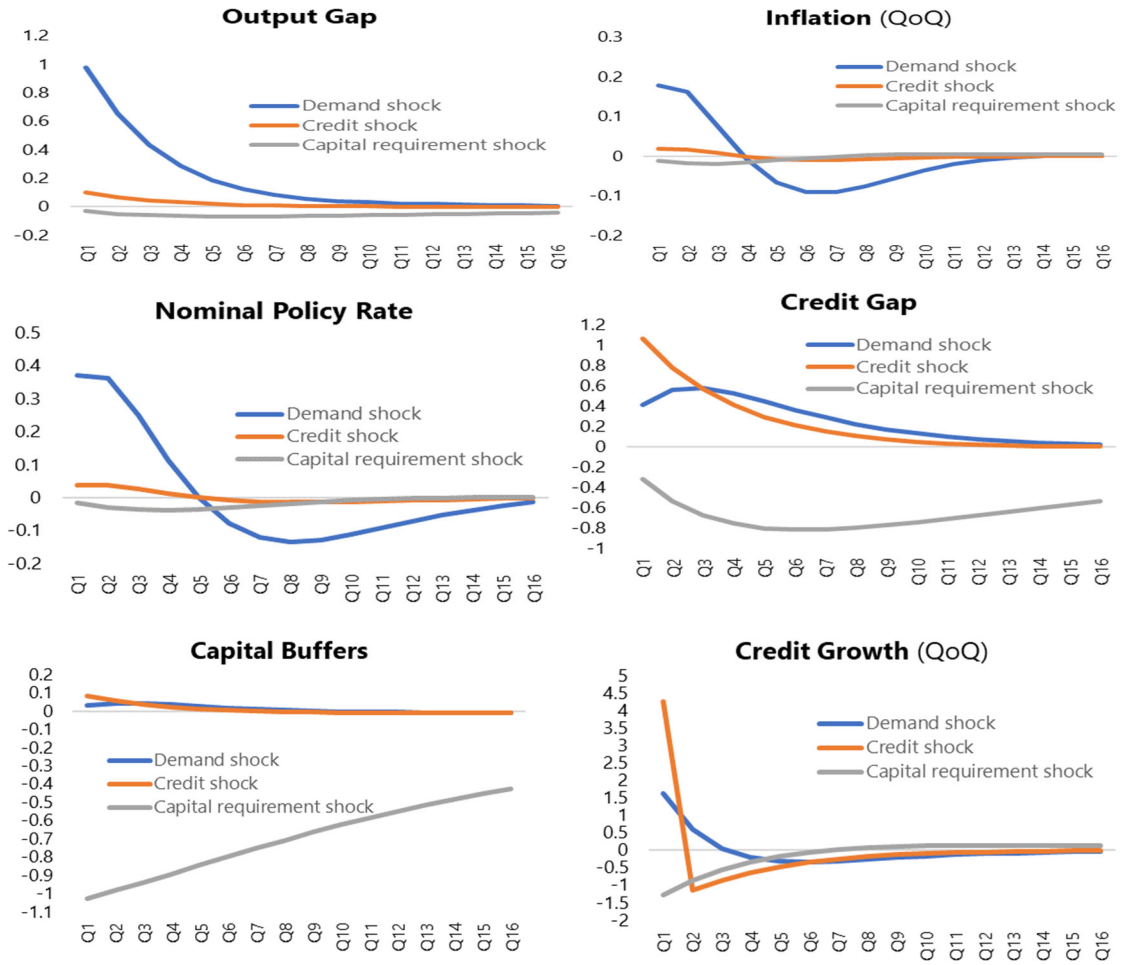
G. Impulse Responses

21. Impulse response analysis suggests that the business cycle appears to lead the financial cycle within the union, and historically there has been limited feedback from financial shocks to the broader economy. Impulse response (IRF) analysis underscores the significance of demand and capital shocks for credit, with the IRFs following a 1 percent shock to output, credit, and capital yielding the following results (Figure 4):

- *A positive demand shock* raises the output gap, the rate of inflation. At the same time, a positive demand shock boosts real credit growth by 1.6% and contributes to capital accumulation via increased profitability. Both the output gap and the deviation of inflation from the target call for an increase in the real interest rate, i.e., a hike in the nominal rate greater than the rise in inflation. Tightening financial conditions dampens output and reduces credit demand, and over the medium term all variables return to their potential level. Moreover, credit responses to a demand shock once the macro feedback effects are taken into account due to the impact of an increase in capital buffers.
- *A positive credit shock* allows banks to accumulate capital by taking advantage of the higher earnings driven by above-trend growth in credit. Tightening monetary conditions and discretionary elements in the decisions about the regulatory requirement puts downward pressure on credit supply and quickly reduces credit growth (which turns negative after one quarter). Since credit shocks do not directly affect inflation, the model is consistent with the observation of growing credit and output without a significant build-up of inflation, as documented in Borio et al. (2013, 2014).
- The impact of a *tightening macroprudential policy*, such as a one-percentage-point increase in minimum capital requirements on credit, is significant, and credit drops by 1.3 %. Credit

responds to capital only if macro feedback effects are considered. The higher capital requirement lowers the additional capital buffer difference between capital held by the bank and the regulatory threshold, and puts upward pressure on marginal lending costs, leading to a lower volume of credit. The impact of higher capital on output and inflation would induce monetary policy loosening. As expected, the impact on output is mild, with the output gap turning negative slightly, reflecting the weak relationship between credit and the real economy explained by limited financial deepening. These results seem to indicate a relatively easy trade-off facing the macroprudential regulator when responding to excessive credit growth and increasing systemic risks.

Figure 4. Macrofinancial Linkages: Selected Impulse Responses



Source: IMF staff estimates.

H. Model-Based Projections

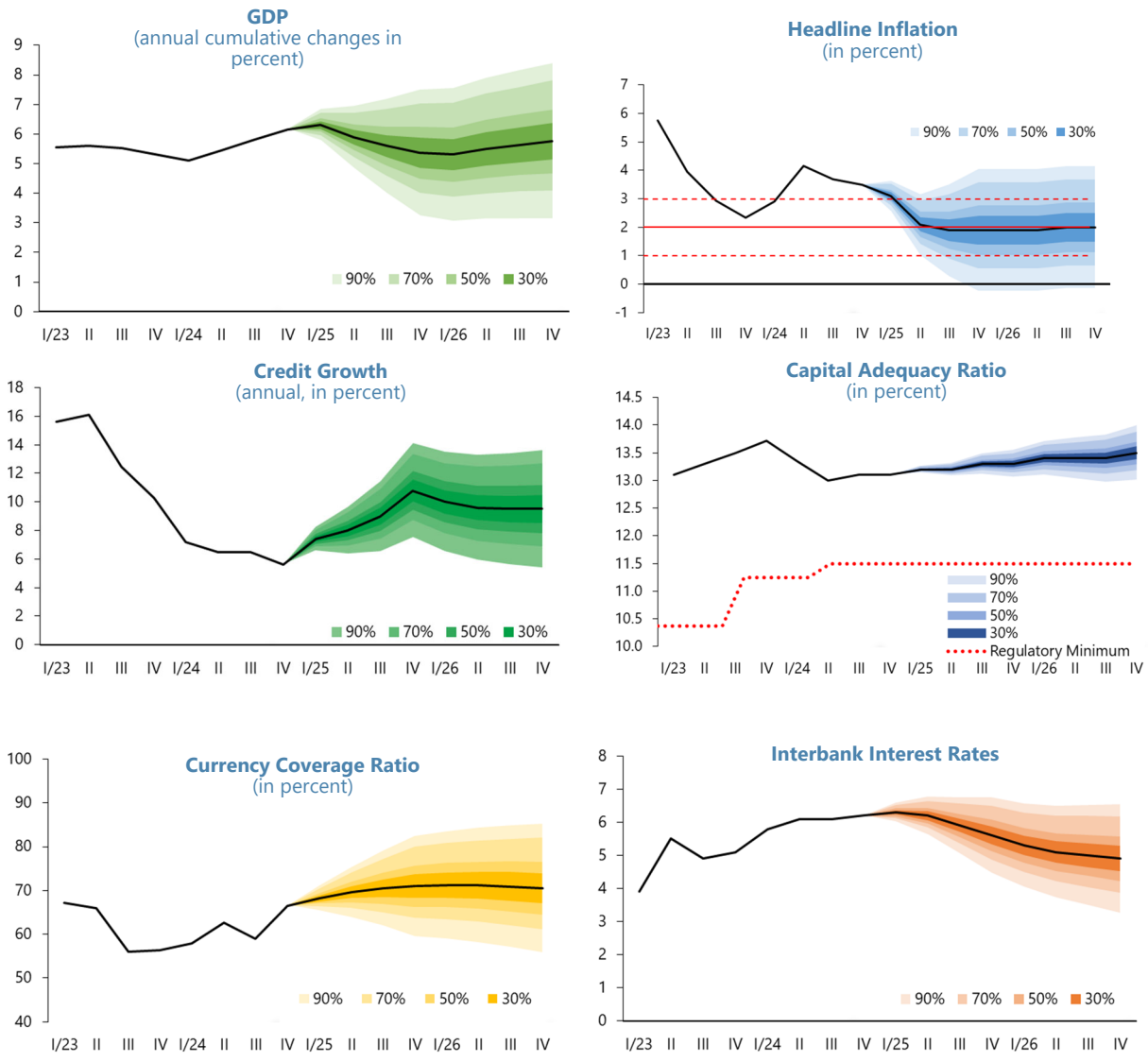
22. Figure 5 presents model predictions for inflation, GDP growth, CCR, nominal credit growth, and the capital adequacy ratio, conditioned on forecasts[10] for foreign inflation, output growth, and interest rates. The model forecasts differ from the IMF WAEMU team's baseline projections presented in the Staff Report, as the model focuses only on the relations presented above, does not have a full external sector, and does not encompass the expected developments in hydrocarbon production, improvements on the current account, and reserve accumulation. Hence, it was chosen chose a CCR target close to end 2024 values to avoid a monetary policy reaction to CCR. Hence the model presents projections that would be reasonable if the impact of expected large-scale hydrocarbon production is not considered. Broadly, the figures suggest that macroeconomic conditions would call for a normalization of monetary policy, as the FX reserve position improved in late 2024, inflation expectations would be declining, and the credit gap is negative. The negative credit gap is expected to close gradually until the end of the forecasting period. Credit demand is expected to recover broadly in line with economic activity, albeit with a lag, and in the forecasting horizon to grow again as a ratio to GDP as financial deepening resumes. This, in turn, would enhance bank profitability and gradually restore capital buffers. However, capital buffers are expected to remain below their historical long-term average. Inflation (quarterly) is projected to converge to the target level by in early 2025.

I. The Model as a Tool to Support the Discussion on Financial Policies

23. The model can offer a crucial link between macrofinancial shocks, cyclical risk, and capital buffers, which can inform discussions on policies related to the capital requirements. For example, at present the historically low level of capital buffers, relative to the steady-state level, may not be sufficient to withstand adverse domestic and international shocks. Placed in a broader context, financial soundness indicators have deteriorated recently, with pockets of vulnerabilities remaining: the financial sector remains exposed to credit, concentration, liquidity, and sovereign risks, particularly in light of the growing sovereign-bank nexus (previously assessed in past consultations and analyzed in SIP/2024/014). The overall capital adequacy ratio declined from 13.7 percent at the end of 2023 to 13 percent in 2024 June (against a regulatory norm of 11.5 percent) and liquidity conditions deteriorated. NPLs and restructured loans increased slightly from 8.7 percent at the end-2023 to 9 percent in June 2024. Against this backdrop, and in light of heightened future uncertainty, further strengthening of capital buffers is necessary. This would help mitigate risk amplifiers (e.g., concentration and contagion) and emerging risks (e.g., interest rate risk), especially given their sovereign exposures and reliance on BCEAO refinancing. The decision taken by the WAEMU Council of Ministers in December 2023 to double the minimum paid-in capital for banks to CFAF 20 billion will help promote the resilience of the system.

[10] IMF WEO October 2024 projections.

Figure 5. WAEMU Model-Based Forecasts



Source: IMF staff estimates.
Note: The confidence intervals of the variable forecast reflect the predictive power of model forecasts and are symmetric.

24. The model also offers a formal link between capital buffers and financial deepening. As banks approach the regulatory minimum capital requirements, they will face an important decision: either restrict credit provision to the private sector or increase their capital buffers to meet regulatory standards. This limitation on available capital may constrain further lending and, as a result, hinder economic growth and investment if not effectively addressed. At present, the average capital adequacy ratio is slightly above the regulatory requirement, while capital buffers remain below their historical average. Meanwhile, overall credit penetration is relatively low, at about one-fourth of GDP. Under the baseline model scenario, capital buffers are projected to recover gradually and approach to the steady-state, suggesting that further financial deepening could be limited under current capital projections. The heavy reliance by banks on central bank refinancing to fund

their operations also poses risks, and if banks achieve financial deepening by accessing greater BCEAO financing, the financial stability risks could also directly impact the BCEAO.

25. The recent expansion of BCEAO's macroprudential policy mandate and toolkit is a welcome development. The BCEAO should be ready to adjust macroprudential policy in line with developments in the financial cycle to preempt the build-up of vulnerabilities. The BCEAO could separately move toward a positive neutral level for the CCyB and further develop a CCyB decision framework[11] in parallel. Gradual phase-in of higher capital requirements during the expansion phase of the financial cycle could mitigate excessive credit growth and strengthen banks' capacity to absorb losses in the event of financial stress. In this context, the model could offer useful simulation exercises to assess the macrofinancial impacts of both micro- and macroprudential changes to capital requirements.

J. Conclusions

26. Our analysis demonstrated that the model could formalize linkages between the real and the financial sector, with realistic forecasts, thus helping assess risks and support monetary and financial policy analysis. The model could hence be used to help policymakers analyze historical macroeconomic and financial sector data, interpret the current disequilibria in these sectors, conduct scenario analyses, examine the empirical relevance of various frictions, and make forecasts.

27. A crucial element of the model is the link between the business cycle and the financial cycle within the union. Historically, financial shocks have had limited feedback effects on the broader economy. However, the model's capacity to track and explain credit growth, as well as its linkage to policy decisions, makes it a valuable tool for formulating policy recommendations that address the macroeconomic implications of developments in the financial sector. Going forward, incorporating these linkages into policy decisions will allow for the complementary benefits of macroprudential policy, which focuses on the financial cycle and stability, and macroeconomic policies, which aim to manage the business cycle and preserve macroeconomic stability.

28. The financial block of the model is designed to be simple, while the overall structure of the model is flexible enough to accommodate future extensions. With minor modifications and the availability of data, the model can be extended to address sector-specific financial risks based on the particular concerns of policymakers in specific cases. Additionally, the model can easily be tailored to resemble an FSAP stress test based on supervisory data. It could also help evaluate the implications of specific macroprudential measures, such as the CCyB.

[11] As announced June 24, 2016, and effective January 1, 2018, the transitional provisions of the Prudential System Applicable to Credit Institutions and Financial Firms in the WAMU became applicable. The regulations provide that the authority responsible for macroprudential policy is empowered to require institutions to establish a countercyclical buffer consisting of CET1 capital and representing no more than 2.5% of total RWAs. The criteria for activating the countercyclical buffer must be determined by BCEAO instruction.

Annex I. Parameters

Estimated Parameters

Estimated Parameters	Prior Distribution F (mean, std)	Posterior
α_1	$\beta(0.5,0.04)$	0.45
α_2	$N(0.45,0.04)$	0.43
α_3	$\beta(0.25,0.02)$	0.24
β_1	$\beta(0.72,0.06)$	0.69
β_2	$N(0.15,0.01)$	0.14
β_3	$N(0.28,0.03)$	0.26
β_4	$\beta(0.4,0.04)$	0.39
β_5	$N(0.1,0.01)$	0.1
γ_1	$\beta(0.4,0.04)$	0.51
h_1	$\beta(0.4,0.04)$	0.32
i_1	$\beta(0.65,0.06)$	0.69
i_2	$N(0.4,0.03)$	0.41
i_3	$N(0.3,0.03)$	0.3
i_4	$N(0.02,0.001)$	0.02
k_1	$\beta(0.94,0.1)$	0.98
k_2	$N(0.6,0.04)$	0.62
k_3	$N(0.35,0.04)$	0.34
ρ^{Buf}	$\beta(0.9,0.09)$	0.94

Calibrated Parameters

Parameters	Value
h_2	0.97
e_1	0.5
g_2	1
g_3	1
g_4	1
$\overline{\Delta S_t}$	0
$\overline{\Delta Z_t}$	0
$\overline{\Delta 4CPI_t}$	2
$\overline{\Delta 4CPI_t}^*$	2
$Prem_{ss}$	2
C_{ss}^g	7
Buf_{ss}	2
RS_{ss}[1]	5
CCR_{ss}	68
$GDP\ growth_{ss}$	5.7

[1] The assumption is based on the estimated neutral rates for the Eurozone and the U.S., as well as the historical spread between WAEMU interbank rates. Specifically, the neutral rate in the Eurozone could range from 1.75% to 2.25% (ECB Economic Bulletin, Issue 1/2025) while the neutral rate in the US could range from 2.4% to 3.9% (Monetary Policy Report, February 2025). The WAEMU interbank rate in the 2014 and 2015 (before the large swings) was about 300bps above the policy rate in the Eurozone and the U.S. Hence, if one assumes that the spread in the long term should return to the one in that period, and adopts as reference the neutral ECB rate, the the WAEMU neutral interbank rate could be considered 5 percent at present

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EDUCATION IN THE WAEMU: CURRENT SITUATION AND THE WAY FORWARD[1]

This paper makes the case for prioritizing the education sector in the WAEMU by taking stock of the outcomes and documenting its macroeconomic relevance. Education outcomes across the region remain relatively weak, while empirical estimates indicate that improvements could lead to large income gains. Given a young population and high fertility rate, ramping up the progress in education remains critical, including by exploring options to enhance quality, safeguarding related spending, closing gender gaps, and improving the resilience of the education systems to climate and health shocks. Beyond national efforts, regional coordination and cooperation have a crucial role in achieving better education outcomes.

A. Importance of Education in Economic Growth and Development

1. Education is a critical cog in the engine of sustainable economic growth. It can boost economic growth through various channels. For instance, education is a major determinant of human capital in the labor force, thereby contributing to labor productivity and longer term economic growth (e.g., Mankiw et al. 1992). In addition, it can accelerate productivity growth by unlocking the innovative capacity of the economy (e.g., Lucas 1988, Romer 1990, Aghion and Howitt 1998). Extensive empirical evidence shows that education is one of the most important drivers of higher economic growth, including in low-income countries and sub-Saharan Africa (e.g., Sala-i Martin et al. 2004, Gyimah-Brempong et al. 2006, Vandenbussche et al. 2006, Hawkes and Ugur 2012, Bloom et al. 2014, Glawe and Wagner 2022, IMF 2024a).[2] Cross-country data also show that years of schooling are positively associated with per capita GDP, and the WAEMU member states, with relatively low years of schooling and lower levels of economic development, are not an exception to this relationship (Figure 1).

2. Education also plays a pivotal role in development and social outcomes. As education develops skills and knowledge that are associated with higher earnings, countries with higher levels of education face lower poverty rates (e.g., Appleton 2000, Tilak 2002, Kuepie et al. 2009). Better-educated societies experience better health outcomes and lower malnutrition, due to higher earnings and the change in health behaviors, further catalyzing the accumulation of human capital (Cutler and Lleras-Muney 2006, 2012, Raghupathi and Raghupathi 2020). Education also contributes to inclusiveness and social capital by mitigating social tensions, fostering social cohesion, and increasing trust in institutions (e.g., Heyneman 2000, Salmi 2003, Moiseyenko 2005, Easterly et al. 2006). Relatedly, higher societal educational levels improve political stability and decrease the likelihood of armed conflicts, since, for instance, the opportunity cost of rebellion and fighting is

[1] Prepared by Can Sever (AFR). I thank Luca Ricci, Lawrence Norton, Andrew Tiffin, Michele Fornino, Nour Tawk and my colleagues in the WAEMU country teams at the IMF African Department for extremely useful suggestions and inputs. I also thank the WAEMU's regional authorities for valuable feedback; and Christine Hofmann, Karim Toumi, Halsey Rogers, Alison Marie Grimsland and Pamela Mulet for helpful discussions.

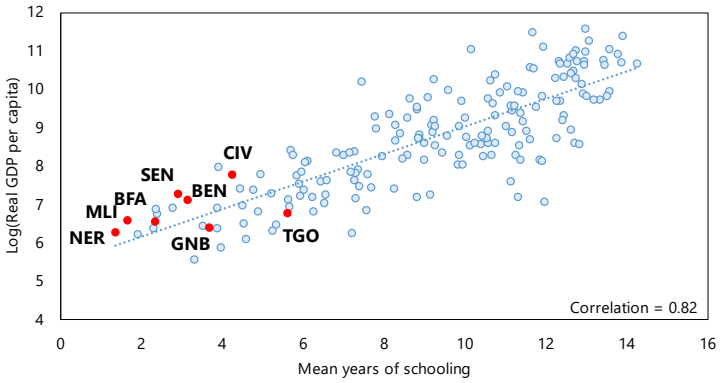
[2] See Hanushek and Woessmann (2010) for a review of the literature.

higher for better-educated people (e.g., Collier and Hoeffler 2004, Thyne 2006, Barakat and Urdal 2009, Ostby and Urdal 2011, Ostby et al. 2019, Rohner and Saia 2019).[3]

3. Thus, education remains a central issue in the policy debate, particularly for developing economies. At the global stage, fostering education outcomes by securing high-quality learning opportunities for all has been set as one of the priorities in the development agenda, including the 2030 Agenda of Sustainable Development (UN 2015, World Bank 2018, 2023a).

Figure 1. Education and Economic Development

Mean Years of Schooling and GDP per Capita

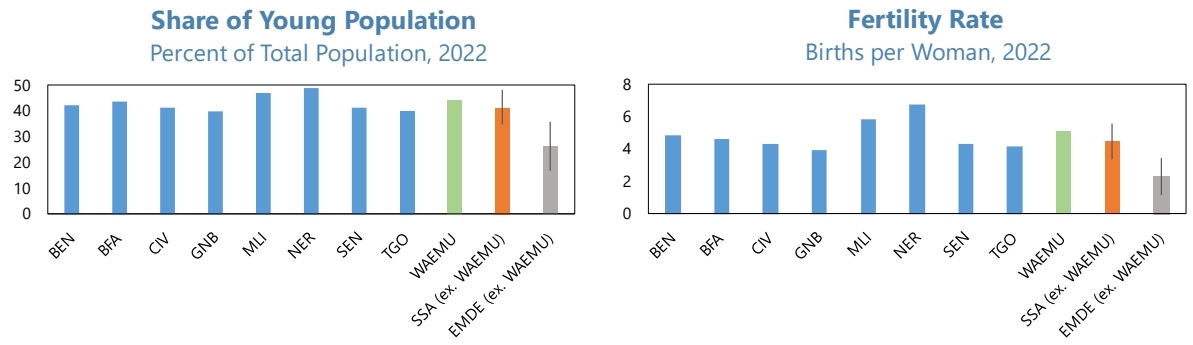


Sources: World Bank, UNDP, and IMF staff calculations. GDP per capita (constant in 2015 US dollars and in logarithm). Mean years of schooling is for adults ages 25+. Both series are from 2022.

4. Education continues to be of even greater importance for the WAEMU, given the large share of young population and high fertility rates. The WAEMU stands out in the share of young population and fertility rates, compared to the rest of sub-Saharan Africa (SSA) and other emerging markets and developing economies (EMDEs). The young population (ages 0 to 14) amounts to 44 percent of the WAEMU's total population (i.e., around 63 million people), with this percentage being close to 50 percent in Mali and Niger (Figure 2). This share is about 42 percent in SSA, and only around 26 percent in EMDEs. Fertility rates are also high in the WAEMU, with an average of 5.1 births per woman (where Niger is leading with a rate close to 7), while this rate is 4.5 in SSA and 2.3 in EMDEs. A young, dynamic population and a growing talent pool offer an opportunity for a demographic dividend, but only if member states can capitalize on this potential by ensuring widespread and high-quality educational opportunities for the youth, equipping them with the skills required by the key growth sectors.

[3] There is a long literature showing that armed conflicts are associated with persistently lower economic growth, e.g., see Sever (2024a) for evidence and a review of the literature. With a regional perspective, high risk of political instability and violence in some member states likely affect growth outcomes in other countries as well (e.g., Sever 2018).

Figure 2. Young Population and Fertility Rate



Sources: World Bank, and IMF staff calculations. Share of young population represents population ages 0-14 (in percent of total population). Fertility rate is the number of births per woman. Both series are from 2022. Group averages are weighted by population. Vertical black lines indicate one standard deviation interval.

B. Education Outcomes and Potential GDP Gains

5. Although education outcomes have improved in the WAEMU since the 1990s, the pace of progress was relatively slow, widening the gap between the member states and their peers. For instance, mean years of schooling (i.e., average years of schooling for adults ages 25 or above) increased from 2.1 to 2.8 years over the period of 1990-2022, during which Benin and Togo achieved the largest improvements by more than doubling this measure (Figure 3). The progress is notable, nonetheless, the pace was slow, compared to the rest of SSA and EMDEs, where mean years of schooling increased from 3.8 to 6.2 years in SSA, and from 4.3 to 7.6 years in EMDEs. As a result, the gaps between the WAEMU and those comparator groups increased over the last three decades. The gaps in mean years of schooling also translate into lower literacy rates in the region. Adult (youth) literacy rate stays about 52 (64) percent of population in the WAEMU, whereas it is 77 (85) and 86 (95) percent in SSA and EMDEs, respectively. [4]

6. The WAEMU faces challenges in ensuring the transition of students to higher levels of education and preventing dropouts, while also maintaining the quality of education. The WAEMU lags both SSA and EMDEs in school enrollment rates, with the gap being particularly large for higher levels of education. The enrollment rate in primary school level stays about 86 percent in the WAEMU, while it is 100 and 103 percent in SSA and EMDEs, respectively (Figure 3).[5] When it comes to the transition into secondary level education, this rate becomes 41 percent in the WAEMU, remaining 9 and 38 percentage points lower than SSA and EMDEs, respectively. The enrollment rate in the tertiary level education is only 9 percent in the WAEMU, while it is 12 percent in SSA and 46 percent in EMDEs. In addition to relatively low enrollment rates particularly in higher levels of

[4] Also see Diallo et al. (2023).

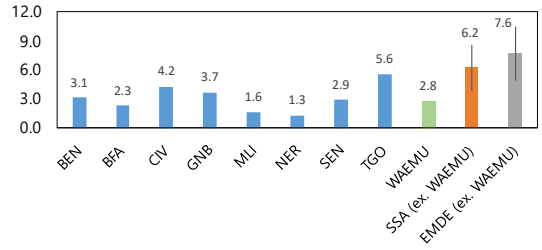
[5] Enrollment rates are gross. Gross enrollment rates can be above 100 percent, since the definition is regardless of age. Specifically, gross enrollment rate for a level of education includes students who are older or younger than the official age group corresponding to that level of education, including the students who repeat a grade and enroll later than the official age (hence, are older than their classmates), or advance quickly (thus, are younger than their classmates). These can make the gross enrolment rate to be above the population which corresponds to that particular level of education.

education, there is a notable disconnect between enrollment and completion rates within the same level of education in the WAEMU (Agbidinoukoun et al. 2023, UNESCO 2023). These patterns are also reflected in expected years of schooling for children of school-entering age (a somewhat forward-looking measure of years of schooling accounting for the enrollment trends for different levels of schooling), which remains at 8.8 years in the WAEMU, while it is 10.6 and 13.2 years in SSA and EMDEs, respectively. Moreover, learning-adjusted years of schooling (a measure combining quality and quantity of education) is lower the WAEMU (4.2 years) compared to SSA (5 years) and EMDEs (7.5 years) (Figure 4).

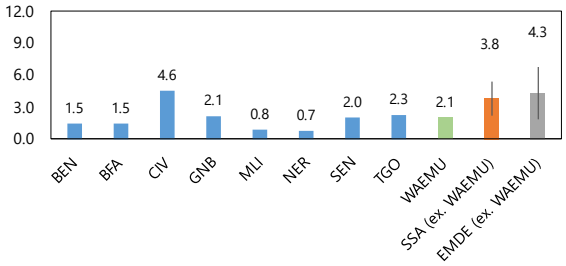
7. Gender gaps in education outcomes are a driver of relative underperformance. The gender parity index in mean years of schooling (the ratio of years of schooling for females to that of males) remains about 0.55 in the WAEMU, where years of schooling stay at 3.7 and 2 for females and males (Figure 4). In other words, on average, for each additional year of schooling that males receive, females receive about half. This ratio stays about 0.72 in SSA and 0.84 in EMDEs. Such a significant gender disparity in education is a drag on overall education outcomes, but it also offers an opportunity going forward. For instance, fully closing the existing gender gap in mean years of schooling can boost this measure to 3.7 years from the current level of 2.8 years. Besides being a direct driver of weaker schooling outcomes, gender gaps in education in the region, particularly in higher levels of education, translate into gender imbalances in the labor market outcomes, which can further hamper the accumulation of human capital (see Sever 2024b).

Figure 3. Education Outcomes

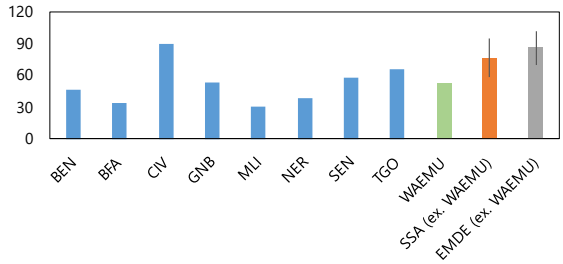
Mean Years of Schooling
In 2022



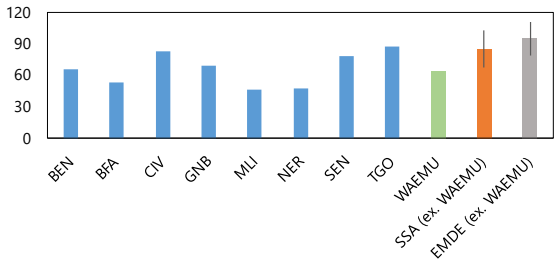
Mean Years of Schooling
In 1990



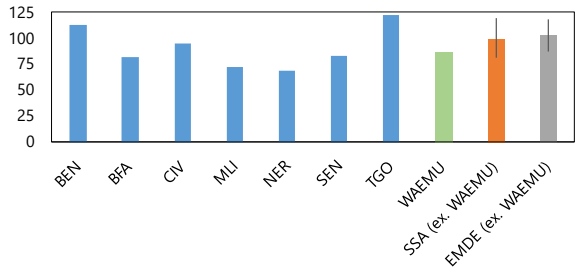
Adult Literacy Rate
Percent of Population, 2022



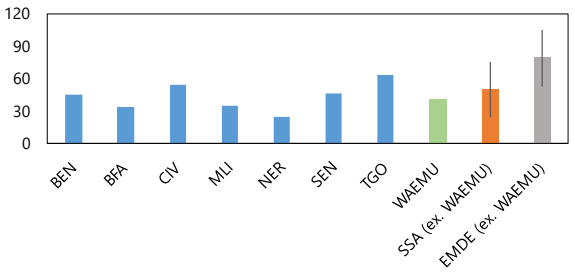
Youth Literacy Rate
Percent of Population, 2022



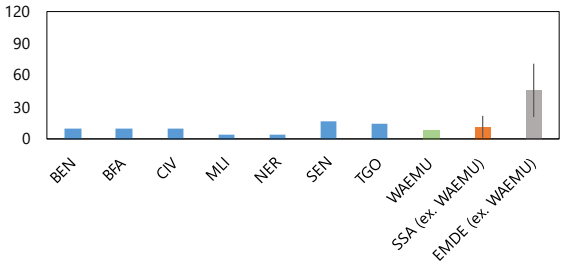
Enrollment Rate, Primary School
Percent, 2022



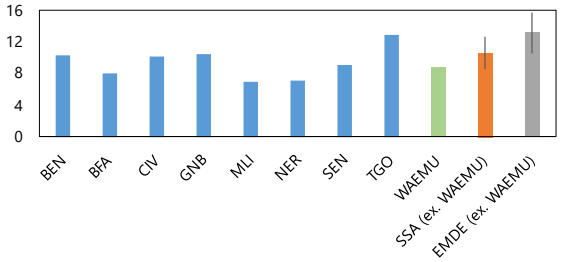
Enrollment Rate, Secondary School
Percent, 2022



Enrollment Rate, Tertiary School
Percent, 2022

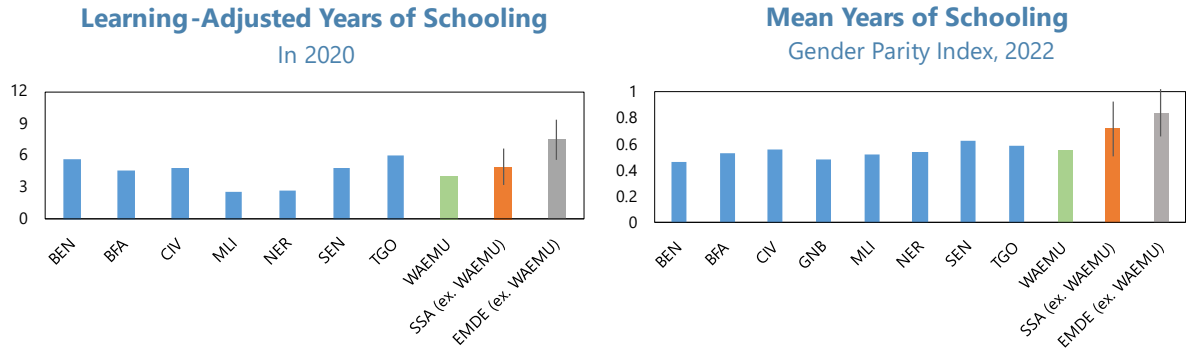


Expected Years of Schooling
In 2022



Sources: World Bank, UNDP, and IMF staff calculations. Mean years of schooling is for adults ages 25+. For the chart representing the values in 1990, it is adopted from 1999 for Burkina Faso, and 2005 for Guinea-Bissau, due to missing data in earlier years. Enrollment rates are gross. Due to missing data in 2021, the primary school enrollment rate is from 2021 for Mali; secondary school enrollment rates are from 2021 for Togo, 2020 for Mali, and 2017 for Niger; tertiary school enrollment rates are from 2021 for Benin, 2020 for Côte Ivoire, Niger, and Togo, and 2019 for Mali. Expected years of schooling is for children of school-entering age. Literacy rate for adults (youth) are for ages 15+ (15-24), and in percent of the corresponding population. Literacy rates are from 2020 for Mali, and 2019 for Cote Ivoire and Togo. In each enrollment and literacy indicator, the non-WAEMU sample is constructed based on the corresponding time span for the WAEMU, as noted. Group averages are weighted by population. Vertical black lines indicate one standard deviation interval.

Figure 3: Education Outcomes
(concluded)



Sources: World Bank, UNDP, Filmer et al. (2020), and IMF staff calculations. Mean years of schooling is for adults ages 25+. Gender parity is the ratio of the years of females to males. Learning-adjusted years of schooling is a measure combining the quantity and quality of education. Group averages are weighted by population. Vertical black lines indicate one standard deviation interval.

8. Previous analyses from the IMF point to large growth and trade gains from improving education in the WAEMU. Earlier estimates suggest that differences in years of schooling can explain 0.3 to 0.5 percentage points of the WAEMU's per capita income growth rate shortfall compared to several African and Asian benchmark countries (IMF 2019). With a specific focus on the role of education in competitiveness, fostering the quality of education in the region to levels in those benchmark countries is estimated to boost trade flows by 10 to 16 percent.

9. Empirical estimates as presented by this study suggest that over a decade, per capita income in the WAEMU could increase by as much as 13 percent if member states achieve the EMDEs average in years of schooling. Regression-based estimates using global data over the last three decades suggest that a 1 percentage point increase in the growth rate of years of schooling translates into almost 0.1 percentage points higher growth in per capita GDP, on average. Using a one standard deviation confidence interval around the point estimate, the average annual boost to the regional GDP per capita growth rate ranges from 0.6 to 1.3 percentage points as member states make a steady progress to reach the level of years of schooling in EMDEs over a decade (Table 1, Panel A). Cumulatively, per capita income in the WAEMU becomes 6.3 to 13.4 percent higher at the end of the period needed to achieve this objective (i.e., 10-year period in this exercise), with these gains being particularly large in Burkina Faso, Mali and Niger (Table 1, Panel B).[6]

[6] While this is an ambitious goal, it is worth noting that there are eight countries from the rest of SSA in which mean years of schooling already surpass the average level in the rest of EMDEs as of 2022. It is also important to note that, a slower progress toward this objective in the WAEMU (instead of reaching this target in a decade) will translate into lower annual per capita GDP growth gains on average, but the cumulative per capita GDP gains (at the end of the correspond period during which mean years of schooling in the WAEMU catch up with EMDEs) will remain similar to the ones illustrated in Table 1 (Panel B).

Table 1. Estimated Macroeconomic Gains

	A. Average per capita GDP growth gains per annum (percentage points)		B. Cumulative per capita GDP gains over the decade (percent of per capita GDP)	
Country	**Lower bound**	**Upper bound**	**Lower bound**	**Upper bound**
BEN	0.6	1.2	5.9	12.6
BFA	0.8	1.6	8.2	17.5
CIV	0.4	0.8	3.9	8.1
GNB	0.5	1.0	4.8	10.2
MLI	1.0	2.1	10.9	23.6
NER	1.2	2.4	12.5	27.2
SEN	0.6	1.3	6.5	13.9
TGO	0.2	0.4	2.0	4.2
WAEMU	**0.6**	**1.3**	**6.3**	**13.4**

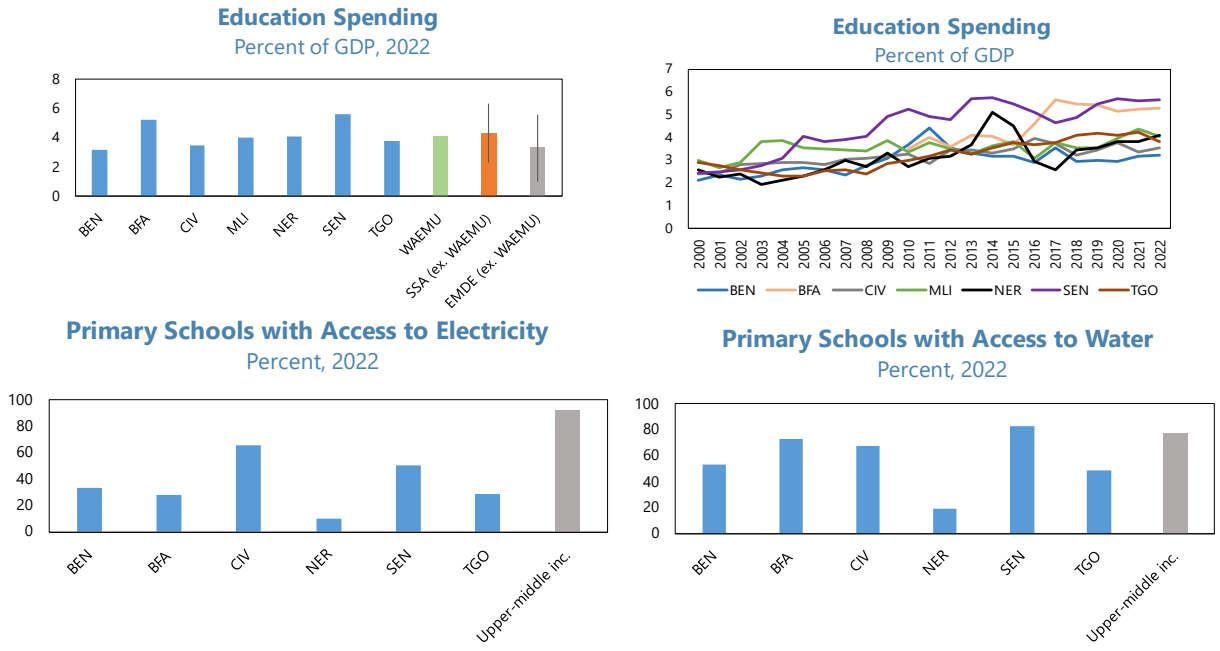
Sources: World Bank, UNDP, IMF staff estimates and calculations. The results are based on the following regression: $\Delta \log(GDP\ per\ capita)_{c,t} = \beta \times \Delta Mean\ years\ of\ schooling_{c,t} + \alpha \times \log(GDP\ per\ capita)_{c,t-1} + \theta_c + \theta_t + \epsilon_{c,t}$ where c and t stand for country and year, respectively. $\Delta \log(GDP\ per\ capita)_{c,t}$ is the percent change of per capita GDP constant in 2015 US dollars (log change), and $\Delta Mean\ years\ of\ schooling_{c,t}$ is the percent change in years of schooling. θ_c and θ_t are country and year fixed effects, respectively. Variables are winsorized at the 1st and 99th percentiles. Standard errors are robust to heteroskedasticity. All available data (1990-2022) is used. β is estimated to be 0.095 with a standard error of 0.033 (statistically significant at the 1 percent level). The calculations on annual growth gains assume that the progress in years of schooling is steady over a decade. The table presents the lower and upper bounds for growth and level gains using one standard error interval around the point estimate.

C. Education Spending and Outcomes

10. Education spending in the WAEMU has shown significant progress since the 2000s and continues to be crucial. Despite the periods of setbacks, education spending has been on an upward trend in almost all member states since the 2000s (Figure 4). It reached 4.1 percent of the regional GDP as of 2022, from 2.5 percent of the regional GDP in 2000. While this surpasses the average in EMDEs by about 0.8 percentage points of GDP, it is worth noting that a younger population and high fertility rates in the WAEMU underscore the importance of investment in education. Moreover, the fact that the member states lag upper-middle income countries regarding basic facilities in schools (such as access to electricity and drinking water) call for prioritizing spending to improve school infrastructures.

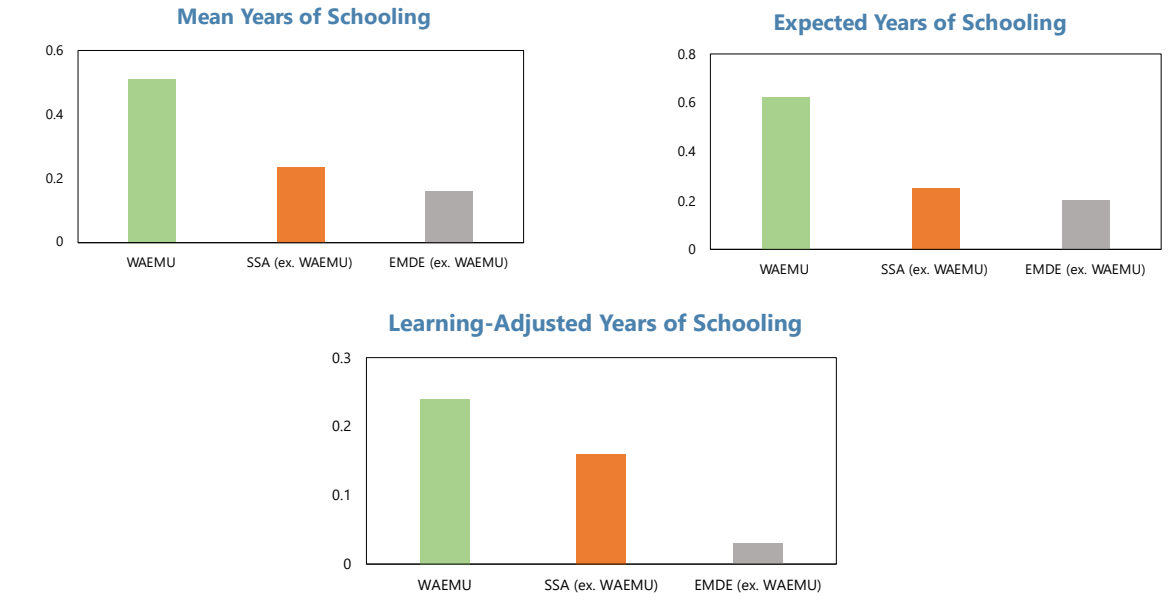
11. Although spending more does not automatically lead to better outcomes, data show that it yields positive results. Education spending is positively associated with years of schooling, including forward-looking or quality-adjusted measures, particularly in the country groups with lower levels of education to start with, e.g., the WAEMU (Figure 5).

Figure 4. Education Spending and School Facilities



Sources: World Bank, UNDP, UNESCO, and IMF staff calculations. Education spending is in percent of GDP (and is from 2022 in the left-hand side chart). Group averages are weighted by GDP. Vertical black lines indicate one standard deviation interval. Group estimates for the charts in the second row are adopted by UNESCO. Data on school facilities are from 2021 for Niger, due to missing data in 2022.

Figure 5. Correlation with Education Spending



Sources: World Bank, UNDP, Filmer et al. (2020), and IMF staff calculations. Mean years of schooling is for adults ages 25+. Expected years of schooling is for children of school-entering age. Learning-adjusted years of schooling is a measure combining the quantity and quality of education. Education spending is in percent of GDP. All years with available data are used. After the contemporaneous correlation for each country over time is calculated, the mean values in each sample are illustrated.

D. Ongoing Policy Efforts

12. The member states view inclusive, equitable, and quality education as a cornerstone of their development strategies and are committed to improving educational outcomes.[7] Commitments in national education strategies or development plans signal that the member states recognize the need for achieving universal high-quality education. These commitments include, but are not limited to, revising institutional and legal frameworks to align them with international best practices; expanding free education and bridging gender gaps to ensure inclusiveness; launching training programs for teachers and management staff while also assessing competencies, qualifications, requirements and working conditions to improve the quality of teaching professionals; enhancing data collection and management while introducing monitoring and evaluation mechanisms to track outcome targets; integrating IT solutions and digitalization into the education systems to improve efficiency; revising and revamping the teaching content to equip the youth with the skills required for the jobs of the future as well as entrepreneurial skills; supporting disadvantaged children and improving school environment and infrastructures to improve attendance and decrease dropouts; and seeking to improve the efficiency of funds, in collaboration with development partners.

13. Some examples of ongoing policies towards those objectives are the followings: [8]

- In Benin, education spending has been focusing accessibility and resilience, through school canteen programs, free schooling at the primary level, provision of books, free schooling for girls in secondary school, scholarships for students in technical and vocational high schools and colleges, construction and equipment of educational infrastructures in different levels of education, scholarships for the training of trainers, reinforcement of social infrastructures. As a particular example, the school feeding program, a joint effort with the World Food Programme, supported almost 6,000 schools since 2022 (about 75 percent of public primary schools) and 1.4 million students (46 percent of which are girls).
- In Burkina Faso, efforts focusing on the quality and accessibility of education include improving the curricula in different levels of education to integrate language education, developing training curricula and syllabuses for various progressional at lower- and upper-level secondary schools, while plans to recruit teachers and building classrooms to improve education outcomes in rural areas are in place.
- In Côte d'Ivoire, spending has been targeted to expand widespread education, via school cafeteria programs, acquisition and distribution of school kits, textbooks and educational kits, support for the payment of school fees in various schools. In addition, efforts are under way in the context of the National Development Plan and the Government Social Program to expand technical and vocational education and skills training programs.

[7] National commitments and policies can be found online in the UNESCO International Institute for Capacity Building in Africa's Education Country Briefs website (together with the links for official publications and other documents). Also see ADEA (2019) for examples of national policies in the member states to improve education outcomes.
[8] This is not a comprehensive list, rather a selection of recent and/or ongoing efforts at national level in some member states.

- In Niger, the authorities focus on the provision of education infrastructures, the quality of teachers and inclusiveness of the education system, for example, by converting large numbers of contractual teachers to civil servants, launching the "zero straw hut classrooms" program and working on improving classroom facilities, integrating children affected by violence into the education system, and supporting girls' education (e.g., via scholarships, construction of boarding schools for girls, implementation of the national strategy to accelerate education and training for girls and women).
- In Senegal, subsidies were implemented to reduce the cost of education, and awareness campaigns and supportive measures to increase the transition of girls from elementary to secondary education (also addressing barriers to girls' education, e.g., in some specialized scientific and technical fields at the secondary and higher education levels) are under consideration. Several measures have been taken to reduce dropout rates among girls, particularly due to pregnancy (such as introducing temporary pause periods or financial support for adolescent mothers to acquire vocational training).
- In Togo, education sector reforms are aimed at providing quality education to a broad audience in alignment with labor market needs. Key efforts to achieve this include the construction of 15,000 classrooms with access to water and electricity, training at least 90 percent of teachers, and ensuring that 80 percent of vocational students enter the job market by 2025 aligned with the 2020-25 Government Roadmap. A public-private partnership strategy is being implemented for building and equipping school infrastructures, while a new education management information system has been operationalized to enhance student tracking. Additionally, a national policy for school and career guidance is under development, and a pilot phase for integrating local languages into vocational training is underway. Togo also launched a digital platform to monitor graduates and improve training based on labor market feedback. Furthermore, in higher education, efforts are focused on quality assurance and curriculum harmonization, alongside financial support for students in several priority fields.

14. Cognizant of the role of regional policies in achieving better education outcomes, the regional authorities have created various initiatives targeting both in-school and out-of-school learning.

- In 2017, ministries in charge of employment established a platform for promoting regional cooperation in vocational training to share experience, information and tools, and to achieve harmonization of skills trainings across the region (Plateforme de Mutualisation des Outils et Ressources de la Formation Professionnelle).[9] The platform has been working on implementing training programs and establishing reference training documents for different sectors.
- The WAEMU Commission has been working on improving the efficiency and quality of higher education and vocational training. It has been developing guidelines for teachers' trainings and curricula for vocational training in key sectors (while also assisting the national authorities and

[9] The member states have also been exchanging experiences and sharing knowledge through various other initiatives, such as the Association for the Development of Education in Africa (ADEA 2023).

the private sector regarding the strategic areas for vocational training). The Commission also aims to improve mobility of students in higher education via scholarships and supporting programs, which will facilitate migration across the member states and contribute to the quality of universities.

- In the context of the 2018 Gender Strategy, the WAEMU Commission has also been working with the national authorities to ensure effective implementation of policies toward gender equality including in education outcomes, particularly focusing on girls' school enrollment and retention rates.
- As part of efforts to implement the regional financial inclusion strategy, work by BCEAO on the regional financial education program has been ongoing. The strategy aims to equip the education systems of the member states with the required skills for financial literacy. BCEAO has been organizing regional financial education workshops for the public officials and the private sector representatives to share experiences, supporting national efforts to improve financial education, and designing financial education courses and training modules (BCEAO 2019, 2022).

15. Going forward, better outcomes can be more effectively achieved, as national and regional endeavors toward achieving universal high-quality education complement each other. While national policies have a central role in revamping the education systems, the regional authorities have a very important role, as regional coordination and cooperation can catalyze national policies and foster their effectiveness.

E. Quality of Education and Related Policy Options

16. Improvements in the quality of education in the WAEMU require a focus on the underlying causes of weak performance. The quality of education is a major determining factor in the catalyst role of education in growth (e.g., Hanushek and Kimko 2000, Barro 2001, World Bank 2009, Hanushek Woessmann 2007, 2010). In the WAEMU, apart from relatively low years of schooling and enrollment rates, various indicators point to weak quality outcomes. For instance, children in schools, even at higher levels of education, exhibit poor learning outcomes, e.g., limited literacy and numeracy (e.g., World Bank 2018, 2022, UNESCO 2021, 2023). Low education levels of teachers, misalignments between teacher trainings and curricula, and limited competency requirements for teaching professionals are important issues contributing to this outcome (e.g., World Bank 2021, INSEAD 2023, UNESCO 2023). [10, 11] These can be a drag on the efficiency of education spending across the region, particularly considering that spending on teachers typically account for a large share of education expenditure (Agbidinoukoun et al. 2023, World Bank 2023b).

17. Policies supportive of high-quality education should concentrate on strengthening teacher capacity and quality, which can be fostered at the regional level. The quality of instruction is key for student achievement, making the capacity and quality of teachers a central

[10] Looking at the broader picture, it is also worth noting that the quality of education system is affected by the quality of the overall institutional environment, as the latter can influence how the resources are used (e.g., Fomba et al. 2023).

[11] In general, large classroom sizes and low teacher to student ratios are also important factors affecting the quality of learning opportunities, but data limitation for the WAEMU does not allow a comparison on these aspects.

policy issue as a cost-effective tool to ensure high-quality education. In this regard, to support and harmonize national efforts, launching regional frameworks and standards for (i) minimum requirements for teaching, (ii) teacher standards and competencies, (iii) teacher education and training programs (both in pre- and in-service), (iv) career paths for teachers, (v) working conditions and well-being of teaching professionals, and (vi) professionalization of teaching, can be considered.[12] The preparation of those reference documents should be in coordination with the national authorities, and through participatory processes, including contributions from teachers, communities and other stakeholders.

18. These efforts can benefit from international and regional best practices. Regional frameworks and standards, aimed at improving the capacity and quality of teachers, should be benchmarked against international and regional best practices, including the Global Framework of Professional Teaching Standards (UNESCO and Education International 2019) and the set of policy suggestions tailored to the member states by UNESCO (2022); regional instruments, e.g., the African Continental Framework of Standards and Competencies for the Teaching Profession, African Continental Teacher Qualification Framework, and African Continental Guidelines for the Teaching Profession (African Union Commission 2019a, 2019b, 2019c); and the referential frameworks from the ECOWAS (2003, 2010, 2017a, 2017b). Moreover, as a first step, regional training programs for high-level education officials and policy makers, e.g., in the relevant ministries, can be launched to ensure that they become familiarized with those frameworks (UNESCO 2023).

19. Regional efforts to enhance education systems can also be useful to achieve quality assurance in different levels of education, ultimately aiming for mutual recognition of qualifications and competencies. Working on regional standards for educational quality assurance (to be benchmarked against international best practices), alongside prioritizing the skills needs across the region can help education systems become more competitive worldwide. These efforts can allow mutual recognition of diplomas, qualifications, and learning years, as the member states comply with the regionally set standards (e.g., see ECOWAS 2010, 2017a, and the process in the European Union). Since student mobility is a driver of the quality of education, these can ultimately help enhance the quality of the education systems across the region, while offering new opportunities for students and incentivizing staying in schools longer (e.g., Bista et al. 2018).

F. Other Regional Policy Options

20. Accelerating and expanding regional efforts will be important to ensure progress in education outcomes across member states. As a first step, a stock-taking exercise of education systems can be useful to identify common challenges and set the stage for coordination and cooperation across the national authorities on how to address them. Setting regional outcome targets with clear timelines, aligned with the member states' national development strategies, and continuously monitoring and evaluating the regional progress can guide those efforts. In this regard, the regional authorities can also benefit from international practices, e.g., the European Union has

[12] These efforts can also mitigate relatively high attrition and absenteeism rates among teachers in some member states, which can lead to poor learning outcomes and learning disruptions for students (World Bank 2018, UNESCO 2023).

set out a regional education strategy with concrete policies and measurable targets (e.g., on early school leavers, gender balance in various disciplines, completion of upper education, low achievers in literacy, lifelong learning, and student mobility) (European Union 2003). Overall, regional efforts should be aimed at supporting national education systems and helping the member states collectively address enduring challenges.

21. Prioritizing education spending and exploring ways to continue increasing it are crucial. While the level of education spending (as a share of GDP) in the WAEMU on average surpasses the average of EMDEs recently,[13] high share of young population and fertility rates urge the member states to safeguard, sustain and increase education spending, for instance, by improving domestic revenue mobilization or tapping into upcoming natural resource revenues in some countries.[14] It is also crucial for some member states (such as Benin and Côte d'Ivoire) to boost spending and catch up with the rest of the region. At the regional level, a comprehensive study to evaluate the effectiveness of past education spending by benchmarking it against the peers and facilitating peer-learning, and to assess the needs over the short- and medium-term in the region can help inform spending decisions going forward.

22. Addressing gender disparities in education is crucial to better and more inclusive education outcomes. Prevalent gender gaps in education outcomes pose a bottleneck to improving education outcomes and hinder inclusiveness of the education system. While the policy priorities can change across the member states to bridge gender gaps, national policies ultimately need to be aimed at keeping girls in schools longer.[15] Regional initiatives, such as an effective implementation of the Gender Strategy by the WAEMU Commission and an acceleration of activities supporting women under the financial inclusion strategy by BCEAO, are also important (Sever 2024b).

23. It is also timely to accelerate efforts in building resilience in the education system to ensure sustainability and inclusiveness, amid frequent shocks in the region. Climate-related disasters, health shocks (such as the Covid-19 pandemic), and security incidences have become more relevant in recent years across the region (Sever 2024c). These events result in disruptions in education and learning losses, due to displaced persons and school closures.[16] The efforts can focus on several areas, including building climate-resilient school infrastructures, investing in the resilience of network sectors (e.g., electricity and internet), training teachers for distance teaching while also providing them with the needed equipment, coordinating with development partners, and exchanging experiences across the member states (e.g., UNESCO 2021). In this context, the regional authorities can also play an important role by assessing the cross-cutting priority needs, developing regional response plans (e.g., in response to climate disasters or pandemics), introducing directives

[13] It is also worth noting that lower GDP levels in the WAEMU, compared to more developed EMDEs with similar populations, imply a relatively low education expenditure per kid.
[14] For a broader discussion on fiscal sustainability of social spending, see IMF (2024b).
[15] To bridge gender gaps in education and reap associated economic gains, a holistic approach is needed, for instance, together with steps toward a full and effective participation of women in the workforce, where a level playing for women and men with an equal treatment under the law becomes crucial (e.g., Sever 2022, 2023, Bertay et al. 2025).
[16] For instance, see Ganum and Sever (2025).

for regional infrastructures (e.g., to facilitate digitalization in education), and promoting information exchange and experience sharing across the member states.

24. Policy options to decrease educational costs, improve accessibility, and incentivize more years of education should be explored. Policies can focus on children from poorer families[17] and rural areas and include expanding in-kind transfers for school needs and school feeding programs, subsidizing families which keep their children in schools (e.g., in the form of cash transfers or child allowances), enforcing penalties against child labor, tackling child marriages, and prioritizing expenditure for related infrastructure (e.g., building safe roads and improving public/school transportation). Moreover, continuously evaluating the needs of the labor markets (e.g., via sectoral skills needs assessments, as proposed by the ILO framework) and revising the curriculum, including in higher education and for schools outside the formal education systems,[18] to adapt to the changing needs of the labor markets would boost returns to education and incentivize families to keep kids in schools longer. Expanding accessible literacy education for young adults and vocational trainings (e.g., apprenticeship programs) can go hand in hand. An evidence-based approach, for instance, to better understand the root causes of dropouts, alongside monitoring and evaluation of outcomes (e.g., regarding learning quality), needs to guide these efforts, where data collection is a first step. Regional directives, guidelines, and benchmarking frameworks (e.g., on vocational training standards, regional skills needs assessments, data collection and monitoring) can coordinate and guide national efforts along these lines.

G. Conclusion

25. Besides being a human right, education is key for sustainable and inclusive economic growth, and a powerful tool for reducing poverty, improving health, and achieving stability.

26. The WAEMU's future prosperity will largely depend on how effectively it can tap into its enormous demographic dividend by continuously equipping the youth with the needs of future's jobs. The demographic wave is calling for prompt actions to expedite investments in human capital. However, this will need continued political will and determination, since the required efforts and associated costs are immediate, while gains will take time and fully realize only when a holistic approach is followed, e.g., when complemented with policies conducive of private sector-led growth.[19]

27. Development partners and donors should also ramp up efforts, including for financing and capacity development. High-quality education is a global public good. Thus, the international

[17] Besides limited access of children from poorer families to schools, learning outcomes (reading and numeracy) for those children are significantly lower compared to the ones from richer families, where malnutrition can be one of the causes (e.g., Glick and Sahn 2010, World Bank 2018).

[18] Renovating the schools out of the formal education system, focusing on both in terms of the curricula and teacher standards and quality, is important, given that a significant share of children out of formal education goes to those schools (World Bank 2021).

[19] To fully harness the desired macroeconomic outcomes from educating people, policies to promote the private sector and create high-quality jobs for the youth should go hand in hand with the efforts on the education sector. See IMF (2024c) for an analysis on the urgent need for creating jobs in sub-Saharan Africa.

community should expand education funding support. Moreover, expanding capacity development can be useful to deploy international best practices to improve the efficiency of education spending and quality of education (IMF 2024a).

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