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NIGER

SELECTED ISSUES

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SELECTED ISSUES

December 17, 2024

Approved By
African Department

Prepared By Guy Morel Amouzou Agbe (AFR), Élisée Miningou (AFR), Ana Sofia Pessoa (FAD) and Yinhao Sun (SPR). Chris Stumphius (AFR) provided research assistance and Joanna Delcambre (AFR) editorial support.

CONTENTS

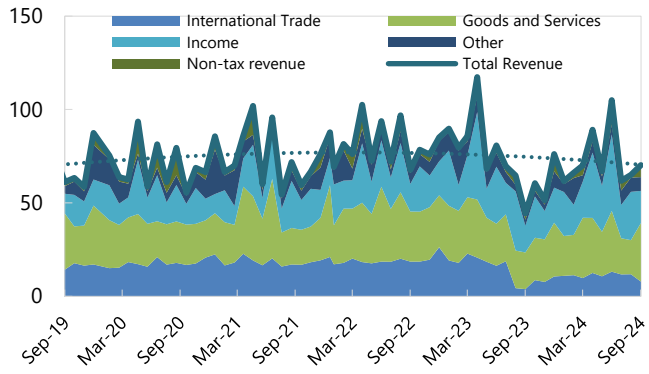
TAX POTENTIAL AND REVENUE MOBILIZATION IN NIGER[1]

Niger is facing significant challenges in revenue mobilization, with the tax revenue as a percentage of GDP being one of the lowest in the WEAMU region. This paper estimates the tax revenue gap, which reflects the difference between the actual tax revenue collected and the potential revenue for Niger's economic and institutional context. The tax revenue gap has been increasing since 2015 and reached 3.4 percent of GDP in 2022, primarily due to gaps in the collection of taxes on goods and services, and international trade taxes. To enhance revenue mobilization in Niger, it is essential to rationalize VAT exemptions and the reduced VAT rates on specific products, reform excise and property taxes, and strengthen tax administration. Furthermore, addressing informality and enhancing the ability to collect taxes from the informal sector, along with improving governance, will bolster revenue mobilization capacity in the medium to long term.

A. Motivation and Background

1. Total revenues, including tax revenues, have declined sharply in Niger following the military takeover in July 2023 (Figure 1). Revenue shortfalls relative to program targets persisted throughout the second half of 2023, exacerbated by the political events and the unfolding effects of sanctions. Recent revenue underperformance is also explained by delays in crude oil exports and the persistence of security issues. Revenue collection, though still lower than before the military takeover, has been slowly recovering from the recent shocks while revenues from international trade remain particularly weak, partly due to the border closure with Benin.

Figure 1. Total Revenue, Sep 2019-Sep 2024
(Billions of CFAF)

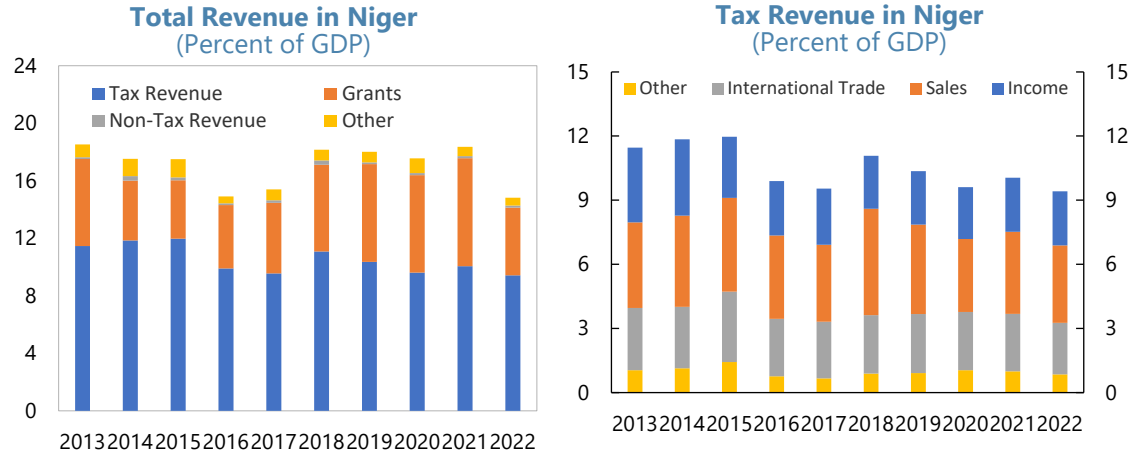


Source: Ministry of Finance and IMF staff calculations

[1] Prepared by Ana Sofia Pessoa (FAD) and Elisée Miningou (AFR). We would like to thank Antonio David, Annalisa Fedelino, Guy Morel Amouzou Agbe, Yinhao Sun, Marcos Poplawski-Ribeiro, Fayçal Sawadogo, Georges Hatcherian and the authorities for their valuable comments and suggestions. We extend our heartfelt gratitude to Greta Polo, Charles Vellutini, Carlos Benitez, Miguel Pecho, and Mario Mansour for generously sharing their data and resources, which significantly contributed to the development of this SIP. The authors are also thankful to Chris Stumphius and Joanna Delcambre for excellent research and editorial assistance.

2. However, weak revenue mobilization has been a long-standing issue in Niger. Total fiscal revenues have not improved over the last decade, fluctuating between about 15 and 19 percent of GDP (Figure 2).

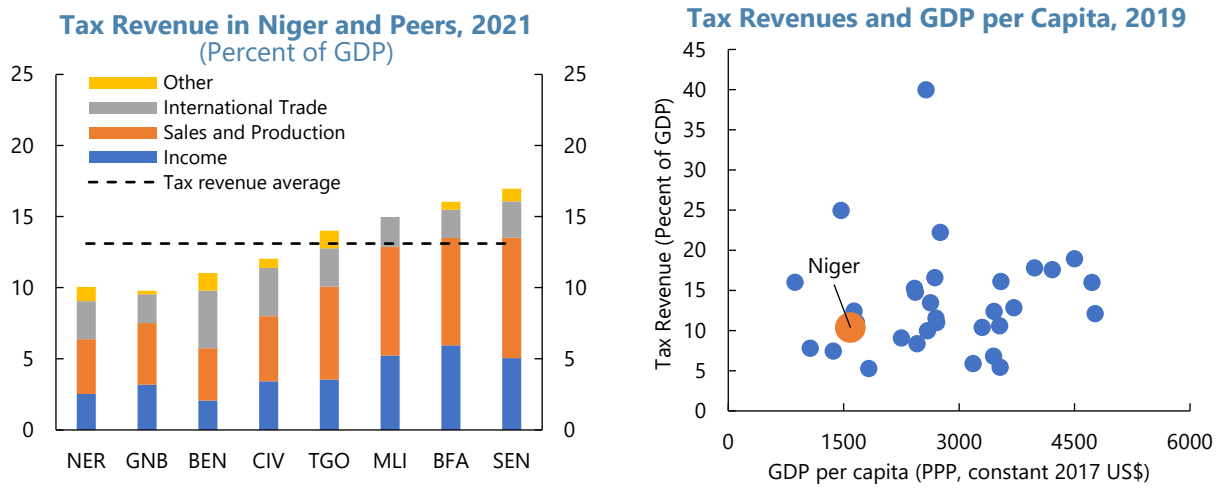
Figure 2. Fiscal Revenues in Niger



Sources: WoRLD and staff calculations.

3. Tax revenues, which make up for a large part of fiscal revenues, have been slowly deteriorating. Tax revenues account for about 60 percent of total fiscal revenues. Over the last decade, they have been slowly declining, and in 2022 reached 9.4 percent of GDP—the lowest value in a decade (Figure 1). This was driven by decline in the contribution of income, sales, and trade tax revenues.

Figure 3. Tax Revenues in Niger and Peers

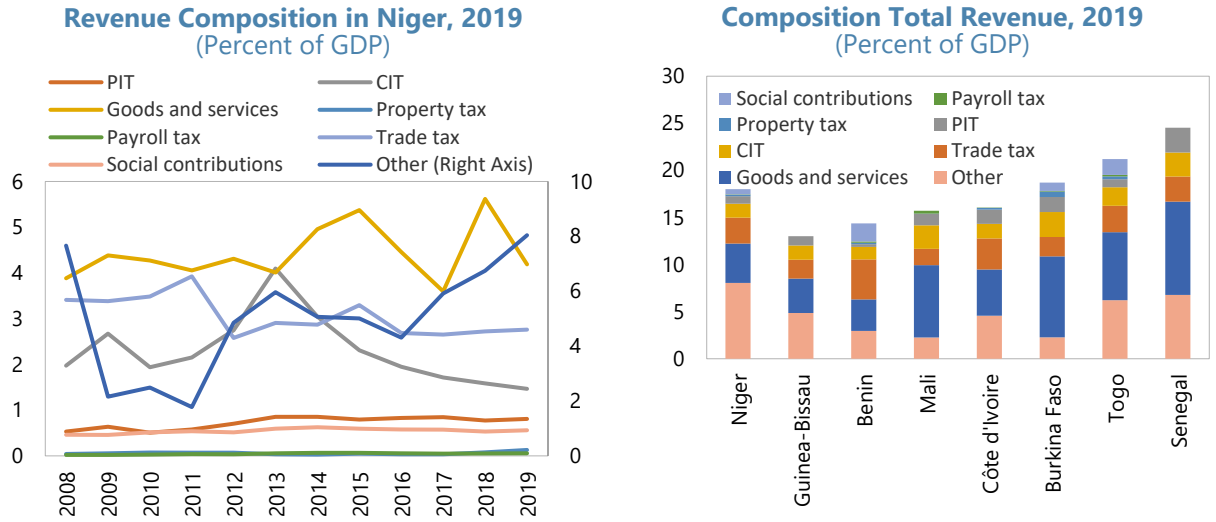


Sources: WoRLD, WDI, WGI, and IMF staff calculations. For the figure on the right, a cluster analysis technique was used to determine a group of 33 low-income countries that are comparable to Niger in terms of GDP per capita, the economic structure (specifically the share of agriculture and trade in GDP), and institutional quality (corruption control and government effectiveness).

4. Niger's tax revenue as a share of GDP is low when compared to peers. Niger's tax collection is significantly below its regional peers—about 2 percentage points of GDP lower than the average —but also lower than countries with similar characteristics (Figure 3). Niger's tax revenue also stands below the minimum thresholds recommended to start an accelerated growth and development process, which as suggested by IMF research range between 13 to 15 percent of GDP.[2]

5. Revenues from personal income tax (PIT), corporate income tax (CIT), property tax and goods and services are particularly low by regional standards. Revenues-to-GDP ratios on property tax and PIT are below 1 percent, while the contribution of corporate income tax (CIT) has been declining since 2013 (Figure 4). On the upside, other revenue sources have been increasing over the last few years. The contribution of tax revenue from PIT, CIT, and goods and services is low even for regional standards (Figure 4). Revenues from international trade, though declining over the last decade—from 3.4 in 2013 to 2.8 percent of GDP in 2019—used to be in line with the regional average before the military takeover.

Figure 4. Decomposition of Fiscal Revenues in Niger and Peers



Sources: WoRLD and staff calculations. Notes: Data on property tax, payroll tax and social contributions are not available for Guinea-Bissau and Senegal. Data on social contributions are not available for Mali and Côte d'Ivoire.

B. Revenue Potential and Tax Gaps

6. Differences in revenue mobilization across countries can be explained by heterogeneities in economic structures and institutional settings (Box 1). One way to assess the amount of additional taxes that Niger could potentially collect is to compare its tax-to-GDP ratio with that of other countries with similar characteristics, including the level of economic and

[2] These thresholds are likely associated with changes in social norms of behavior and state capacity for which developing economies could have their own domestic resources to start an accelerated process of growth and development (Gaspar et al., 2016).

institutional development. Such an analysis can define a tax frontier (or a tax revenue potential), that is, the highest level that a country can expect to achieve given underlying macroeconomic and institutional conditions. The distance between actual tax revenues and the tax frontier in a particular year measures the tax gap, which reflects the additional tax revenue that a country could collect through improvement in the efficiency of collection (see Box 1 for more details).

Box 1. Stochastic Frontier Analysis

Building on a large set of empirical studies, we specify a model similar to Benitez et al. (2023) and IMF (2022a). The Stochastic Frontier Analysis models a production function in which inputs are translated into tax revenues and assumes that countries collect less than their full potential due to inefficiencies u_{it} and random shocks v_{it}. The specification takes the following form:

$$ln(y_{it}) = \alpha_i + \sum \beta ln\,(x_{it}) + v_{it} - u_{it} \qquad (1)$$

where y_{it} is the tax revenue to GDP ratio of country i at time t and x_{it} is a set of inputs including GDP per capita; GDP per capita squared; agriculture, fishing, and forestry value added; trade value added; and public sector corruption index. The inefficiency term u_{it} follows a truncated normal distribution, while the residual terms v_{it} are normally distributed and independent of the inefficiency.

A vector of efficiency scores with a value between 0 and 1 is estimated by equation 2:

$$Efficiency_{it} = exp\,(-u_{it}) \qquad (2)$$

$Efficiency_{it}$ approximates the tax effort (or the efficiency in the use of inputs to collect tax revenues). The estimation method in this paper uses time-varying True Fixed Effects model (Greene, 2008) that accounts for country level unobserved heterogeneities, as captured by α_i in equation 1.

Finally, the tax potential is computed as $y_{it}/\exp(-u_{it})$ and the tax gap is the difference between the estimated tax potential and the actual tax revenue. The tax effort can also be defined as the ratio between the estimated tax potential and the actual tax revenue level.

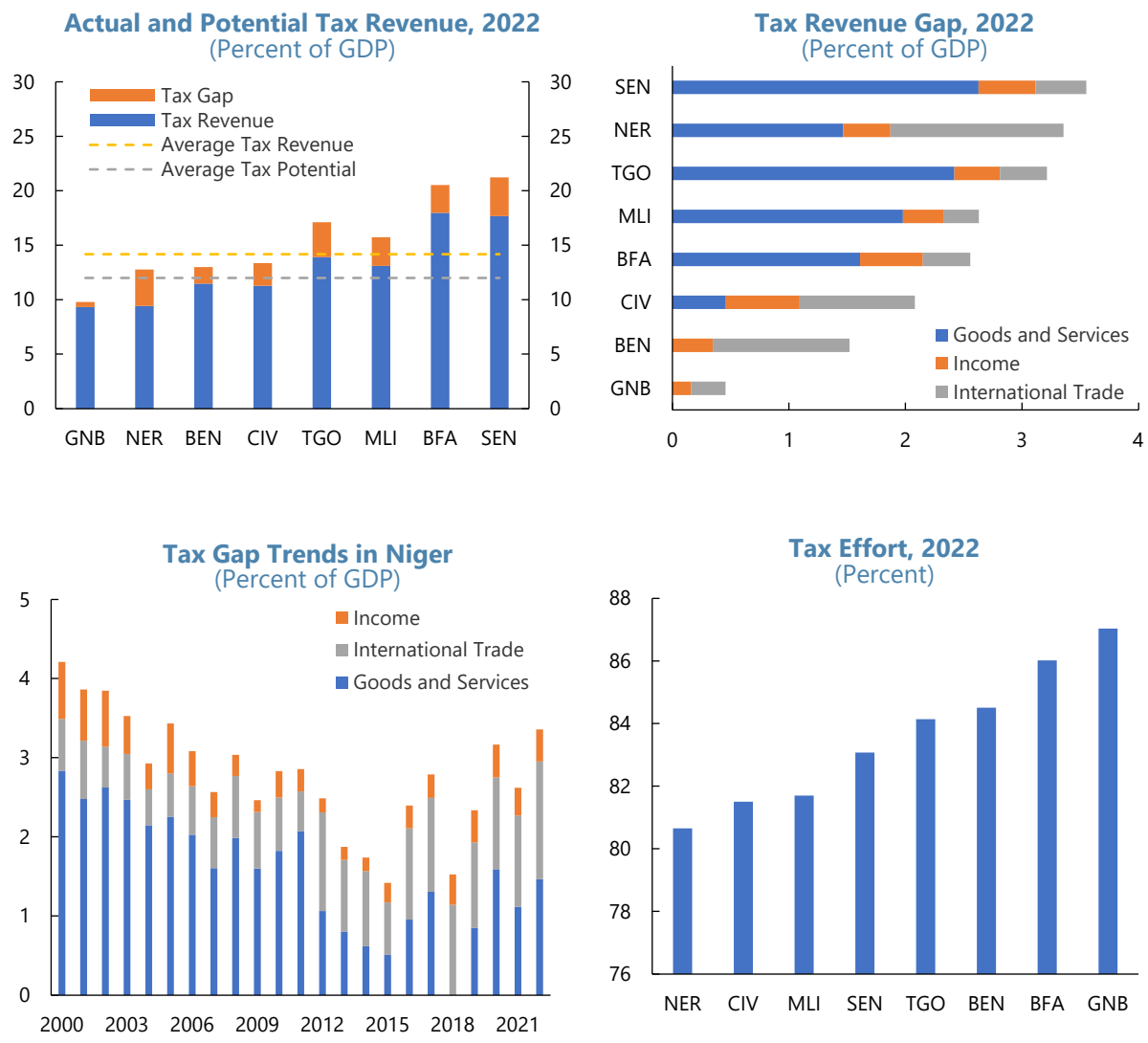
The data used to estimate the stochastic frontier model are collected from the WoRLD, Worldwide Governance Indicators and World Development Indicators databases. These data cover the period 1990-2022 and include 191 countries.

7. An econometric analysis indicates that there is potential to substantially boost Niger's tax revenue by up to 3.4 percent of GDP (Figure 5). The results of the stochastic frontier model suggest that Niger's tax potential amounts to nearly 12.8 percent of GDP. Given Niger's GDP per capital level, institutional quality and economic structure, the tax to GDP ratio could be 3.4 percentage points higher than the level observed in 2022 (Figure 5). This implies that for its economic and institutional characteristics, Niger could have achieved an additional CFAF 323 billion in tax revenue in 2022 if it was as efficient as the comparable countries in tax revenue collection. Niger is also among the countries with the largest tax gaps in the WAEMU region.

8. The tax revenue gap is larger in goods and services taxes and international trade taxes. A breakdown of the tax gap by the three main components shows that there is a gap of 1.5 percent of GDP in tax revenues on sales and production as well as on international trade tax revenues. The

international trade tax gap is also one of the largest among low-income-countries and the highest among WAEMU countries.

Figure 5. Tax Revenue Potential and Tax Gap Breakdown in Niger and Peers



Sources: WoRLD and staff calculations.
Notes: Tax revenue potential is computed as the sum of the actual tax revenue and the estimated tax gap. Tax effort is the ratio between the actual level of tax revenue and the estimated tax potential.

9. The overall tax gap has been rising since 2015, following a steady decline throughout the previous decade. The overall tax gap declined from 4.2 percent of GDP in 2000 to 1.4 percent in 2015 and has been on an increasing trend since then, driven by sales and production tax gaps. Between 2015 and 2022, the goods and services tax gap ranged between 0.5 and 1.5, while the international trade tax gap fluctuated between 1.1 and 1.5 percent of GDP.

10. The relatively large tax gap in Niger illustrates a generally weak tax effort. The tax effort – the ratio between actual tax revenue and potential tax revenue – is a measure of tax collection capacity. It reflects the effectiveness of the tax system to collect taxes given the available tax base. The average tax effort over the period 2010-2022 was 80.7 percent, meaning that 19.3 percent of the potential tax revenue was not collected due to inefficiencies in the tax system or administration (Figure 5). Of the three main categories of taxes collected in Niger, the international trade tax is associated with the lowest tax effort, followed by the goods and services taxes. These results possibly reflect ample tax administration inefficiencies and a high level of tax expenditures.

11. In general, a lower level of informality is correlated with a stronger tax effort. Countries with below median labor informality register a 7-percentage point higher tax effort compared to those with higher informality. Informality matters the most for goods and services tax effort, with the tax effort being 11 percentage points higher in countries with low informality.[3] Tackling informality in Niger could significantly help closing the tax revenue gap given that the informal sector accounts for about 58 percent of GDP (according to estimates by the Nigerien authorities).

12. Higher-quality institutions and increased digitization are also associated with higher tax effort. There is a positive correlation between overall tax effort and quality of institutions indicators like transparency, accountability, and corruption perception in the public sector. Tax effort also tends to be higher in countries where digitalization of the public sector is more advanced. Countries with digitalization above the median level achieve, on average, a tax effort that is 3 percentage points higher than those below the median. Improving the quality of institutions and promoting digitalization in the public sector can potentially contribute to a better tax revenue collection.

C. Closing Tax Revenue Gaps

13. Even though important reforms are already planned or underway in Niger, more efforts are needed to boost revenue mobilization and create fiscal space for development spending. Current efforts include the revision and simplification of the General Tax Code, scheduled for adoption in April 2025, which would redistribute the tax burden from factors of production to consumption; the integration of the tax and the customs IT platforms which would allow for the exchange information in real time, automating tasks and boosting compliance, among others.

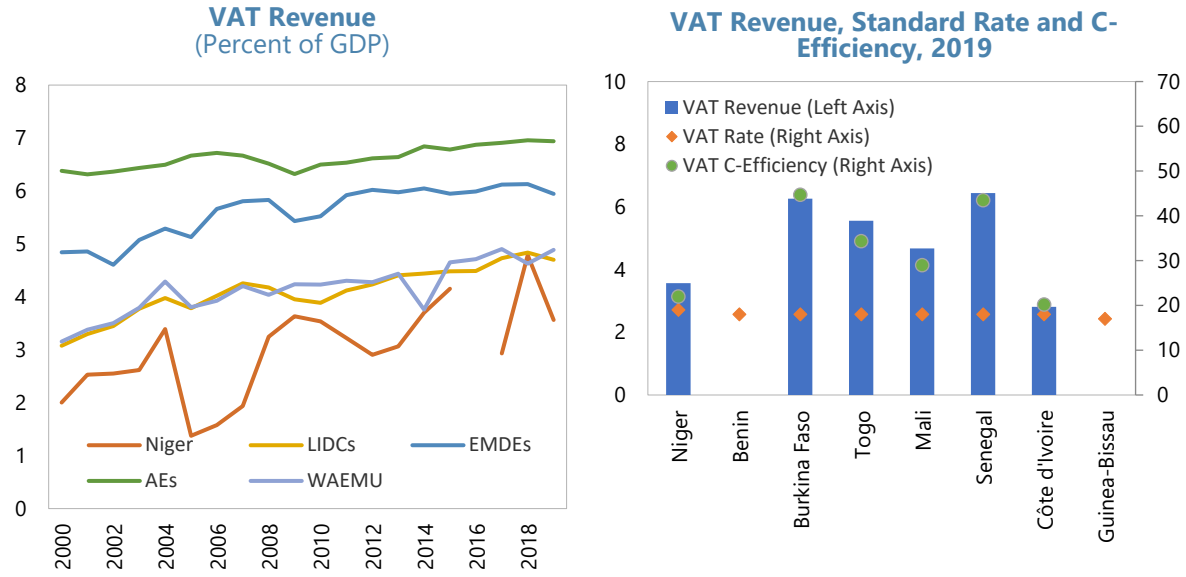
Options to Improve the Taxation of Consumption

14. VAT collection in Niger is lower than in most peers despite similar tax rates. VAT revenue has been fluctuating over time, peaking at 7 percent of GDP in 2016, and amounting to 3.5 percent of GDP in 2019 (Figure 6). Even though the standard VAT rate in Niger (19 percent) is similar or even higher than in peers, VAT revenue collection remains well below levels seen in other

[3] A t-test was conducted to compare the average tax effort derived from the stochastic frontier between two groups of countries: those with a share of informal workers above the median and those below the median.

countries. VAT could be at the core of revenue mobilization efforts in Niger, but the reduced tax base and exemptions erode revenue collection**.** The ratio of actual VAT collection relative to the potential VAT collection (C-efficiency) is about 22 percent in Niger, which is very low compared to the regional average of 34 percent (Figure 6). This reflects a combination of factors including sizable exemptions and revenue administration gaps.

Figure 6. VAT Tax Revenues and C-Efficiency



Source: IMF Assessment of Revenue Tool; WoRLD and International Tax Rates Database. Notes: Data includes both VAT and goods and services tax that effectively works like a VAT. C-Efficiency is calculates as (VAT Revenue) / [(VAT Rate) * (Total Consumption)].

15. Tackling sizable VAT exemptions and increasing the reduced VAT rates on certain products would support revenue mobilization in the short term. Even though Niger's 19 percent VAT rate is adequate according to regional standards, the reduced VAT rate of 5 percent on some products could be increased to 10 percent, including edible oil and sugar.[4] Moreover, the use of a reduced rate on some goods and services could be rationalized.[5] Another important source of revenues could stem from revisiting VAT exemptions on some products and activities, like agricultural, livestock, and fishing activities, and petroleum products, among others.[6]

16. When reforming VAT exemptions? and reduced rates, mitigating measures should be implemented to protect the most vulnerable groups. VAT exemptions and reduced rates

[4] According to IMF staff estimates, increasing the reduced rate from 5 percent to 10 percent on all products listed in Article 226 of the General Tax Code could boost tax revenues by 0.09 percent of GDP.]

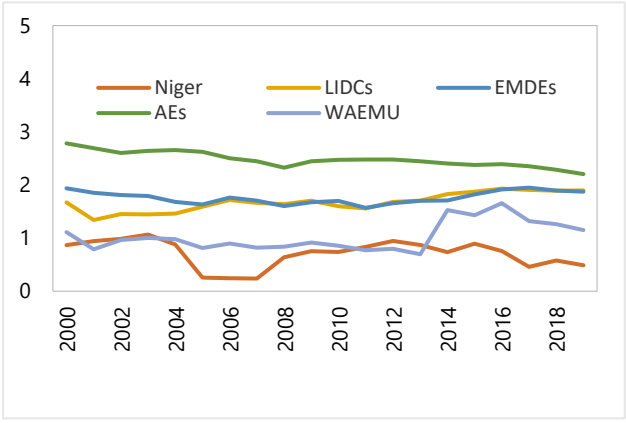
[5] One example for which the use of reduced rates could be reassessed is transport activities.

[6] According to IMF staff estimates, revenues could increase by at least 0.61 percent of GDP after eliminating VAT exemptions on petroleum products; kerosene; flour; prepared for children's food for retail sale; pure sodium salt and chloride; other breathing apparatus and gas masks; some medical and veterinary equipment and furniture. Estimates are not available for the impact of VAT exemptions on agriculture, livestock, and fishing activities.

are untargeted measures that benefit the entire population. The revenue loss from such policies tends to be high relative to the benefit that accrues to low-income individuals.

17. Moreover, excise taxes could be used to raise revenue and address negative externalities. Compared to peers, excises remain a relatively untapped source of revenue in Niger. Excise tax revenue is about 0.5 percent of GDP, much lower than in other WAEMU countries and LIDCs (Figure 7).[7] Expanding the base on passenger vehicles and rising their excise tax rates could also provide an important source of revenue in the near term.[8] This measure is particularly appealing as the products are widely consumed and it seems relatively easy to collect from a limited number of producers, or on imports at the border. These excise taxes can also have a progressive nature as passenger vehicles are less likely to be purchased by low-income households. Moreover, the elasticity of consumption with respect to the price is generally low for some of the goods subject to excise duties like tabaco and luxury goods. Even though *ad valorem* excise taxes are simple to apply and suitable for a country like Niger, they may create incentives to underreport the value of the imported goods. Improving oversight or adding a specific taxation element (such as a per-unit component) to the excise duty on goods while maintaining the *ad valorem* element could be an option to address this issue.

Figure 7. Excise Tax Revenue
(Percent of GDP)



Source: IMF WoLRD.

Enhancing Income and Wealth Taxation

18. PIT and CIT revenue collection has not progressed in Niger and remains below 1 percent of GDP (Figure 2). This is in large part driven by both a narrow tax base, most workers earn limited income (in many cases below the poverty line), the business fabric is limited, and the informal sector is large. It is estimated that 98.5 percent of the total employment is informal, and 58 percent of GDP comes from the informal sector.[9] The top PIT rate in Niger is adequate by regional standards, standing at 35 percent in 2022, close to the average in other LIDCs and EMDEs. Moreover, Benedek et al. (2022) show that, in the past, increasing statutory rates and adjusting the level of exempt income provided a limited contribution to boosting revenues in low-income

[7] A revenue shortfall was detected for 2021 between the excise rates prescribed and the revenues collected. IMF staff estimated that fully applying the excise tax rates as prescribed in the CGI would have generated a revenue increase of 0.05 percent of GDP]

[8] The current excise rate on passage vehicles stands at 8 percent, but the majority of vehicles is exempt.

[9] The International Labour Organization (ILO) estimated that the share of informal employment in Niger in 2022 was 99.9 percent in the agricultural sector and 94.5 percent in the non-agriculture sector.

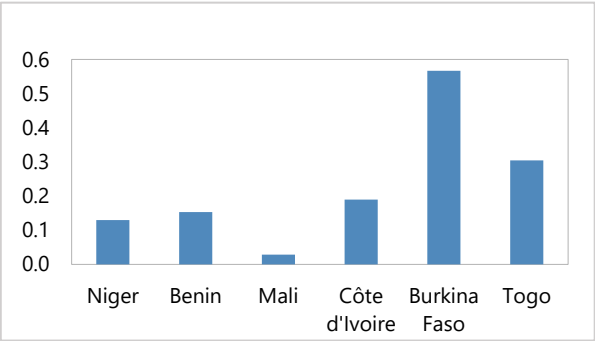
countries.[10] On the other hand, tackling informality and boosting revenue administration, could potentially play an important role in increasing PIT and CIT revenues. Rationalizing tax benefits and exemptions could be help boost CIT revenues.

19. Property tax revenue has been stagnant and minimal over the past decade. Property tax revenue is about 0.1 percent of GDP, lower than in peers like Burkina Faso or Togo (Figure 8). To improve revenue mobilization over the medium term, Niger could accelerate the property and land registration process by creating a cadaster and improving the estimation of property values. Once these administrative infrastructures are in place, property taxes could be an important element of equitable and efficient revenue mobilization. New property identification technologies – such as modern mapping technology and aerial photography by drones – and simplified valuation methods have become widely available and can contribute to improve property registry. With such reforms and technology, recurrent property tax revenues in developing countries could be at least 10 times higher than current levels (IMF 2024a).[11]

Taxing Natural Resources

20. Natural resources have been an important source of revenue in Niger. Natural resource revenue, including crude and refined oil as well as uranium, has fluctuated over the last decade, peaking at 4.3 percent of GDP in 2013. The relative contribution of uranium has declined significantly since 2012, while oil has become the main source of resource revenues (Figure 9). Total resource revenues are projected to continue increasing up to 5 percent of GDP in 2025 when oil production and exports peak.

Figure 8. Property Tax Revenue, 2019
(Percent of GDP)



Source: IMF WoLRD.

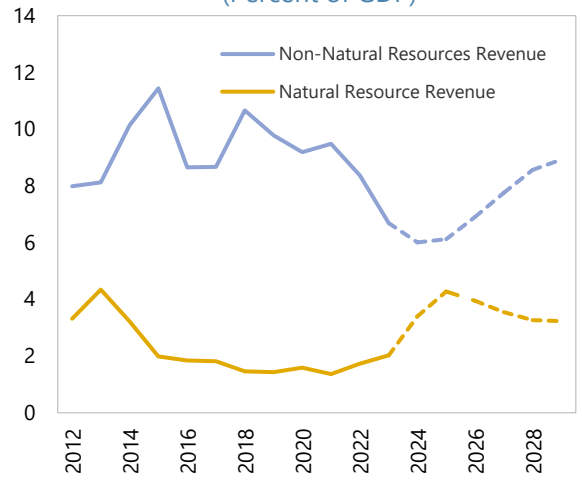
21. Optimizing resource taxation is key for Niger. Royalties have been the main source of uranium-related revenues. Royalty rates were automatically adjusted to the profitability of the mines, which makes them lose their feature as payment for access to a scarce resource and facilitates tax avoidance. Moreover, even though mining companies have been subject to corporate taxes, they were also eligible for tax benefits including exemptions on duties and customs taxes.[12] Technical assistance could help optimize mining taxation going forward.

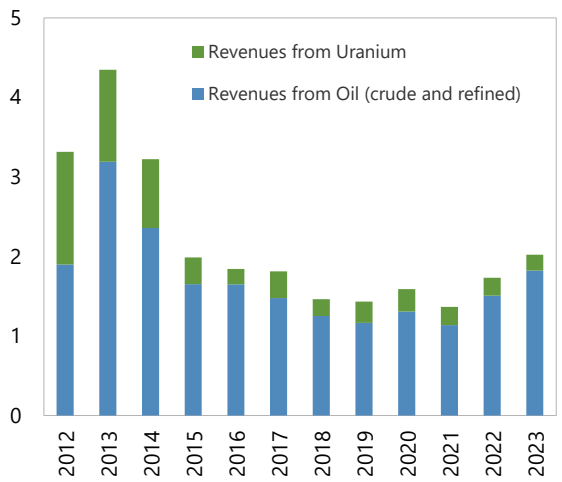
[10] See more details in here.

[11] More details on how to design and implement property tax reforms can be found on IMF (2024a).

[12] Some mining licenses have been recently revoked and there is large uncertainty about uranium production and exports in the near future.

Figure 9. Natural Resource and Non-Natural Resource Revenues





Source: Ministry of Finance and IMF staff calculations. Notes: Dashed line are projections by IMF staff.

Enhancing Revenue Administration

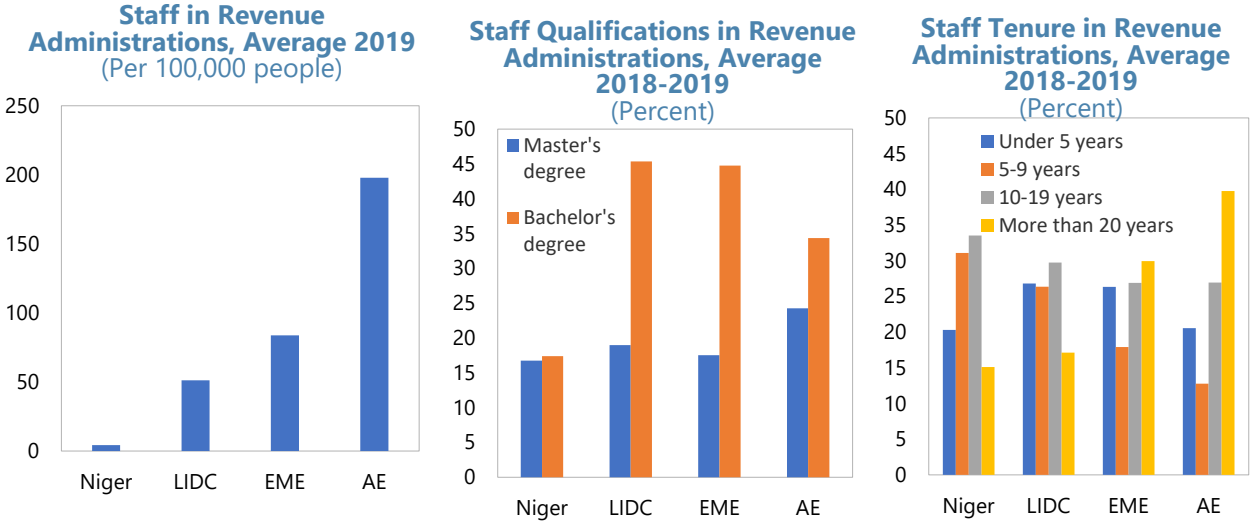
22. Niger's revenue administration remains relatively weak despite recent progress. The 2021 TADAT report shows that Niger performed poorly across all nine key areas analyzed—including accountability and transparency, efficient revenue management, timely tax filing, risk management— and that little has improved since 2017.[13] One exception is the progress on the integration of the IT systems of Directorate General of Taxes (DGI) and Directorate General of Customs (DGD), which can contribute to enhancing automation of processes and improve monitoring and compliance. The report also identified a few key areas that could contribute to the quality of the RA in Niger. First, improving the quality of taxpayer registry – including maintaining a clean, accurate, and complete database – is fundamental to effective tax administration. Second, Niger could promote tax compliance by proving taxpayers with the necessary information and support they need to meet their obligations, as well as by reducing taxpayers' compliance costs. Third, there is no structured, documented procedure for identifying, assessing, and mitigating institutional and operational risks, including risks of loss of confidential data.

23. Strengthening and modernizing the institutions responsible for tax collection and administration is vital for revenue mobilization. The overall strength of tax administrations is associated with an improvement in tax revenues, though results may take time to fully materialize.

[13] The report can be found here.

Research shows that an increase in the strength of tax administration from the 40th to the 60th percentile is associated with an average increase in tax revenue by 1.8 pp. of GDP (Adan et al., 2023).

Figure 10. Staff in Revenue Administrations

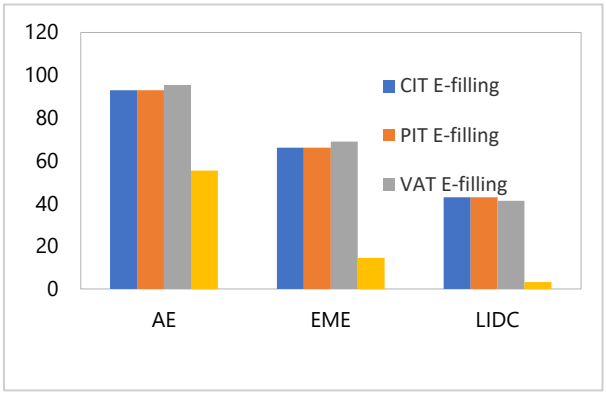


Source: ISORA and IMF staff calculations.

24. Ensuring sufficient funding to hire and retain adequate human capital for revenue administrations is also essential. While Advances Economies (AEs) tend to benefit from large revenue administrations with experienced and well-educated staff, LIDCs have on average smaller teams, with more junior workers (Figure 10). Niger lags other Low Income and Developing Economies (LIDCs in all these dimensions, and particularly on the size and qualifications of the tax administration unit.

25. Revenue administrations in Niger continue to have lower levels of digitalization and automation of core operations than peers. The most recent data available for Niger shows that electronic tax filing and pre-filling of taxes have not been initiated in the country. In other LIDCs for which data is available, about 40 percent of all CIT, PIT, and VAT tax returns are filled electronically (Figure 11). While significant progress has been made in countries with similar income levels (Benitez et al., 2023), Niger's level of automation of core operations remains limited. Digitalization could not only increase efficiency of processes in revenue administration, but also potentially enhance revenue

Figure 11. Tax E-Filling, Average 2018-21
(Percent)



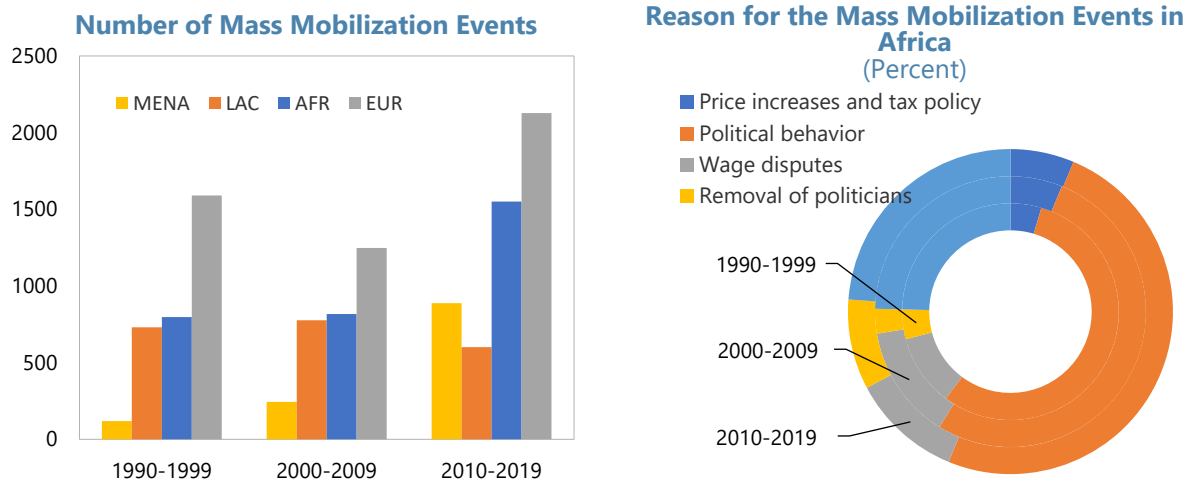
Source: ISORA; IMF staff calculations

mobilization. One notable advancement was the introduction of the VAT e-invoicing in 2021, an important step to automate and modernize core operations and contribute to VAT collection.

D. Political Economy of Taxation

26. Fear of social unrest could block structural reforms and weaken revenue mobilization efforts. Resistance against tax hikes has recently taken place in a few African countries, such as Kenya, Ghana, and Senegal.[14] As important as tax mobilization is in Niger and other countries in the region, progress may depend not only on technical aspects of reforms, but also on political commitment and social consensus.

Figure 12. Mass Mobilization Events



Source: Clark and Regan (2016) and IMF calculations. Notes: MENA includes countries in the Middle East and North Africa; LAC in south and Central America; AFR in Africa, excluding North Africa; and EUR in Europe.

27. Mass mobilization events have become more frequent in Africa, primally driven by objections to political behavior. Data on mass mobilization events does not show clear evidence that revenue mobilization is a key driver of social unrest (Figure 12), even though this might be somewhat captured in the political behavior category. Moreover, IMF (2024b) also mentions that the key drivers of social unrest in sub-Sharan Africa include structural factors like poverty, low inclusion, corruption perceptions, weak governance, and security risks, though macroeconomic conditions and previous unrest events also increase the likelihood of unrest events.[15]

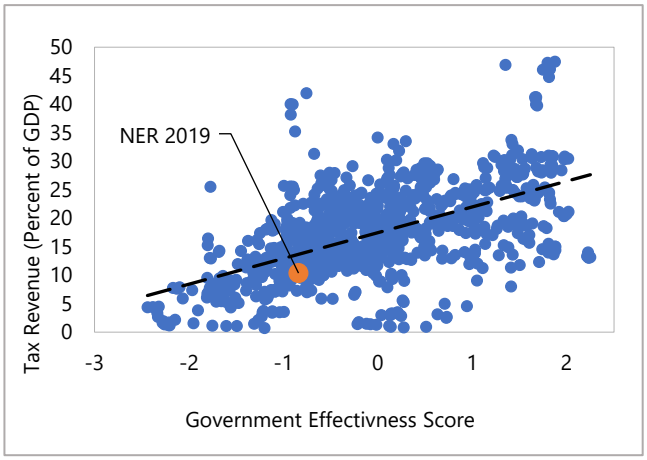
[14] Recently, in Kenya, tax changes under the 2024 Finance Act led to demonstrations in the country. The Finance Act was amended to remove some of the tax hikes initially proposed by the government. Resistance to reforms has also emerged in Ghana, with trade unions pushing back on electricity VAT proposals, and in Senegal, with pressures against fuel subsidy reform.

[15] Barrett et al. (2023) do not find evidence that overall economic and social factors have a significant role in explaining social unrest, besides prices and access to digital and social media. See details here.

28. Improving social acceptability will require a well-thought communication strategy and mitigating measures. Engaging in an open dialogue on the need for revenue mobilization, consulting with key stakeholders, and correcting misinformation about policies can significantly boost reform support (IMF 2024c). Protecting the most vulnerable households will be key to contain poverty and improving governance will show commitment and reassurance on the use of taxpayers' money.

29. Improving transparency and accountability of institutions are essential to gain support for revenue mobilization (Figure 13). Fiscal governance has been poor in Niger with lack of transparency and accountability in revenue administration; weak fiscal transparency and limited access to budget documents; poor oversight of public agencies; limited transparency in public procurement contracts; and pervasive corruption.[16] To enhance confidence and trust, tax administrations should be openly accountable for their actions. Reverting the dissolution of the *Cour des Comptes,* as well as continuing the timely publication of budget execution reports would help improve transparency in the use of fiscal revenues and raise support for further revenue mobilization.

Figure 13. Tax Revenue and Government Effectiveness, 2015-19



Sources: WoRLD and WDI.

E. Conclusions

30. There is strong potential to boost tax revenue in Niger, but further efforts are needed. Tackling tax expenditures and improving tax administration would contribute significantly to closing the existing tax revenue gap in the country.

31. Successful episodes of improved revenue mobilization share some common characteristics. There are successful episodes in countries at various income levels, and initial levels of tax revenue. These successful experiences share some commonalities (IMF 2022b): (i) implementing a broad range of tax policy and revenue administrative reforms; (ii) embarking on a comprehensive and multiyear reform strategy, including focusing on the quality of institutions, on broadening the taxbase, and modernizing tax administrations; (iii) demonstrating strong and sustained political commitment; and (iv) building consensus for reform.

[16] See SIP#3 'Enhancing Governance in Niger: Progress, Challenges, and Policy Priorities" for more details.

References

Adan, H., Atsebi, J.-M. B., Gueorguiev, N., Honda, J., & Nose, M. 2023. "Quantifying the revenue yields from tax administration reforms". Working Paper No. 2023/231. International Monetary Fund, Washington, DC.

Barrett, P., Appendino, M., Nguyen, K., & de Leon Miranda, J. 2023. "Measuring social unrest using media reports". Working Paper No. 2020/129. International Monetary Fund, Washington, DC.

Benedek, D., Benitez, J. C., & Vellutini, C. 2022. "Progress of the personal income tax in emerging and developing countries". IMF Working Paper No. 2022/020. International Monetary Fund, Washington, DC.

Benitez, J. C., Mansour, M., Pecho, M., & Vellutini, C. 2023. "Building tax capacity in developing countries". Staff Discussion Notes No. 2023/006. International Monetary Fund.

Clark, D., & Regan, P. 2016. "Mass mobilization protest data". Harvard Dataverse.

Gaspar, V., Jaramillo, L., & Wingender, P. 2016. "Tax capacity and growth: Is there a tipping point?" IMF Working Papers 2016/234. International Monetary Fund, Washington, DC.

Greene, W. H. (2008). "Fixed and Random Effects in Stochastic Frontier Models" *Journal of Productivity Analysis* 30(3), 239-250.

International Monetary Fund (IMF). 2022a. "Tax potential and options for domestic revenue mobilization". IMF Country Reports, 22/246. International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2022b. "Republic of Madagascar: Selected issues". IMF Country Report No. 20/61. International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2024. "How to design and implement property tax reforms". How-To Note No 2024/006. International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2024b. "Reform amid great expectations". International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2024c. "Understanding the social acceptability of structural reforms". International Monetary Fund, Washington, DC.

ESTIMATING POTENTIAL OUTPUT IN NIGER[1]

Economic growth in Niger is essentially driven by the agriculture and services sectors, with favorable prospects for the industry sector due to the start of oil exports in 2024. Potential growth is estimated at around 6 percent with a structurally significant contribution of labor and peaks of growth associated with higher investment in physical capital. However, growth is constrained by weak productivity, limited structural transformation, and inadequate economic diversification. Key factors that could boost economic growth in Niger include investment in human capital, the development of the extractive sector and agro-industrial value chains and the diffusion of digital technologies. However, downside risks to real and potential growth stems mainly from regional insecurity and adverse climate shocks, highlighting the need for effective climate, disaster and security risks management.

A. Motivation and Background

1. Potential growth is a critical determinant of a wide range of macroeconomic and development outcomes. Potential output and output gap estimates are frequently used to calibrate macroeconomic policies. Indeed, sound macroeconomic policies on growth cannot be taken without being grounded in a firm understanding of potential growth (Celik et al., 2023). The importance of estimating potential output lies in its ability to provide policymakers with a benchmark for evaluating economic performance and identifying areas of underutilization. Estimating potential output in Niger helps policymakers identify both conjunctural and structural factors limiting growth, calibrate macroeconomic policies, and design reforms aimed at enhancing resilience and long-term development.

2. Estimating potential output in developing countries is quite challenging. Estimates of potential output and the output gap are both generally difficult to produce as they are non-observable (Alichi et al., 2018). In developing countries such as Niger, estimating potential output and the output gap is further complicated due to challenges stemming from data limitations and frequent shocks.

3. This SIP accounts for data limitations and employs several methodologies including a number of univariate statistical filters and a production function model to estimate and analyze potential output in Niger. The paper is organized as follows. Section B analyzes historical sectoral growth trends and contributions to growth in Niger; Section C presents the potential output and output gap estimates; Section D elaborates on the downside risks to potential growth in Niger and Section E identifies policy recommendations and concludes.

[1] Prepared by Guy Morel Kossivi Amouzou Agbe (AFR). I am grateful to Antonio David, Annalisa Fedelino and Élisée Miningou for their valuable comments and suggestions. I am also thankful to Chris Stumphius and Joanna Delcambre for their editorial assistance.

B. Sectoral Growth Trends and Contributions to Growth

4. Economic activity in Niger is generally concentrated in a few primary agricultural products and relies excessively on extractive industries in particular uranium, oil, and gold. This poorly diversified economic structure exposes the country to volatile growth patterns and external shocks, including fluctuations in commodity prices and climate-related risks.

5. Sectoral growth trends in Niger reveal an economy heavily dependent on subsistence and rainfed agriculture, while increasingly shaped by services and extractive industries. Agriculture remains the backbone of Niger's economy, employing about 80 percent of the population and contributing approximately to 40 percent of GDP. Despite its pivotal role, the sector presents persistently low productivity levels. This is largely due to the dominance of subsistence farming practices, which are heavily reliant on rainfall, making agricultural output highly susceptible to climatic shocks such as droughts. Moreover, the sector is also confronted with significant infrastructure gaps and limited access to capital and inputs. Recently, efforts have been initiated to develop irrigation infrastructures and expand irrigated surfaces (from 18,000 hectares to 39,700 hectares by 2027) to improve productivity and strengthen the sector's resilience.

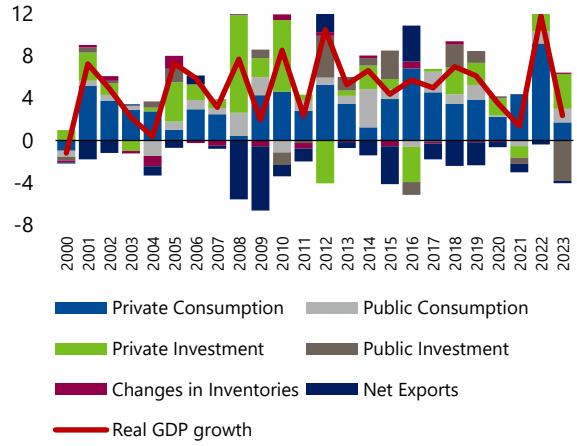
6. Services dominated by transport and informal trade have emerged as a significant contributor to Niger's GDP growth (Figure 1). Over the last two decades, the contribution of the services sector has been positive and amounted to about 1.9 percent on average. The sector, however, remains underdeveloped and constrained by inadequate infrastructure, limited financial intermediation, insufficient formalization, weak institutional frameworks and regulatory inefficiencies.

7. Growth in the resource sector has been historically volatile with a notable peak in 2012 following the operationalization of the Soraz oil refinery in 2011. Growth volatility in the resource sector stems from price shocks and fluctuating production levels. The resource boom in 2012 is largely linked to the operationalization of the Soraz oil refinery in 2011 with the production of refined oil. The extractive sector, particularly uranium and oil, has gained further prominence with the operationalization of the Niger-Benin pipeline in 2024. This is expected to boost considerably growth in the near and medium term.

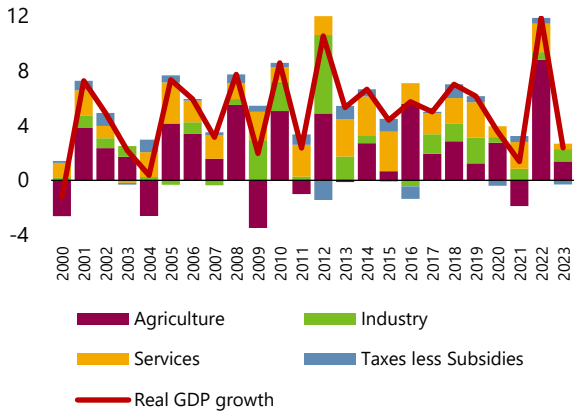
8. On the demand side, economic growth in Niger has historically been driven by private consumption and private investment. Public consumption and investment, while smaller in comparison, also contribute meaningfully to Niger's economic development. However, their impact on long-term growth is constrained by inefficiencies, including low revenue mobilization (see SIP #1), governance challenges (see SIP #2) and financial constraints.

Figure 1. Contributions to Real GDP Growth in Niger

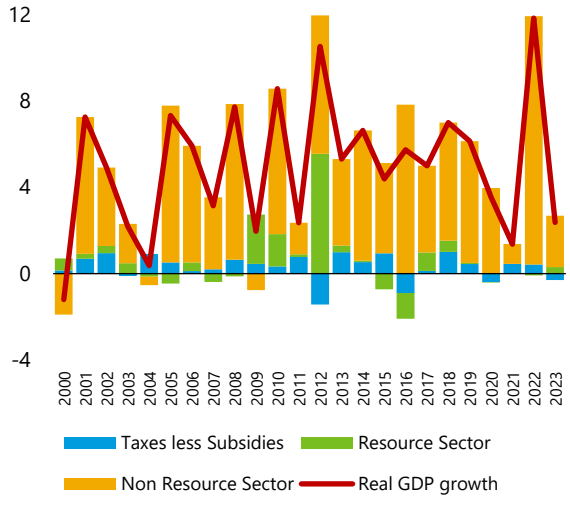
Growth Decomposition, Demand Side
(Percent change, YoY)



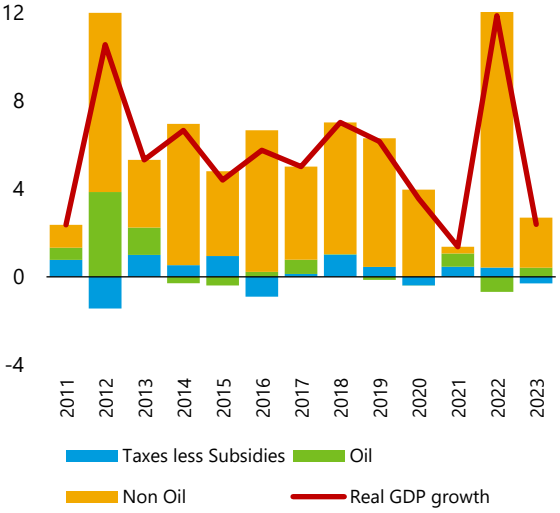
Growth Decomposition, by Branch of Activity
(Percent change, YoY)



Growth Decomposition, Resource Sector Versus Non Resource Sector
(Percent change, YoY)



Growth Decomposition, Oil Versus Non Oil
(Percent change, YoY)



Source: Nigerien authorities, IMF Staff calculations.

C. Potential Output and Output Gap Estimations

9. Several methodologies exist in the literature to estimate potential output and can be grouped into four main categories. Each of these methodologies offers distinct advantages, depending on the context and data availability, but also comes with its own set of limitations (see IMF Country Report No. 16/143 and Celik et al., 2023 for an in-depth discussion).

- **Univariate Statistical filters are simple but lack economic structure.** Univariate Statistical filters, including the Hodrick-Prescott filter (*HP filter*) and "Band pass" filters such as the Baxter and King filter *(BK filter)*, Christiano and Fitzgerald filter *(CF filter)* and the Butterworth filter *(BW filter)* require only a single input -typically the GDP series-, making them relatively simple to implement. Potential output is computed as a smoothed sequence over the actual output data. However, these filters lack economic structure and are subject to the endpoint problem.[2]

- **The production function approach offers valuable insights into the drivers of growth but is sensitive to parameter misspecification.** This method adopts a supply-side perspective, typically using a Cobb-Douglas production function to decompose aggregate output into its key components: capital, labor, and total factor productivity (TFP). Potential output is derived when each input is at its potential. The production function approach is however sensitive to the calibration of parameters used as well as the methodology employed to estimate the potential level of each input entering the production function.

- **Multivariate filters enhance the estimation of potential output by incorporating economic structure but requires more macroeconomic data.** These filters extend univariate methods by integrating relationships like the Phillips Curve and Okun's Law, utilizing data on inflation and unemployment to provide a more comprehensive analysis. These filters can produce robust real-time estimates that are less sensitive to the endpoint problem when they are complemented with expectations of growth and inflation, but they remain sensitive to the model specification and parametrization.

- **Dynamic Stochastic General Equilibrium (DSGE) models offers an interesting avenue but are data and time demanding.** DSGE models are appealing due to their strong theoretical foundation and rigorous framework. However, their implementation can be challenging, requiring significant time and data. Estimates from DSGE are also subject to model's specific assumptions and parameterizations.

10. Due to data limitations, we employed a wide range of statistical filters, including the HP filter, BK filter, the CF filter and the BW filter and a production function model (PF) to estimate potential GDP in Niger. The estimations have been computed using annual data as there is no quarterly data series for Niger and covers the period 1990-2023. Details of each methodology

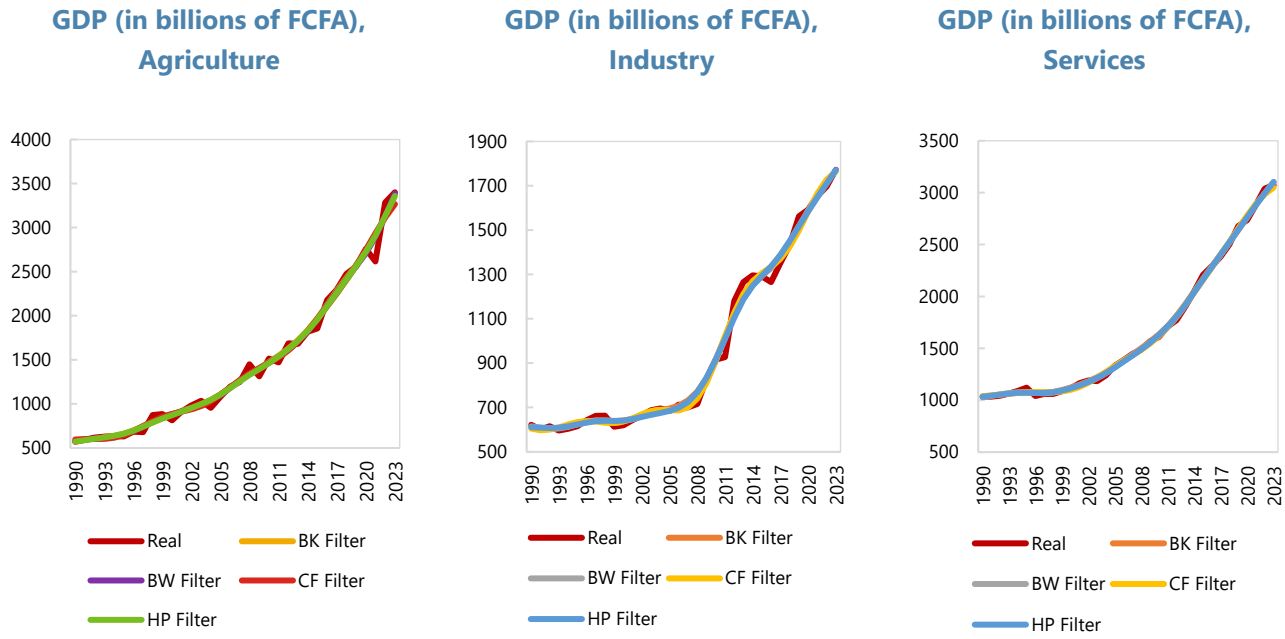
[2] The endpoint problem in statistical filters refers to the difficulty in accurately estimating potential GDP, at the beginning and end of a data series due to the absence of complementary data points beyond these endpoints.

are presented in Appendix A for the production function model and Appendix B for the statistical filters.

11. Sectoral estimates from the statistical filters show volatile growth patterns particularly in the agriculture and industry sectors (see Figure 2). All the different statistical filters employed yield similar results and show a steep rise in trend growth in both sectors in 2012. Growth patterns in the services sector appear less volatile compared to the agriculture and industry sectors. Fluctuations in the agriculture and industry sector generally arise from climate shocks and uncertainties in extractive activities.

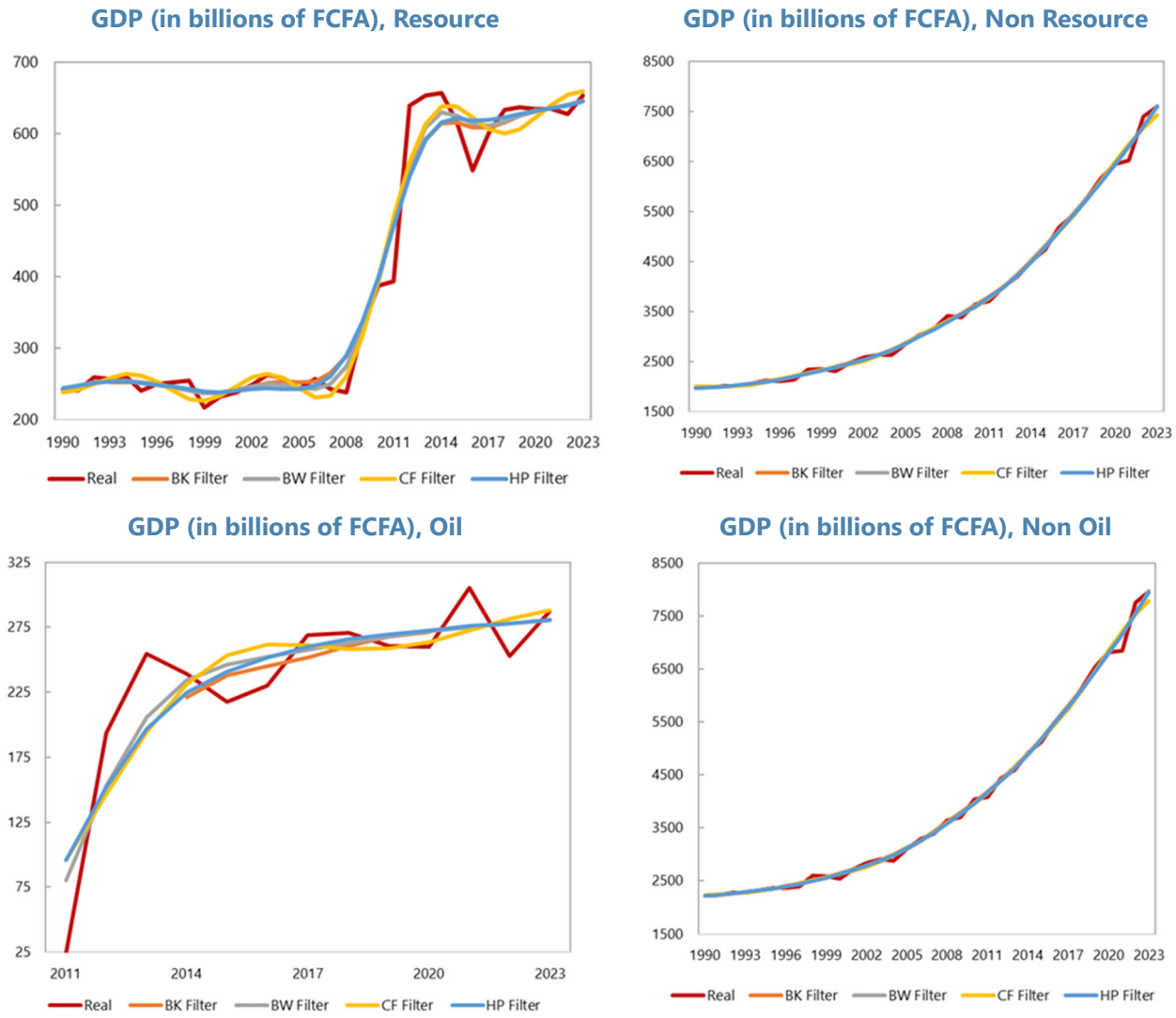
12. Growth in the resource sector experienced a significant boost with the launch of the Soraz refinery in 2011 but has since exhibited a deceleration in momentum. A strong rebound in the sector is expected in 2024 with the operationalization of the Niger-Benin oil pipeline and the start of crude oil exports. These swings in growth in the resource sector underscore the volatility and uncertainties of resource-driven growth patterns and the need for economic diversification.

Figure 2. Sectoral GDP Trends, by Branch of Activity



Source: Nigerien authorities, IMF Staff calculations.

Figures 3. Sectoral GDP Trends, Resource Versus Non-Resource Sector



Source: Nigerien authorities, IMF Staff calculations.

Potential Output and Output Gap

13. The output gap in Niger is estimated to have fluctuated between -4 percent and 4 percent between 1990 and 2023. The production function model and the statistical filters tend to yield similar results. Positive output gaps generally correlate with higher inflation where the country encounters capacity constraints leading to higher inflation.

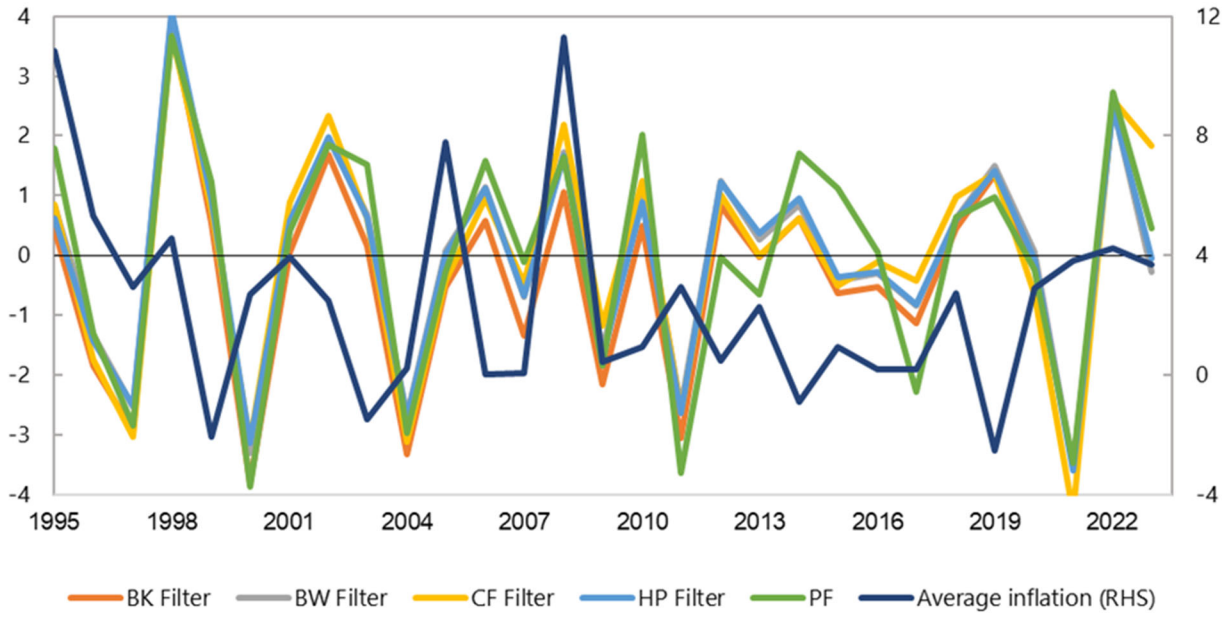
14. Niger has frequently operated below its potential, as evidenced by recurrent negative output gaps. Periods of significant underperformance align with external shocks, such as the global commodity price downturn in 2014–2016 and the COVID-19 pandemic, which disrupted trade and

reduced economic growth. Moreover, domestic shocks such as recurrent droughts and security challenges have also contributed to negative output gaps.

15. These recurrent negative output gaps also underscore the underutilization of Niger's labor force, particularly youth and women, and inefficiencies in capital allocation. Niger has a demographic growth rate of 3.8 percent per year and one of the highest fertility rates in the world (6.9 children per woman). While this rapid population growth poses challenges, it also presents an opportunity to harness a young and expanding workforce to drive economic growth. To capitalize on this potential, significant investments in education, healthcare, and infrastructure are crucial for addressing existing gaps and strengthening the country's capacity for sustainable development. Additionally, implementing structural reforms to improve governance and attract foreign direct investment (FDI) is essential to ensure efficient capital allocation.

16. Niger has also faced temporary positive output gaps which generally coincides with resource booms, favorable international commodity prices and positive climate shocks. Periodic growth spurts in uranium and oil production have occasionally contributed to positive output gaps. Additionally, favorable agricultural seasons, particularly those supported by favorable rainfall patterns, tend to contribute to positive output gaps, as rainfed agriculture remains a key determinant for real GDP growth in Niger.

Figure 4. Output Gap Estimates
(In percent)

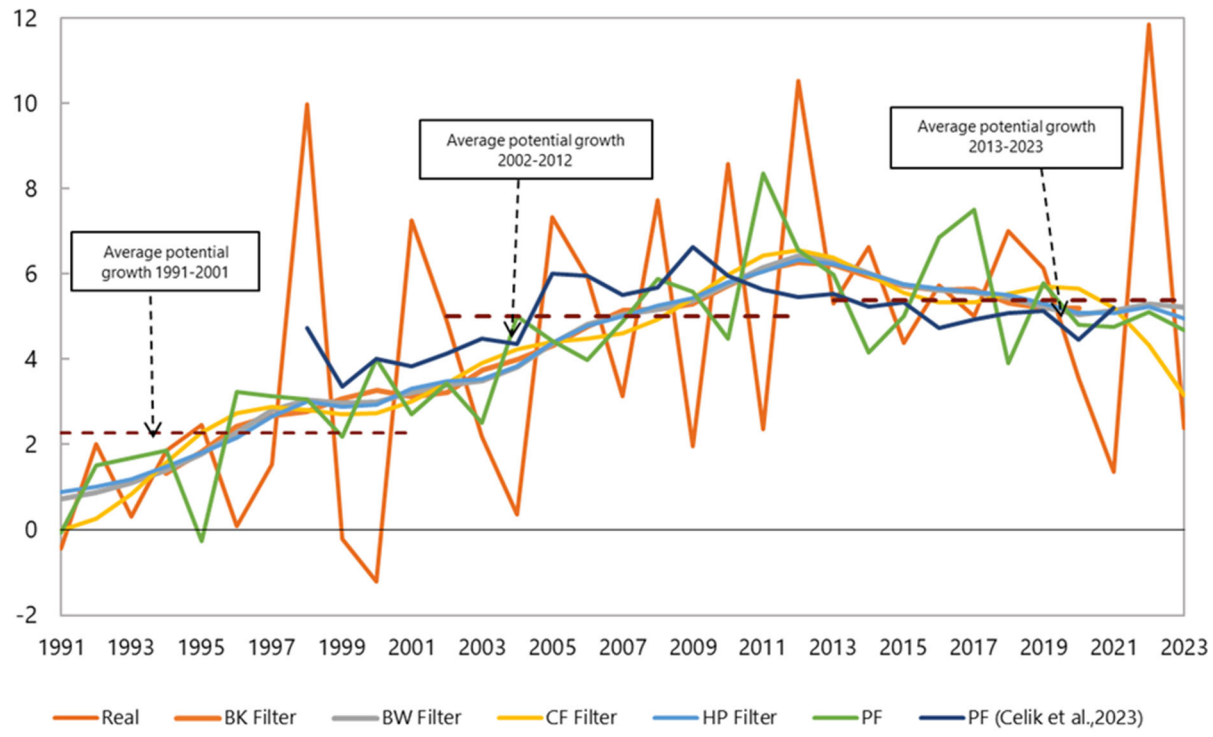


Source: PWT 10.01, Nigerien authorities, IMF Staff calculations.

Potential Growth Rates

17. Potential growth in Niger is estimated about 6 percent over the medium-term, exhibiting a steady but moderate expansion (Figure 5 and 6). Niger's average potential GDP growth rate is estimated to be 2.3 percent over the period 1991-2001, 5.0 percent over the period 2002-2012, and 5.4 percent over the period 2013-2023. These estimations generally align with those estimated by the World Bank when elaborating a global database of potential growth in 2023 (Celik et al., 2023, see data series PF (Celik et al., 2023)). The deceleration in the increase of potential growth from 2002-2012 to 2013-2023 reflects in general limited productivity improvements.

Figure 5. Potential Growth Rates
(In percent)



Source: PWT 10.01; Nigerien authorities; Celik et al., 2023; IMF Staff calculations.

Contributions to Potential Growth Based on the Production Function Model

18. While labor has a structurally significant contribution, growth peaks are associated with physical capital accumulation (Figure 6). The average contribution of physical capital to potential GDP over the period 2011-2022 is estimated 2.5 percent with considerable peaks of 6.5 percent and 4.6 percent respectively in 2011 and 2017. These peaks correspond to increased

investment in infrastructure and extraction technologies in the extractive sector which are highly capital-intensive.

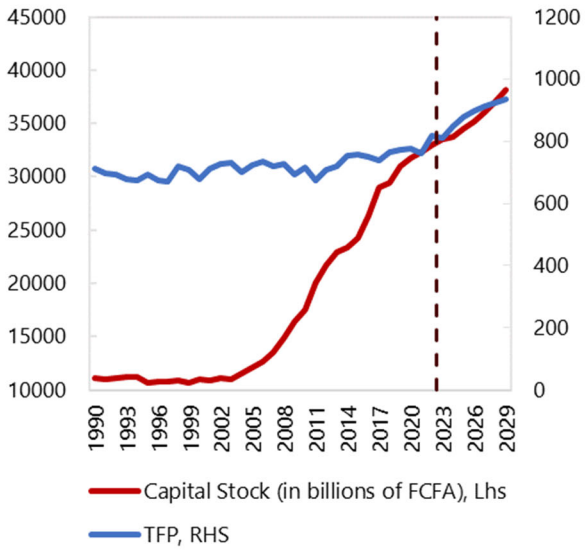
19. The physical capital stock, though pivotal for growth, is constrained by weak public investment efficiency and limited private sector participation. Niger faces challenges in optimizing public investments, often due to inefficiencies in the allocation and use of resources, as well as institutional weaknesses. Furthermore, private sector participation remains relatively low, with barriers such as inadequate infrastructure, limited access to financing, and a challenging business environment inhibiting investment. To accelerate capital accumulation and enhance potential growth, Niger must improve both public investment effectiveness and create a more conducive environment for private sector participation.

20. Investing in human capital would significantly raise potential growth in Niger. Low levels of human capital are major impediments to growth. Niger's labor force remains largely unskilled, and education outcomes lag behind regional peers. The human capital index in Niger is one of the lowest in the world with an average of 2 years of schooling for the population as a whole and stark regional and gender inequalities (IMF Country Report No 2023/029). Enhancing human capital through targeted education and vocational training programs is critical to addressing skill mismatches. A simple and mechanical simulation shows that an average annual 5 percent increase in the human capital index to close the gap relative to the WAEMU region by 2029, would result on average in a 2.3 percentage point gain in potential growth.

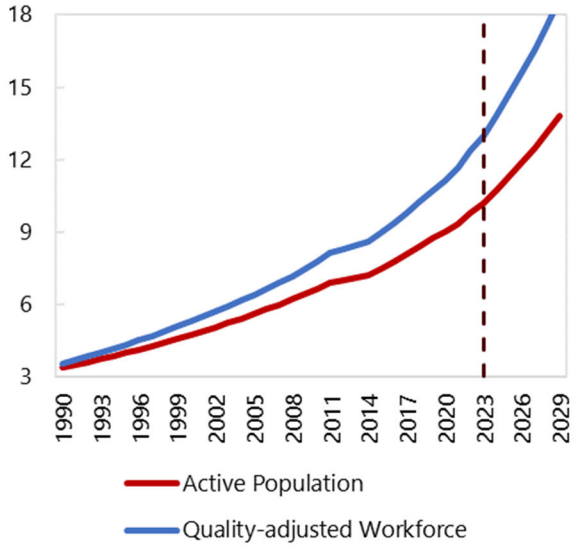
21. Total factor productivity growth reflects inefficiencies in resource use and the absence of significant technological adoption. TFP growth is estimated to contribute on average to 1 percent to potential growth over the period 2011-2023 reflecting low technology adoption. This weak total factor productivity growth is consistent with studies in low income and developing countries. Adegoke et al., (2023) have documented, for instance, that slow productivity growth has been widespread among LIDCs and SSA countries.

Figure 6. Contributions to Potential Growth

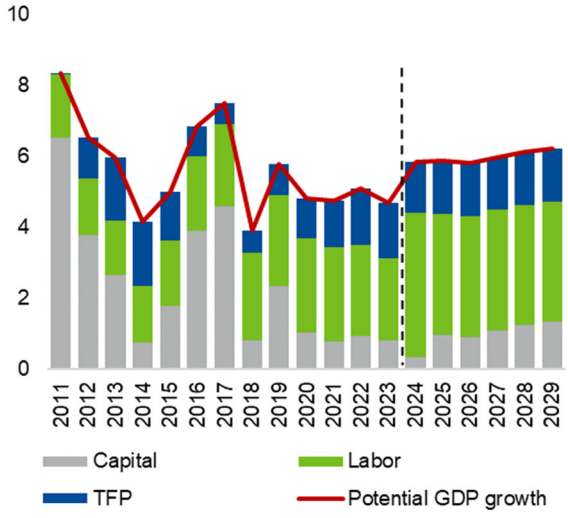
Capital Stock and TFP



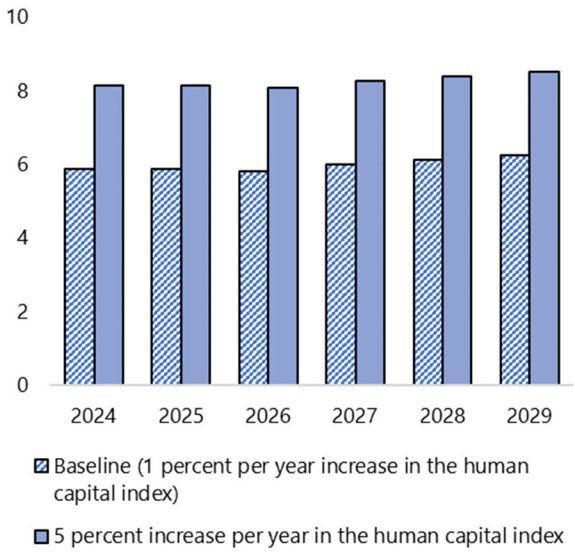
Labor Force in Millions



Potential Growth Decomposition, Factors of Production



Simulated Potential GDP Growth



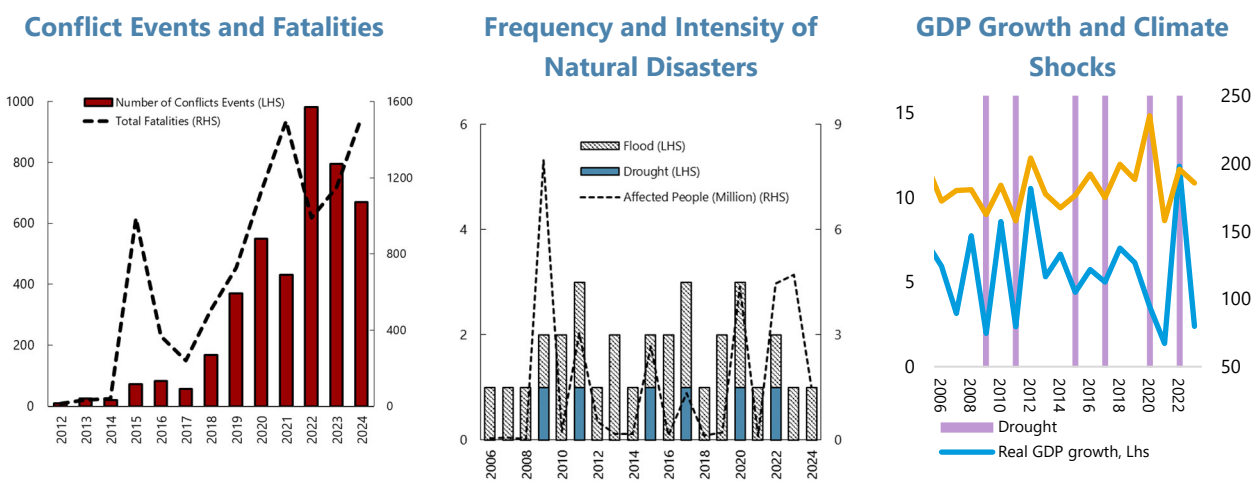
Source: PWT 10.01, Nigerien authorities, IMF Staff calculations.

D. Downside Risks to Growth

22. Niger's growth prospects are constrained by a range of downside risks, including climate shocks that threaten its economic stability and development trajectory. Natural disasters are frequent in Niger, with severe events—mainly droughts and floods— occurring approximately every two years. Between 2010 and 2023, disasters affected about 3 percent of the population annually and incurred a cumulated cost of at least US$271 million (1.4 percent of GDP), according to the Emergency Events Database (EM-DAT). In 2024, flooding combined with heavy rain affected more than 1.5 million people, claiming more than 300 lives, and damaging more than 158,000 houses. These climate shocks disproportionately impact agriculture, which is the backbone of the rural economy, leading to reduced yields, food insecurity, and heightened poverty levels. The heavy reliance on rain-fed farming exacerbates these challenges, making investments in climate-resilient agriculture and water management systems critical.

23. Geopolitical instability and security challenges in the Sahel region further exacerbate downside risks to Niger's growth. Niger faces security challenges from insurgent groups and cross-border conflicts, which disrupt trade routes, deter investment, and strain public finances due to rising defense and humanitarian assistance expenditures. This insecurity also undermines the government's capacity to implement structural reforms and build investor confidence, hampering sustainable growth. Over the past decade, the Sahel has experienced a surge in violent conflict and insecurity. Spillover effects from regional conflict and insecurity operate through a number of channels, including by dampening economic activity, often due to increased uncertainty, or trade disruptions.

Figure 7. Risk Factors to Growth in Niger



Source: EMDAT; ACLED; and IMF staff calculations. Data as of November 22, 2024

E. Policy Options and Conclusions

24. Addressing growth challenges in Niger requires a comprehensive reform agenda that tackles structural bottlenecks, promotes diversification, and builds resilience to shocks. Key drivers of economic growth include human capital development, the development of the extractive sector and agro-industrial value chains and diffusion of digital technologies. A consistent potential growth pathway will focus on several policies. These will include i) leveraging technology for private sector growth; ii) fostering financial inclusion and digital finance, iii) ensuring transparency and adequate governance of the resource sector; iv) strengthening climate resilience and disaster risk management and v) enhancing human capital development.

25. One critical pathway for growth is leveraging technology to foster private sector-led economic transformation. New technologies, such as agri-platforms and smart agriculture, offer opportunities to enhance agricultural productivity and link the sector to global value chains. However, transitioning from subsistence to commercial agriculture requires substantial investments in irrigation, logistics, and digital infrastructure. Targeting export markets where Niger has competitive advantages, such as horticultural products and livestock, can also drive economic diversification. Additionally, strengthening farmer organizations could help aggregate production, improve quality, and attract private investment.

26. Expanding digital finance and fostering financial inclusion is another promising strategy for accelerating growth and inclusion. Mobile financial services have the potential to provide rural and underserved populations with access to financial products. This ultimately helps to increase resilience and productivity. Despite the success of digital finance and its transformative potential in other West African countries, mobile money penetration and financial inclusion remains very low in Niger. Policies to digitalize government payments, improve financial literacy, and create a conducive regulatory environment are essential for scaling digital finance. These measures create opportunities for small and medium-sized enterprises to thrive and boost growth (see IMF Country Report No. 23/29).

27. Developing extractive industries responsibly is also essential. The extractive sector has significant potential to drive economic growth, but its development must be managed responsibly to ensure sustainability and inclusivity. Implementing transparent fiscal rules to manage oil revenues is crucial to avoid the "resource curse" and ensuring that windfalls are invested in human capital development and critical infrastructure.

28. Climate shocks and natural disasters remain significant risks to Niger's economic stability, making climate resilience and disaster risk management (DRM) a priority. Recurring droughts and floods cause substantial economic losses and exacerbate food insecurity. Strengthening climate resilience and DRM frameworks, including risk reduction investments, early warning systems, and disaster risk financing, is critical. Stepped up implementation of measures under the current IMF's Resilience and Sustainability Facility arrangement (RSF) will help build resilience to climate change.

29. Investing in human capital is essential for unlocking Niger's economic potential and addressing structural challenges. The education system requires significant improvement to enhance literacy rates, skill development, and labor productivity. Addressing gender disparities in education and employment is particularly important, as women face significant barriers to participation in the labor market. Initiatives to increase school attendance, delay early marriages, and expand vocational training for women could yield substantial economic benefits. Moreover, improving health services and reducing malnutrition would contribute to a healthier, more productive workforce capable of driving economic growth (see IMF Country Report No. 23/29).

References

Adegoke, Y. O., Mbonigaba, J., and George, G., 2023, "Health and total factor productivity nexus in selected sub-Saharan African countries: quadratic and threshold modelling", BMJ open, 13(5).

Alichi, A., R. Al-Mashat, H. Avetisyan, J. Benes, O. Bizimana, A. Butavyan, R. Ford, N. Ghazaryan, V. Grigoryan, M. Harutyunyan, A. Hovhannisyan, E. Hovhannisyan, H. Karapetyan, M. Kharaishvili, D. Laxton, A. Liqokeli, K. Matikyan, G. Minasyan, S. Mkhatrishvili, A. Nurbekyan, A. Orlov, B. Pashinyan, G. Petrosyan, Y. Rezepina, A. Shirkhanyan, T. Sopromadze, L. Torosyan, E. Vardanyan, H. Wang, and J. Yao, 2018, "Estimates of Potential Output and the Neutral Rate for the U.S. Economy." IMF Working Paper No. 18/152.

Alichi, A., O. Bizimana, D. Laxton, K. Tanyeri, H. Wang, J. Yao, and F. Zhang, 2017, "Multivariate Filter Estimation of Potential Output for the United States," IMF Working Paper No. 17/106.

Barro, Robert J. and Jong-Wha Lee, 2013, "A new data set of educational attainment in the world, 1950-2010" Journal of Development Economics 104: 184–198.

Benes, J., K. Clinton, R. Garcia-Saltos, M. Johnson, D. Laxton, P. Manchev, and T. Matheson, 2010, "Estimating Potential Output with a Multivariate Filter," IMF Working Paper No. 10/285.

Blagrave, P., R. Garcia-Saltos, D. Laxton, and F. Zhang, 2015, "A Simple Multivariate Filter for Estimating Potential Output," IMF Working Paper No. 15/79.

Clinton, K., Freedman, C. Juillard, M. Kamenik, O. Laxton, D. and Wang, H, 2015, "Inflation-Forecast Targeting: Applying the Principle of Transparency," IMF Working Paper No. 15/132.

Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer, 2015, "The Next Generation of the Penn World Table" American Economic Review, 105(10), 3150-3182. Available for download at: https://www.rug.nl/ggdc/docs/the_next_generation_of_the_penn_world_table2013.pdf

IMF, 2022, Selected Issues on Niger, IMF Country Report No. 23/29

IMF, 2016, "Potential growth and output in Albania", IMF country report no. 16/143

Kılıç Çelik, Sinem, M. Ayhan Kose, Franziska Ohnsorge, and Franz Ulrich Ruch., 2023, "Potential Growth: A Global Database."

Laxton, D. and R. Tetlow, 1992, "A Simple Multivariate Filter for the Measurement of Potential Output," Technical Report No. 59 (Ottawa: Bank of Canada).

Medina, L., 2010, "Potential Growth and Output Gap in Peru," Staff Report for the 2010 Article IV

Consultation, IMF Country Report No. 10/99, page. 57 (Washington: International Monetary Fund).

Psacharopoulos, George, 1994, "Returns to investment in education: A global update" World Development 22(9): 1325–1343.

Rasmane Ouedraogo and Diego Gomes, 2023, Macroeconomic Gains from Closing Gender Educational Gaps in Niger, IMF Country Report No 2023/029

Appendix I. Cobb-Douglas Production Function and Growth Accounting

1. The Cobb-Douglas production function is specified as follows:

$$Y_t = A_t K_t^{\alpha} (h_t L_t)^{1-\alpha} \text{ with } 0<\alpha<1$$

where Y_t refers to total output (GDP) at time *t*; A_t is the total factor productivity (TFP) at time *t* and is determined as the solow residual of total output, capital and labor; K_t is the capital stock at *t*; h_t is the index of human capital at time *t*; L_t is the labor input at time *t* and is assumed to be equal to the total active population as a proxy as detailed employement data on LICs are generally unvaliable; **α** is the elasticity of output with respect to capital assuming constant returns to scale.

2. The perpertual inventory equation for capital accumulation is as specified follows:

$$K_t = (1-\delta)K_{t-1} + I_t$$

where δ is the rate of depreciation of capital and I_t is the investment at time *t*. Using the Penn World Table version 10.01, δ and **1-α** are calibrated respectively to 0.05 and 0.545 as the avearge depreciation rate and labor share to GDP over the period 1990-2019. These values are also consistent with the existing litterature.

3. Total initial capital stock and dynamics in capital accumulation are derived using data from the Penn World Table version 10.01 as well as data on investments from the IMF's 2024 WEO October vintage and IMF's staff projections.

4. Potential output is derived by combining the actual stock of capital with average filtered series of different filters of TFP. Potential labor input is assumed to be equal to equal actual population active corrected by the human index capital from the Penn World Table version 10.01 database.

Appendix II. Overview of Univariate Statistical Filters

1. Univariate statistical filters decompose a series y_t into trend, cyclical, and noise components. The trend component is used as a proxy for potential output. Although they are all essentially weighted moving averages of the series y_t , they differ in their weights.

- The Hodrick-Prescott Filter minimizes the sum of squares of the deviations between the observed series (real GDP) and the trend (potential GDP), while penalizing variations in the trend.

- The Baxter-King Filter is a moving average of the data with symmetric weights on lags and leads. Therefore, it loses observations in the beginning and towards the end of the sample. It is particularly well-suited when the raw series follows a near-independent and identically distributed process.

- The Christiano and Fitzgerald (CF) filter is a one-sided moving average of the data with weights that minimize the distance between the approximated and the "ideal" filter. Since the filter is one-sided, it does not lose observations towards the end of the sample. It is most suitable for random-walk series.

- The Butterworth (BW) filter—widely used in electrical engineering for signal extraction—isolates only low-frequency fluctuations, not high-frequency ones. It is viewed in macroeconomics as an alternative to the traditional linear filters such as the Hodrick-Prescott filter.

ENHANCING GOVERNANCE IN NIGER: PROGRESS, CHALLENGES, AND POLICY PRIORITIES[1]

Niger is a low-income fragile and conflict-affected state with significant weaknesses in many core state functions. Governance shortfalls have been identified as a major roadblock to economic growth and development. The military takeover in 2023 has deeply changed the governance and anti-corruption framework in Niger. Downward trends in third-party governance indicators have been observed, and some new developments, including the suspension of the Constitution, the dissolution of the Supreme Audit Institution, as well as setbacks in the transparency of public procurement processes linked to defense spending, are concerning. At the same time, it is highly welcome that the new authorities are committed to enhance governance, which is one of the pillars in their new development strategy. This paper aims to take stock of recent developments regarding governance and anti-corruption frameworks in Niger, particularly focusing on anti-corruption, fiscal transparency, and rule of law, highlighting the importance of continuous efforts to enhance governance.

A. Background

1. Governance and corruption issues have implications for sustainable and inclusive growth. Governance weaknesses and corruption are macro-critical for most countries, significantly impacting macroeconomic performance in the short and medium term and affecting the government's ability to credibly pursue policies aimed at external viability and sustainable growth. Numerous studies indicate that good governance and anti-corruption measures can enhance economic performance through various channels (Newiak, M. M. 2022)

2. Fiscal Channel: Weak governance and corruption damage fiscal transparency and induce increased tax evasion (Alm, Martinez-Vazquez, and McClellan 2016). They also contribute to lower spending efficiency and worse performance of SOEs due to the distortion of economic incentives. All of the above may result in larger deficits and higher debt risk.

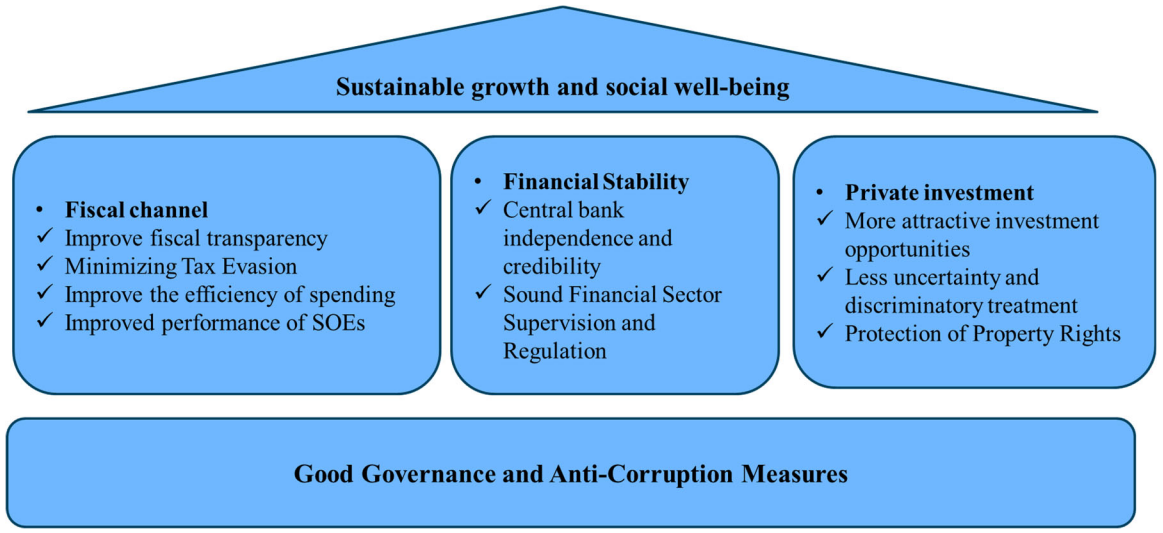
3. Financial Stability Channel: Central bank governance and financial sector surveillance are two core state functions. Central bank independence, transparency, and effective financial supervision and regulation can prevent risk accumulation in the financial sector, thereby improving financial stability (Blackburn and others 2008, Kane and Rice 2000).

4. Private Investment Channel: Better governance and anti-corruption measures, as well as robust rule of law typically lead to mitigating the economic impact of corruption, by reducing uncertainty and discriminatory treatment. Firm-level evidence in Niger suggests that reduced bribery can increase sales, employment, and productivity (IMF 2019). These factors are important for private

[1] Prepared By Yinhao Sun (SPR), Guy Morel Kossivi Amouzou Agbe (AFR), Élisée Wendlassida Miningou (AFR). Chris Stumphius (AFR) assisted with the formatting of the charts. We are grateful to Antonio David, Annalisa Fedelino, Ana Sofia Pessoa and Laurence Coste for useful comments and suggestions.

investors when making investment decisions. Additionally, better protection of property rights promotes private investment.

Figure 1. Channels of Governance and Anti-Corruption Impact on Economic Growth

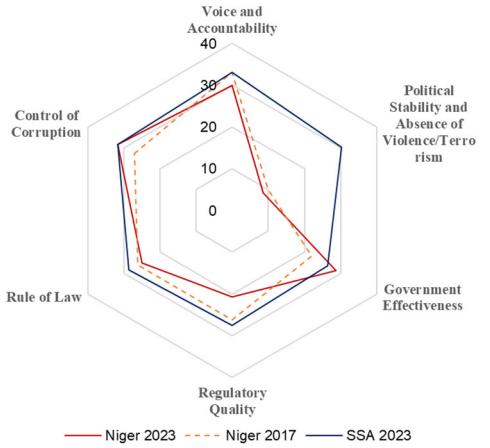


Note: Important channels identified in the literature; the illustrations are not exclusive.

5. Governance weaknesses and corruption are long-lasting problems in Niger, although some progress has been made in recent years. As a common issue for most sub-Saharan African countries, Niger also faces acute governance weaknesses and pervasive corruption (Figure 2). However, some progress to strengthen the governance and anti-corruption framework has been made in recent years. Niger has advanced in the areas of control of corruption and government effectiveness measured by the Worldwide Governance Indicators when comparing the 2023 vintage to the 2017 one but fallen short in the other four dimensions. Political stability and the absence of violence/terrorism of Niger largely underperformed the sub-Saharan African regional average, which is linked to the precarious security situation, particularly in the Liptako-Gourma region. A similar trend of governance changes has also been identified by the Ibrahim Index of African Governance (IIAG). Despite the weaknesses identified by various third-party assessments, survey results in 2021 suggest that Nigeriens themselves have a more positive perception of government effectiveness in handling crime, conflicts, and corruption compared to their peers (Figure 3).

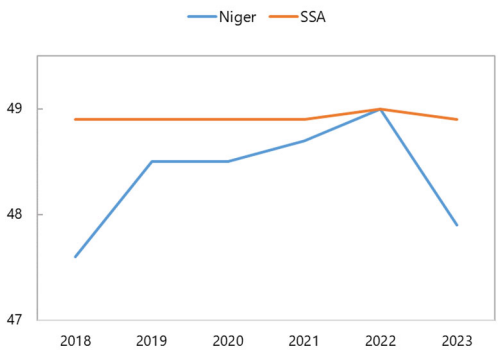
Figure 2. Index on General Governance Situation Changes

Worldwide Governance Indicators
(Percentile Rank)



Source: World Bank and IMF staff calculations.
Note: Percentile Rank (0-100) indicates rank of country among all countries in the world. 0 corresponds to lowest rank and 100 corresponds to highest rank.

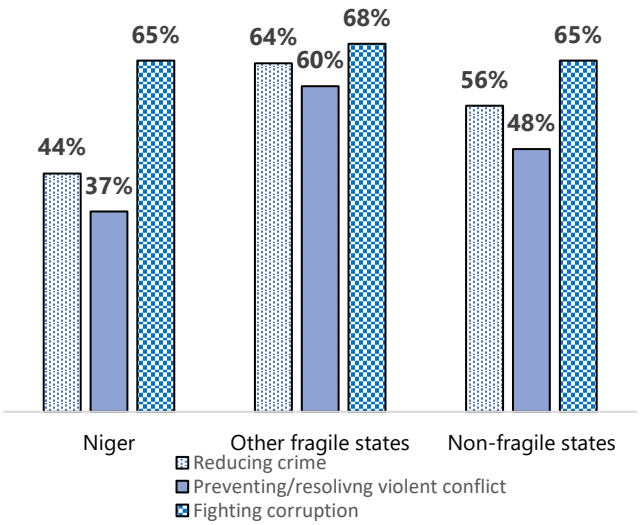
Overall Governance
(Ibrahim Index of African Governance)



Source: Mo Ibrahim Foundation and IMF staff calculations.
Note: Data are transformed to a standardized range of 0.0-100.0, where 100.0 is the best possible score.

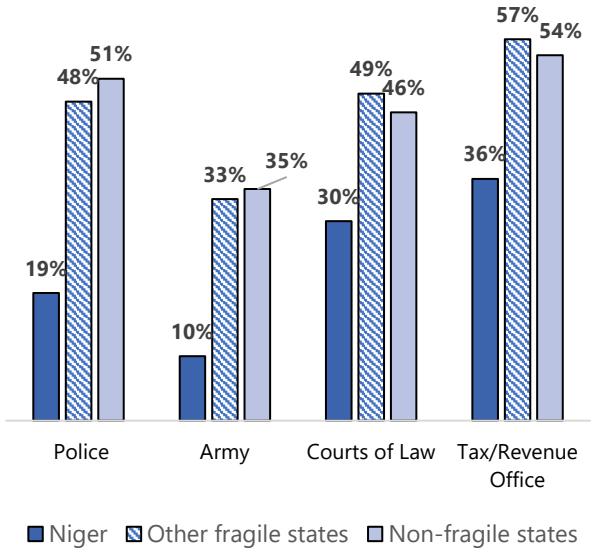
Figure 3. Survey Results of Government Effectiveness and Trust in the Authorities

Perception of Government Effectiveness in Handling Crime, Conflicts, and Corruption is Less Negative in Niger
(Proportion responding "Very badly/Fairly badly")



Source: Afrobarometer surveys, round 8, 2021. and IMF staff calculations.

Mistrust in Authorities is Lower in Niger
(Proportion responding "Just a little/Not at all")



Source: Afrobarometer surveys, round 8, 2021 and IMF staff calculations.

Note: Other fragile States include Burkina Faso, Mali, Ethiopia, Mozambique, Sudan and Zimbabwe. Non-fragile States include Angola, Benin, Botswana, Cape Verde, Cote d'Ivoire, Eswatini, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Malawi, Mauritius, Namibia, Senegal, Sierra Leone, South Africa, Tanzania, The Gambia, Togo, Uganda, Zambia, Morocco, Tunisia.

6. The military takeover has significantly affected governance frameworks. The constitution has been suspended following the military takeover, and Niger is now governed by the National Council for the Safeguard of the Homeland (CNSP) through ordinances, decrees, and orders. Political changes have led to significant uncertainty regarding governance frameworks. The Mo Ibrahim Africa Governance Index for 2024 report lists Niger among the 10 countries with the most deteriorated governance. The new authorities aim to adopt a new development strategy for the period 2024-2026, the Resilience Program for the Safeguarding of the Homeland (PRSP), with promoting good governance as one of its four pillars.[2] Against this backdrop, a detailed discussion of Niger's governance issues is presented in the following sections, focusing on the new developments and challenges after the military takeover.

B. Control of Corruption

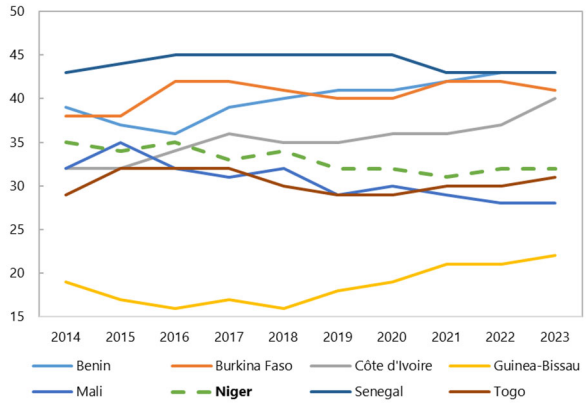
7. Niger is confronted with pervasive and entrenched corruption (Figure 4). The 2024 Transparency International-Corruption Perceptions Index (CPI) score indicates that corruption remains a significant issue with Niger's score stagnating at 32 after a decade-long downward trend. Enquête Harmonisée sur le Conditions de Vie des Ménages (EHCVM) survey results indicate that 65 percent of respondents completely agree that corruption is a problem in Niger, and corruption related behaviors are more prominent among tax officials, police, and judicial officials. In addition, the surveys indicate that corruption is perceived as pervasive across all government branches. Furthermore, Afrobarometer surveys indicate that in Niger, bribes to the police are motivated by a desire to avoid problems rather than seek assistance, a higher proportion than in peer countries.

8. Although the new regime is committed to enhancing anti-corruption efforts, the legislative foundation of such efforts remains unclear. The 2010 Constitution was the main legal foundation for anti-corruption measures, and the Criminal Code penalizes graft, trading in influence, and the misappropriation of public funds. Nonetheless, the constitution has been suspended following the military takeover in July 2023. While it is encouraging that the new regime has reaffirmed its commitment to combating corruption, a robust legislative foundation is essential for ensuring the credibility, stability, and accountability of the anti-corruption framework.

[2] Other pillars include: i) strengthening security and social cohesion; ii) developing production structures for economic sovereignty and iii) accelerating social reforms.

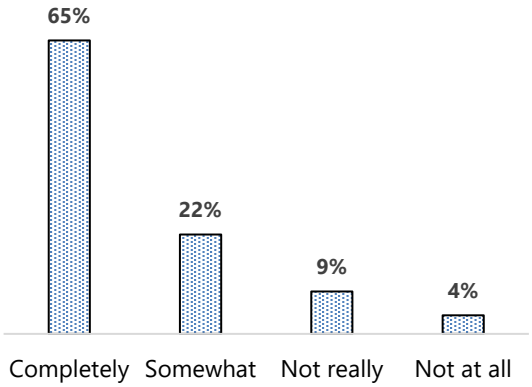
Figure 4. Perceptions of Public Sector Corruption

Corruption Perception Index of WAEMU Countries



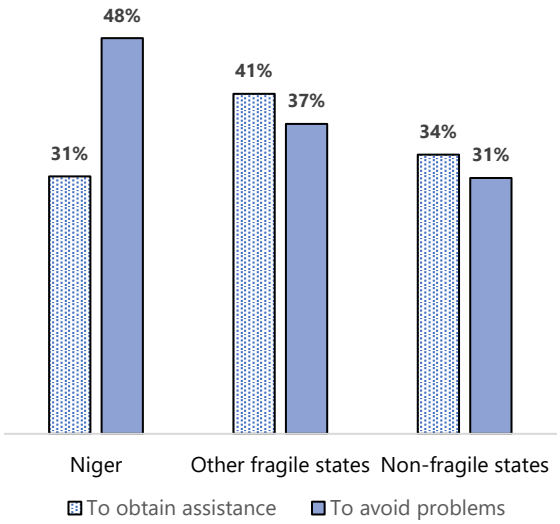
Source: Transparency International and IMF staff calculations.
Note: Scale 0-100, 100 indicating the lowest level of perceived corruption

Proportion of Respondents Indicating Corruption is a Problem in Niger



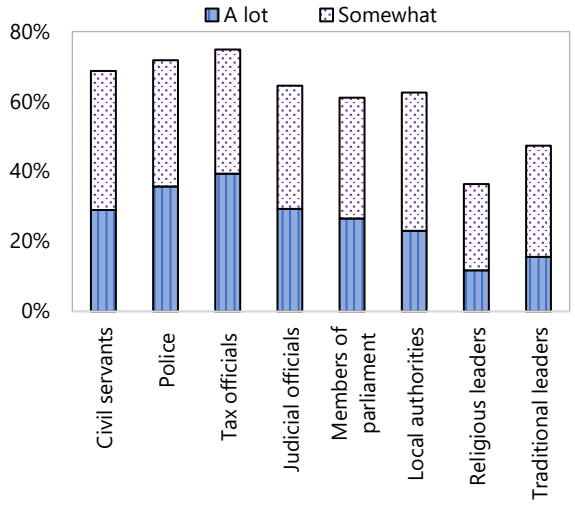
Source: EHCVM 2021 and IMF staff calculations.

Proportion of Respondents Indicating Paying Bribe to the Police at Least Once or Twice



Source: Afrobarometer surveys, round 8, 2021 and IMF staff calculations.

Proportion of Respondents Indicating Extent of Corruption in Niger



Source: EHCVM 2021 and IMF staff calculations.

Note: Definition of fragile States is the same with figure 3.

9. A new anti-corruption authority has been established; however, it has yet to demonstrate its effectiveness. Before the July 2023 military takeover, The High Authority for the Fight against Corruption and Related Offenses (HALCIA) was responsible for investigating corruption cases and bringing charges within all government agencies, though its efforts were limited by the lack of resources and an inadequate regulatory process (IMF Country Report 23/28). After the 2023 military takeover, HALCIA has been replaced by the Economic, Financial, and Tax Crime Fighting Commission (CoLDEFF), as the primary institution in the fight against corruption. Since its creation

and as of August 2024, CoLDEFF has reportedly recovered illicitly obtained funds amounting to CFAF 50.6 billion. However, there are a number of concerns around the effectiveness of CoLDEFF going forward. Firstly, the new institution seems to have a narrow focus on the recovery of stolen assets rather than a broader anti-corruption scope that would include prevention mechanisms as well. Secondly, CoLDEFF consists of judges, army and police officers as well as civil society representatives and the selection process of these members lacks transparency. The financial and administrative independence of the new anti-corruption agency also needs to be strengthened.

10. Niger remains part of the Extractive Industries Transparency Initiative (EITI) but has been placed under "enhanced scrutiny". Niger rejoined the EITI in February 2020, following the suspension of the country and withdrawal from the initiative in 2017. The most recent report, related to 2021, was published with a significant delay in June 2024. After the military takeover in July 2023, Niger was placed under enhanced scrutiny. Although the new authorities are committed to continuously follow EITI standards, including the disclosure of information on tax payments, licenses, contracts, and production regarding extractive industries, there is some uncertainty regarding the timing of the publication of future EITI country reports, not least because of a lack of financial resources. Delays in publication could eventually entail another suspension from the initiative.

C. Fiscal Governance

11. Progress has been made in fiscal transparency, but substantial weaknesses remain. Positive developments include the completion of audits related to COVID-19 spending and tax exemptions in the extractive industries, publishing the budget laws, execution reports, and citizen budgets annually on the Ministry of Finance's website, and making past documents available. These efforts have supported a steady improvement in Niger's Open Budget Index (OBI), although it remains significantly lower than in Benin, Senegal, and Côte d'Ivoire. Survey results show that Nigeriens have less reservations about the use of taxes to improve the well-being of citizens, comparing to other fragile states, while just a few (8 percent) respondents believe the budget information is sufficient (Figure 5). However, there have also been some setbacks since the military takeover, including the dissolution of the Supreme Audit Institution (*Cour des Comptes*), which has impeded the implementation of several measures to enhance governance, including the recommendations from audit reports on COVID-19 spending and extractive sectors, and the advancement of the asset declaration framework. The dissolution of arbitration and regulatory committees for public procurement and settlement of tax disputes[3] also represents a concern, as it has disrupted an effective dialogue and transparency in public procurement processes.

12. The transparency of procurement in national defense and security contracts is relatively low. In Niger, as in most countries, public procurement of equipment, supplies and services, when they concern national defense and security needs, are frequently not subject to standard public procurement rules. Audits of the security sector in 2020 found USD 20 million in unaccounted- procurement spending (40 percent of budgeted expenditures between 2017 and

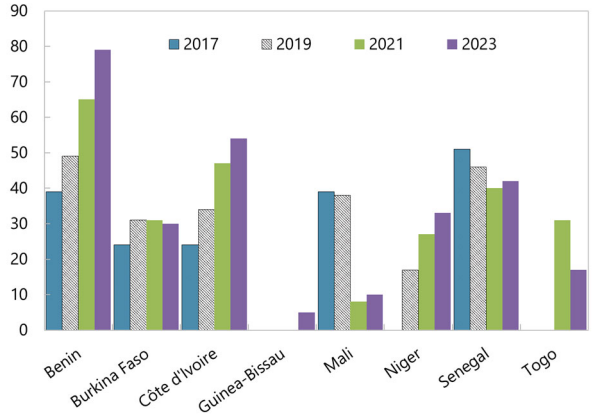
[3] The arbitration and regulatory committees for public procurement used to be a non-judicial body responsible for ruling on appeals relating to public procurement, by setting disputes in the award and execution.

2019). Under the new government, concerns have arisen that there may be increased levels of secrecy around defense planning and spending. Specifically, on February 26, 2024, a presidential decree was issued[4] to exclude contracts related to public defense and security from the scope of application of the legislation on public procurement and public accounting. The decree extends the scope of expenditures exempted from public procurement regulations to include expenditures to support the population displaced by conflicts, as well as to expenditure for the presidency and official residences (including ministerial residencies). Article 2 of the decree suggests that the type of contracts will be governed by special provisions. According to the authorities, the scope of this decree is strictly restricted to the national defense sector, applying only to spending for the acquisition of defense and security equipment.

13. The Solidarity Fund for the Safeguarding of the Homeland (FSSP), initially an extrabudgetary fund, has been integrated in the supplemental 2024 budget law as a special account. This fund, established to respond to security and social challenges, focuses on: (i) the financing of defense and security expenditures; (ii) support for citizens who have been forcibly displaced, by facilitating their relocation, local reintegration, and voluntary return; (iii) the financing of social mobilization in the context of citizen actions. The FSSP draws its resources from voluntary contributions and various levies (telephone operator levies, levies on the price structure of hydrocarbons, etc.). As of early October 2024, the FSSP has reportedly raised a total of CFAF 16.85 billion (around US$28 million).

Figure 5. Perceptions of Fiscal Governance

Open Budget Index



Source: Open Budget Survey of International Budget Partnership and IMF staff calculations.
Note: OBI is based on a rounded average score of survey results. 0-20 indicates scant or no information; 21-40 means minimal information; 41-60 is limited information; 61-80 and greater than 80 are substantial and extensive information respectively.

Budget Transparency

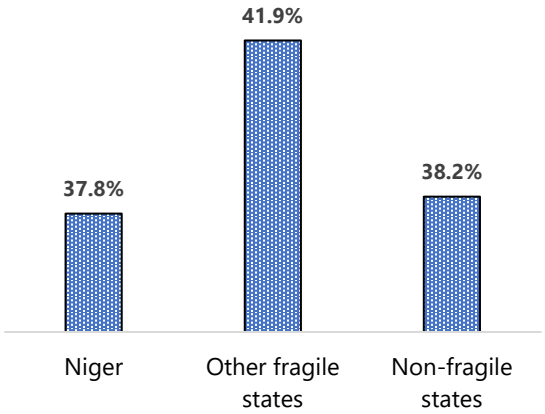
Document	2017	2019	2021	2023
Pre-Budget Statement	D	√	√	√
Executive's Budget Proposal	D	√	√	√
Enacted Budget	√	D	√	√
Citizens Budget	×	D	×	√
In-Year Reports	D	√	√	√
Mid-Year Review	D	×	D	×
Year-End Report	D	D	√	√
Audit Report	D	D	×	×

Source: Open Budget Survey of International Budget Partnership and IMF staff calculations.

[4] Ordonnance n°2024-05 du 23 février 2024.

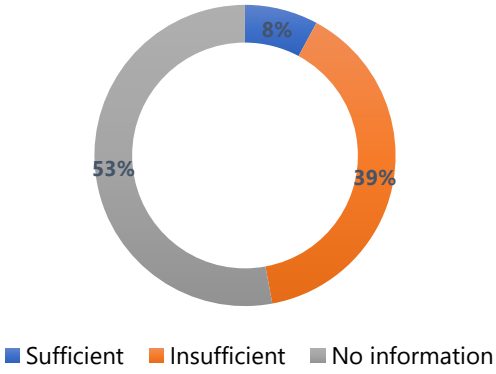
Figure 5. Perceptions of Fiscal Governance (concluded)

Use of Taxes to Improve Well-Being of Citizens.
(Proportion responding "Strongly disagree/disagree")



Source: Afrobarometer surveys, round 8, 2021 and IMF staff calculations.

Perception of Level of Information Dissemination on Policies and Budget by the Central Government in Niger
(Proportion of respondents)



Source: EHCVM 2021 and IMF staff calculations.

Note: Definition of fragile States is the same with figure 3.

D. Rule of law

14. While weak performance in rule of law is shared across Sub-Saharan Africa, the recent deterioration in Niger is concerning. The WJP Rule of Law Index shows that Niger consistently ranks lower than the median level for both Sub-Saharan African and WAEMU countries. Moreover, the deteriorating trend in this indicator is more pronounced in Niger relative to the rest of the region. Breakdowns of the WJP Rule of Law Index indicate that Niger performs slightly better in the dimensions of absence of corruption, regulatory enforcement, and civil justice relative to the Sub-Saharan African median, but the country lags others in limited government powers and open government.

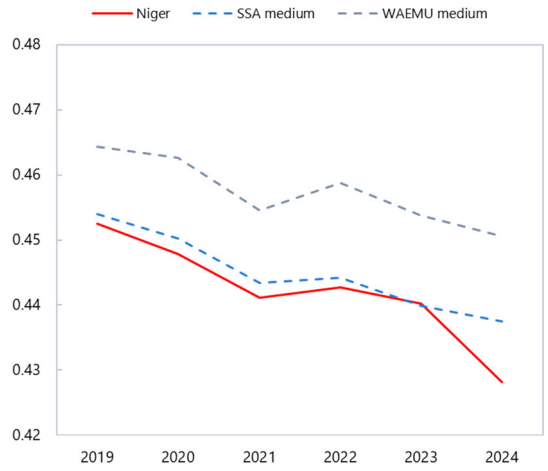
15. The decline in the rule of law calls for steady steps toward restoring constitutional order. The judicial system was subject to executive interference before the military takeover. After the regime change, the transitional state court is Niger's highest judiciary authority, but its independence is questioned by many observers, as illustrated in the 2024 Freedom House assessment[5].This has led to a significant drop in the WJP Rule of Law Index in 2024, exacerbating an already concerning trend. Regional talks led by Niger's Prime Minister were initiated in August, marking the beginning of an "inclusive national" dialogue aimed at determining the duration of the

[5] https://freedomhouse.org/country/niger/freedom-world/2024.

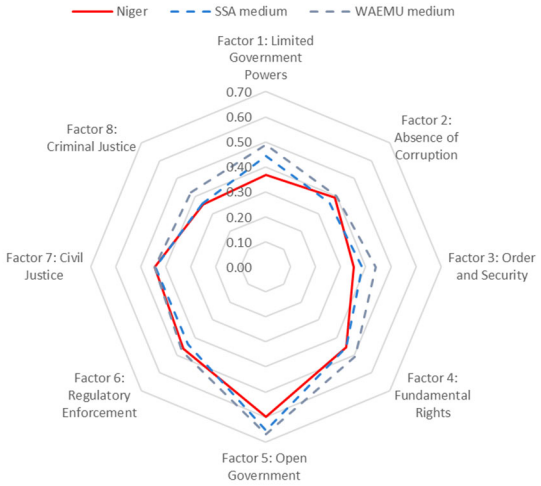
transition period, as well as addressing other key issues. Further steps toward restoring constitutional order would help to address the deterioration in rule of law indicators in Niger.

Figure 6. Indicators on Niger's Rule of Law

WJP Rule of Law Index 2019-24
(Scores range from 0 to 1, higher scores reflect better performance)



WJP Rule of Law Index Decomposition 2024
(Scores range from 0 to 1, higher scores reflect better performance)



Source: World Justice Project, IMF staff calculations.
Note: WAEMU medium doesn't consider Guinea-Bissau, due to data limitations.

E. AML/CFT

16. Niger currently does not appear on the FATF list of countries identified with strategic anti-money laundering (AML) deficiencies. The most recent Mutual Evaluation Report, conducted in 2021, assessing Niger's adherence to anti-money laundering and counter-terrorist financing standards, indicated that the country was compliant with 10 and largely compliant with 16 out of the 40 FATF recommendations. However, Niger was not rated as highly effective and substantially effective for any of the effectiveness and technical compliance ratings.

17. The authorities are strengthening the framework for combating money laundering and the financing of terrorism, but institutional weaknesses still exist. An ordinance has been issued to transpose the new WAEMU regional law on combating money laundering, the financing of terrorism, and the proliferation of weapons of mass destruction (AML/CFT/WMD) into the national legal framework and six draft decrees to further strengthen Niger's AML/CFT/WMD are awaiting signature for adoption. The implementation of the 2021 GIABA recommendations is still ongoing with 25 recommendations fully met, 25 recommendations partially met, and 8 recommendations not yet implemented. Niger remains subject to enhanced oversight from GIABA owing to deficiencies in the AML/CFT framework. Despite leaving ECOWAS, Niger has expressed interest to stay in the GIABA under the Article 3 of the regional institution's statutes. The National Financial Information

Processing Unit (CENTIF) which oversees the AML/CFT/WMD framework in Niger continues to face significant financial and capacity constraints.

F. Conclusions

18. Governance weaknesses and corruption remain major obstacles to Niger's economic growth and the improvement of social welfare. Following the military takeover in 2023, the country's governance and anti-corruption framework has faced significant changes. Despite the authorities' commitment to enhance governance as one of the pillars of their new development strategy (PRSP), preliminary assessments from various third-party organizations point to a recent deterioration in certain dimensions, including due to the suspension of the Constitution, the dissolution of the Supreme Audit Institution, as well as setbacks in the transparency of public procurement processes linked to defense spending.

19. The upcoming governance diagnostic assessment (GDA, IMF capacity development) could serve a basis to accelerate reform efforts in this area. The assessment requested by the authorities, will provide a more comprehensive evaluation of Niger's governance and anti-corruption frameworks and offer policy recommendations. Encouragingly, the Nigerien authorities have agreed to publish the GDA report once it is completed.

References

Alm, J., Martinez-Vazquez, J., & McClellan, C. (2016). Corruption and firm tax evasion. Journal of Economic Behavior & Organization, 124, 146-163.

Blackburn, Keith, K. Neanidis, and M. Emranul Haque. 2008. "Corruption, Seigniorage and Growth: Theory and Evidence." CESifo Working Paper Series 2354, Center for Economic Studies, Munich.

Dulani, B., Asiamah, G. B., & Zindikirani, P. (2023). Amid rising corruption, most Africans say they risk retaliation if they speak up. Afrobarometer Dispatch No. 743.

IMF (1997). The Role of the Fund in Governance Issues – Guidance Note, Washington DC.

IMF (2018). Review of 1997 Guidance Note on Governance – A Proposed Framework for Enhanced Fund Engagement, April 2018, IMF Policy Paper.

IMF (2019). Niger, Selected Issues – Navigating the challenges of governance in Niger, June 2019, IMF Country Report No 19/240.

Kane, Edward J., and Tara Rice. 2000. "Bank Runs and Banking Policies: Lessons for African Policymakers." NBER Working Paper 8003, National Bureau of Economic Research, Cambridge, Massachusetts.

Mo Ibrahim Foundation. (2024). 2024 Ibrahim Index of African Governance Index Report. Retrieved from https://mo.ibrahim.foundation/sites/default/files/2024-10/2024-index-report.pdf.

Newiak, M. M. (2022). Good governance in Sub-Saharan Africa: opportunities and lessons. International Monetary Fund.

Transparency International. (2024). Rapport sur la Gouvernance au Niger 2023-2024. Association Nigérienne de Lutte Contre la Corruption.

Venturi, B. (Ed.). (2019). Governance and security in the Sahel: Tackling mobility, demography and climate change. FEPS, Foundation for European Progressive Studies.