



NIGER

SELECTED ISSUES

March 2015

This Selected Issues Paper on Niger was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on December 3, 2014.

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International Monetary Fund
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NIGER

SELECTED ISSUES

December 3, 2014

Approved By
**The African
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EXTERNAL STABILITY ASSESSMENT¹

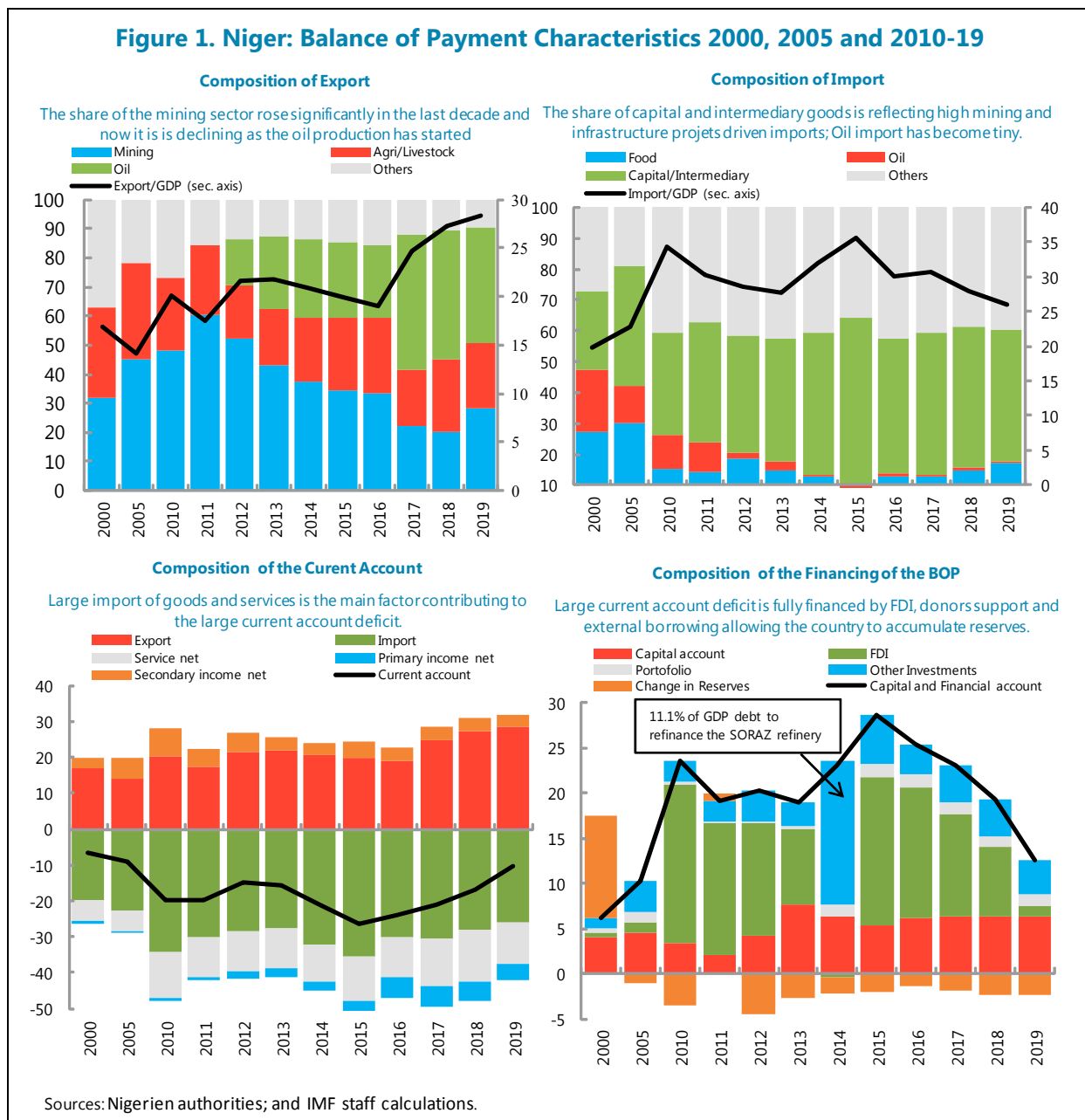
Niger's current account balance deteriorated in 2013, mostly on account of higher food and capital goods imports. The deficit is expected to widen further in 2014-15, mainly driven by large investment in the extractive industry and basic infrastructure. The current account is projected to gradually improve from 2016 as important projects in infrastructure will come to end, the oil and mining sectors come on stream and public and private savings increase. While aid and foreign direct investments are the main sources of external financing, external borrowing—mainly on concessional terms—has increased significantly. Model based-analyses do not suggest significant current account disequilibria or real effective exchange rate misalignments, but broader competitiveness indicators point to important issues.

A. External Sector Development

The current account deficit, without grants, deteriorated slightly in 2013. This deterioration mainly reflected the expansion of imports of goods and services connected to projects in the extractive industries and in basic infrastructure, which more than compensated the increase in oil exports. Also higher food imports and a deterioration in the country's terms of trade contributed to the widening of the deficit. The deterioration in the current account position is expected to continue in 2014-15, reflecting continued large investment in the oil and uranium sectors. The deficit is expected to ease gradually starting in 2016, when the project of exporting crude oil kicks off from 2017. However, the potential impact on the current account of expanded uranium production would be delayed as the government and AREVA agreed to defer the project to 2019-20 when it is expected to be again profitable with rising uranium prices. Over the medium term, with the implementation of major projects in the resources sectors and in infrastructure, capital and intermediary goods will comprise most of imported goods. These projects would also trigger FDI (Figure 1).

The services and the primary income balances are continuously negative in Niger. The services are dominated by freight and the primary income balance is largely impacted by interest payments and profit repatriation by foreign investors in the mining and banking sectors. Remittances flows are limited.

¹ This note was prepared by Daniela Marchettini and updated by Mamadou Barry.



The size and structure of external financing changed over the past few years. The contribution of grants declined¹ in favor of large foreign direct investments (FDIs), connected to important projects in the extractive industry and infrastructure, and large borrowing. In 2013 FDIs remained the main source of external financing (about 53 percent of the total), albeit declining with respect to 2012; this may be linked to deterioration in security conditions. The decline in FDIs was more than

¹ The IMF program supported by the ECF was able to change the downward trend of the donor support.

compensated by higher loans and grants (for project financing), which represented respectively 17 percent and 49 percent of total external financing. While declining with respect to 2012, the overall BOP balance remained positive. In the near-term external financing will continue to be driven by large projects in the extractive industries and in infrastructure. FDIs are expected to remain high² and external borrowing, mainly on concessional terms, to rise. The debt outlook could further deteriorate in case of additional participation in the financing of future projects in the extractive industry, including the financing of the new oil pipeline.

Foreign reserves remain adequate. As a member of the WAEMU, Niger may be able to sustain large current account deficits, as it has access to the pooled reserves of the Central Bank of West African States.³ The level of pooled reserves in the WAEMU system remains adequate according to different metrics, corresponding to 4.7 months of 2015 imports, 50 percent of broad money, and about 91 percent of short-term liabilities in the region.⁴

B. Model-Based Assessment

The assessment of real effective exchange rate (REER) does not suggest any significant misalignment. In 2013 the real effective exchange rate appreciated by about 3.6 percent, mostly related to the euro appreciation, reversing the significant depreciation recorded in the years 2008-2012 due to negative inflation differentials with trading partners. Over the period 1995-2013, the observed moderate cumulative appreciation may signal some erosion in external competitiveness (Figure 2).

Model-based assessments (Box 1) do not point to significant misalignments of Niger's real effective exchange rate. Using the three methodologies of the CGER to assess the real exchange rate shows conflicting results as the equilibrium real exchange rate method (REER) suggests an undervaluation while the macroeconomic balance (MB) and the external sustainability (ES) approaches suggest an overvaluation. However, the 90 percent confidence interval for the MB and REER approaches are very wide and contain negative and positive values, which reinforce the overall assessment of an absence of major misalignment for Niger.

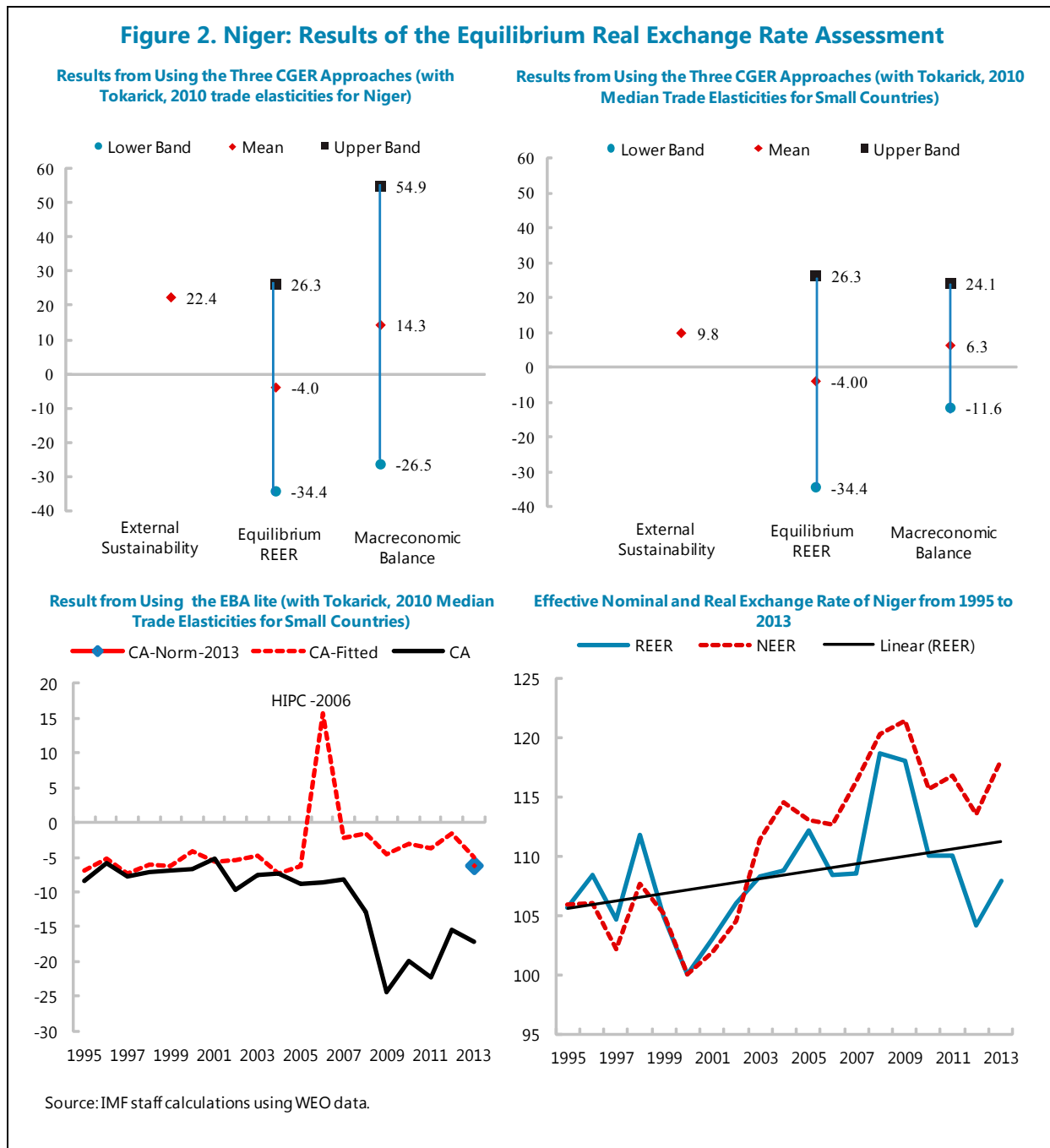
The EBA-lite methodology was consistent with the general assessment of the CGER methodology. The fact that the norm and the fitted value were very close in 2013 suggests that

² In 2014 the authorities expect to finalize a large financial operation connected to the refinancing on concessional terms of the loan to build the refinery SORAZ (US\$ 880 million or CFAF 435 billion). This loan will refinance an existing non-concessional loan, which was initially provided by the Chinese investment partner (CNPC) with 40 percent guarantee by the state. The operation, neutral on the overall balance of the financial account, is recorded in BOP as an outflow of FDIs and the contraction of a new loan. Netting out this operation FDIs are expected to increase in 2014 (Figure 1).

³ An additional safeguard is represented by the fact that the French Treasury guarantees the convertibility of the CFAF into Euros.

⁴ See 2014 WAEMU SR.

there was a little or no policy gap and that the large recent increase in the current account deficit is mostly driven by the large FDI-driven import, which is expected to return to trend after 2019.



Box. Model-Based Real Effective Exchange Rate Assessments

An exchange rate assessment based on the Consultative Group on Exchange Rate (CGER) methodology suggests that Niger is close to its equilibrium value as of end-2013.

- The macro-balance approach, that compares Niger's medium-term current account balance ("underlying current account")¹ to a current account norm, based on country's fundamentals, suggests an overvaluation of the real exchange rate of about 6.19 percent;
- The equilibrium real exchange rate estimated as a function of medium-term fundamentals points to a 4.1 percent undervaluation.
- The external sustainability method, which compares the underlying current account balance with the balance that stabilizes net foreign assets at its 2010 level (-44.3 percent of GDP)², indicates a misalignment of about 9.64 percent.

Overall Niger's exchange rate does not show significant misalignment from its equilibrium value. It must be stressed, however, that assessments are subject to large margins of uncertainty, due to limitations in data availability and to the fact that the country is undergoing important structural changes.

Text Table. Exchange Rate Assessment, 2013

Approach	CA Norm*	NFA*	NFA-Stabilizing CA*	Underlying CA*	GAP*	Elasticity**	Misalignment
Macroeconomic Balance***	-6.30			-10.20	-3.90	-0.63	6.19
Equilibrium Exchange Rate							-4.00
External Sustainability		-44.30	-4.13	-10.20	-6.07	-0.63	9.64
EBA-lite	-6.10			-10.20	-4.10	-0.63	6.51

*Values are expressed as % of GDP.

** The elasticity of 0.63 is the median of the trade balance elasticity of small and low income countries from Tokarick (2010).

The value is consistent with the elasticity used in the WAEMU exchange rate assessment.

***The CA account norm of -6.3 is the average for the model prediction for the period 2013-2019.

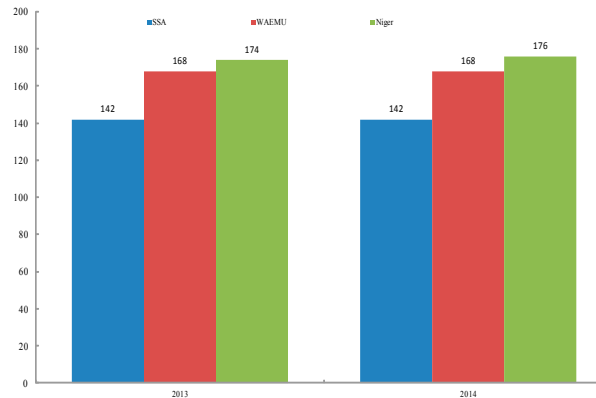
¹ As underlying current account we use the projected current account for 2019, when the stream from the new projects in the resources sector is expected to reach its steady state level and major investments for infrastructure should reach completion.

² The net foreign asset position is the average of the NFA projected by the external sustainability approach for 2013-2019. To derive the NFA stabilizing current account/GDP ratio, the medium term growth projection was set to 7.3 percent and inflation to 3 percent, the WAEMU norm.

C. Broader Competitiveness Indicators

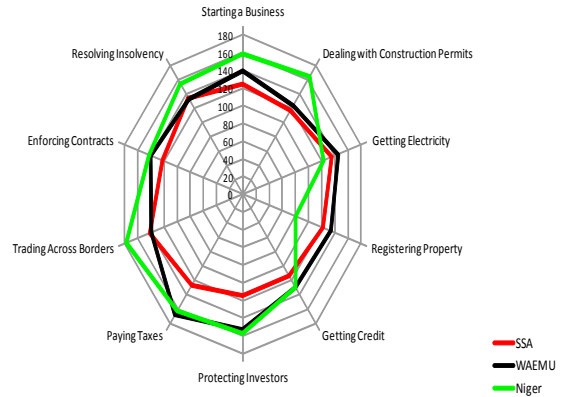
The quality of the business environment remains poor, well below SSA averages. The 2014 Doing Business report ranks Niger 176 out of 189 countries. In the WAEMU only Senegal and Guinea Bissau ranked below Niger (at positions 178 and 180 respectively); in addition, Niger moved 2 notches down compared to the 2013 ranking (Figure 3). Nigerien firms face more severe challenges than average WAEMU and SSA in (i) trading across borders, (ii) starting a new business, (iii) resolving insolvency, and (iv) dealing with construction permits (Figure 4). The 2009 WB-IFC Enterprise Survey reported that firms identified as main obstacles the presence of a large informal sector that poses competitive challenges to the formal sector, and the difficult access to finance (Figure 5).

Figure 3. Niger: Doing Business Ranking, 2014



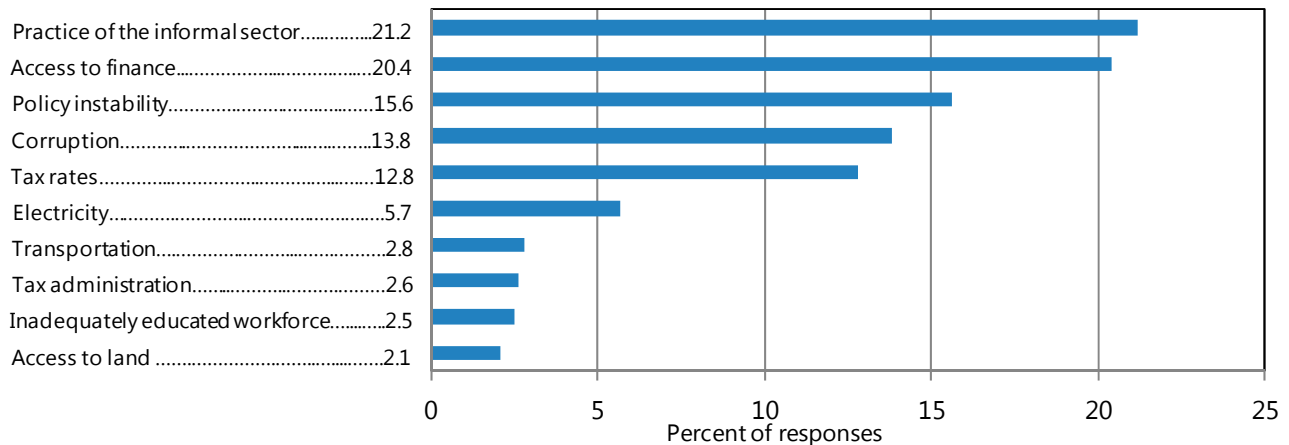
Source: WB-IFC-Doing Business report.

Figure 4. Niger: Now Niger Ranks on Doing Business Topics, 2014



Source: WB-IFC Doing Business Indicators, 2014.

Figure 5. Niger: The Main Obstacles for Doing Business



Source: World Bank and International Finance Corporation corporate survey data of 2009.

D. Conclusion

Assessment of the real effective exchange rate suggests that there is no indication of significant misalignment, but broader indicators show that structural competitiveness issues remain. Therefore, fast-tracking structural reforms aim to help improve the business climate. The rule of law, the financial sector deepening, political stability, and the informal sector regulation will improve productivity and enable Niger to overcome a number of its development challenges, including diversifying the economy, achieving broad and stable growth, and reducing poverty.

NATURAL RESOURCE BOOM FOR NIGER: FROM PUBLIC INVESTMENT TO SUSTAINABLE ECONOMIC GROWTH¹

Niger's medium to long term economic prospects are favorable, given its mineral resources endowment and the ongoing mining extraction, which will turn the country into a natural resource exporter. However, the projected boom in the natural resource revenues poses a policy need in terms of designing a sustainable public investment path for the country. This selected issue summarizes the analytical results from a DSGE model tailored to resource-abundant small-open developing countries, with the purpose of assessing debt sustainability and growth impacts from large public investment scaling-ups in the face of a natural resource revenue boom.

1. **Large foreign direct investment (FDI) from China and France in new oil and uranium mining projects are taking place in Niger, transforming the country into a natural resource exporter and accelerating the realization of the country's potential stemming from its natural resource endowment.** The new Azelik uranium mine, a relatively small uranium mine, began operating in 2011. An integrated oil project (including an oil field and a refinery) started in 2012. The new Imouraren uranium will begin production at around 2019-20 when prices reach a level that would make the mine profitable. Natural resource outcome contributes to 12.3 percent of total GDP in 2013, and is projected to double as a share of GDP in 2020, while total government revenue from natural resources is expected to increase by about 2 percent of GDP.
2. **The projected boom in the natural resource revenues poses the policy need in designing feasible and sustainable public investment paths for Niger, given the limited availability of financing options of this country.** Unlike developed economies, Niger does not have a variety of domestic financing options for its public investment and infrastructures projects. The relatively underdeveloped financial system in the country has been an obstacle to its sound and well-functioning domestic debt market. Moreover, the country has not yet established a well-functioned sovereign wealth fund to save against revenue volatility in ensuring intergenerational equity, and to address future financial needs from large investment scaling-ups.
3. **To assess different public investment paths and analyze the consequent debt sustainability issues, we adopt a DSGE model that combines resource revenue and financial market frictions in a natural-resource rich capital-scarce economy.** The model builds on frameworks developed in Araujo et al (2013), Buffie et al (2012), Berg et al. (2013), and Melina et al. (2013), in analyzing natural resource management for developing countries. The model captures the investment-growth nexus, as well as financial constraints, investment efficiencies and absorptive capacity constraints. It also accommodates various fiscal arrangements and borrowing options, and offers critical thinking and helps to inform the authorities about the tradeoffs involved in investing

¹ Prepared by Grace Bin Li (RES) and Hou Wang (RES/SPR).

resource revenues to boost growth while maintaining fiscal sustainability and macroeconomic stability.

4. **The model has most of the relevant developing country features, and is carefully tailored and calibrated to the Niger economy.** The model includes large share of poor households that do not have access to financial markets. Public investment, subject to inefficiencies and absorptive capacity constraints, produces public capital, which enters production functions in both the traded and non-traded sectors. The natural resource sector produces resource GDP and generates resource revenue for the government. The government has limited financing options, in particular, concessional debt, external commercial debt, and consumption VAT tax. Fiscal adjustments through tax rates and government non-capital expenditures may be constrained by ceilings and floors, where debt sustainability could become an issue. The model is calibrated using the historical data of Niger and parameters widely accepted in the literature.

5. **The simulation considers two different public investment plans.**

- In the **baseline public investment plan** (left charts in Figure 1), public investment awaits the natural resource revenue boom. Public investment as a percentage of GDP gradually increases until it reaches its peak of 19 percent of GDP in 2026 and stays at the peak for 5 years before it gradually goes back to the current level.
- As comparison, the **aggressive public investment plan** (right charts in Figure 1) assumes that the public investment scaling up plan is more front-loaded and resembles the pattern in the natural resource revenue. In this scenario, public investment as a percentage of GDP reaches the same peak in 6 years (one half of the time in the baseline case).

6. **The development of the oil and mining sector presents opportunities but also risks, especially as the production of the natural resources are frequently subject to shocks.** We consider two alternative scenarios of resource revenue inflows.

- Under the **baseline natural resource GDP scenario** (left charts in Figure 2), oil production is estimated to increase from its current level of 18,000 barrels per day to its peak at 80,000 barrels per day by 2019, and stays at the peak for 10 years. Uranium production is projected to gradually increase from its current level of 4639 metric tons per year and reach its peak at 10300 metric tons per year in 2019.
- The **adverse natural resource GDP scenario** (right charts in Figure 2) uses the same projections for future natural resource prices, but considers the situation where the productions of the natural resources are delayed and the quantities are much lower than anticipated. In this scenario, the quantity of oil production increases much more slowly and reaches the peak at 26,400 barrels per day in 2024. The uranium production only slightly increasing over the coming 8 years and reaches its peak at 4400 metric tons per year before it rapidly declines to the current level.

7. **Our analysis also considers the tradeoff of scaling up investment, financed through consumption tax, or alternatively, financed through commercial debt.** In Figures 1 and 2, the blue solid lines represent the tax-financed scenarios, and the red dashed lines represent the debt-financed scenarios. To finance lumpy public investment, policy considerations on scaling up investment should be given to smooth tax rate and to borrow through debt within the country's fiscal space. In evaluating the return to public investment projects, account should be taken of the increase in distortive taxes that will be needed to service the increment to public debt.
8. **The simulations suggest that the economy would benefit from the relatively more aggressive investment scaling-up.** Although the debt increase may be less pronounced with the benchmark investment plan in the short run, the aggressive investment plan would increase the public capital stock and raise output gradually, which offsets the increase in public debt in the short run so that the debt-to-GDP ratio declines in the long run. Also, no sovereign wealth fund has yet been well-established to smooth consumption, to save against revenue volatility in ensuring intergenerational equity and to address future financial needs from large investment scaling-ups. Our results show that an investment plan, whose pattern resembles the inflows of the natural resource revenues, would be also preferable considering the restrictions.
9. **Meanwhile, cautions must be made under both baseline and aggressive plans that downside risks from the uncertainty of the natural resources extraction could undermine the macroeconomic effects of the investment.** In the adverse scenario where the projections of the natural resource production are much lower, both the baseline and aggressive plans imply undesirably high levels of debt or painful tax adjustments in the long run. The reduction in private consumption and investment are also more severe than those in the baseline scenario.
10. **In sum, our results highlight the need of public investment scaling-up for additional infrastructure in Niger.** With clearly identified infrastructure needs, the public investment would be favorable for both the long-term growth and debt sustainability. However, when making the fiscal policy decisions, the authorities should also take into account the risks to the debt position due to the uncertainties of the commodity prices and the rate of extraction of the natural resources.

Figure 1. Niger: Baseline vs. Aggressive Public Investment Plans under the Baseline Natural Resource GDP Scenario

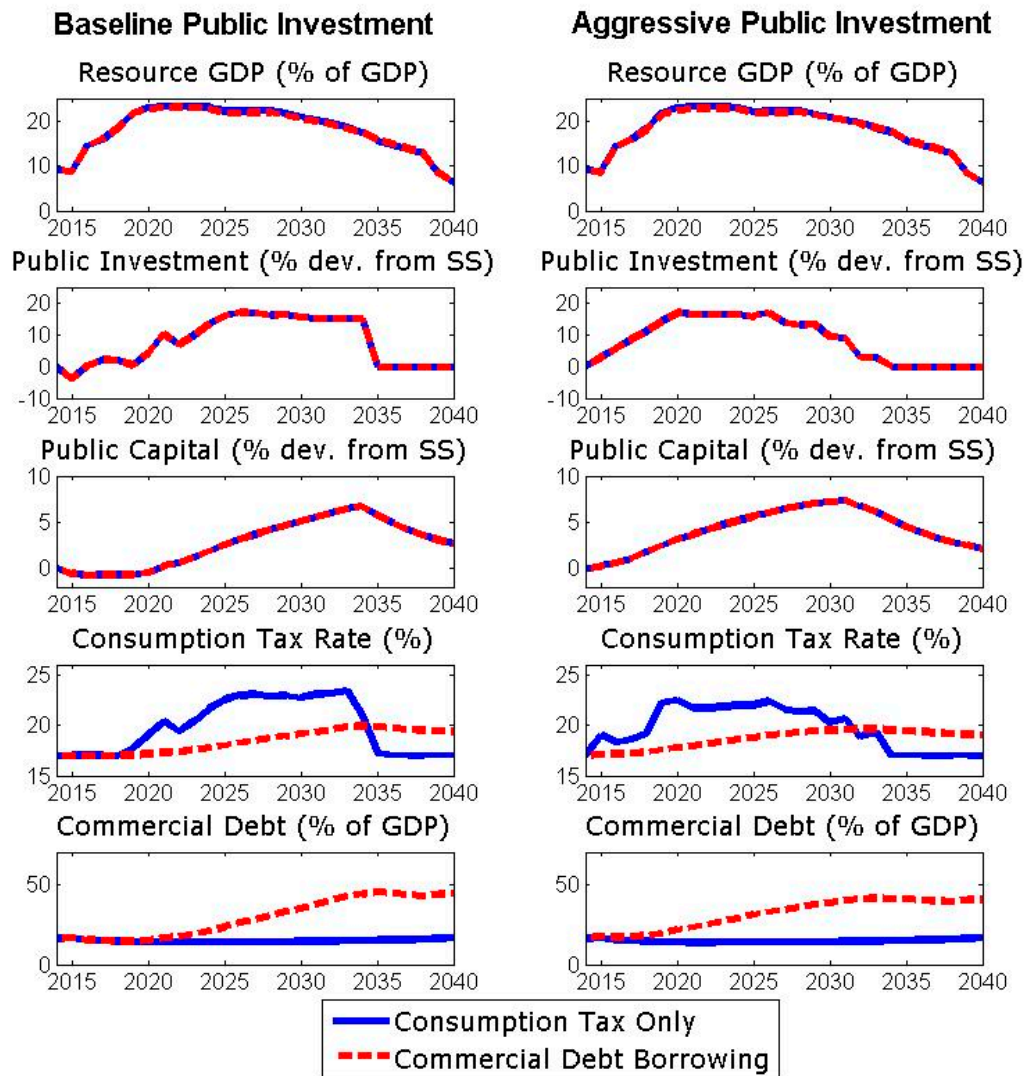


Figure 1. Niger: Baseline vs. Aggressive Public Investment Plans under the Baseline Natural Resource GDP Scenario (concluded)

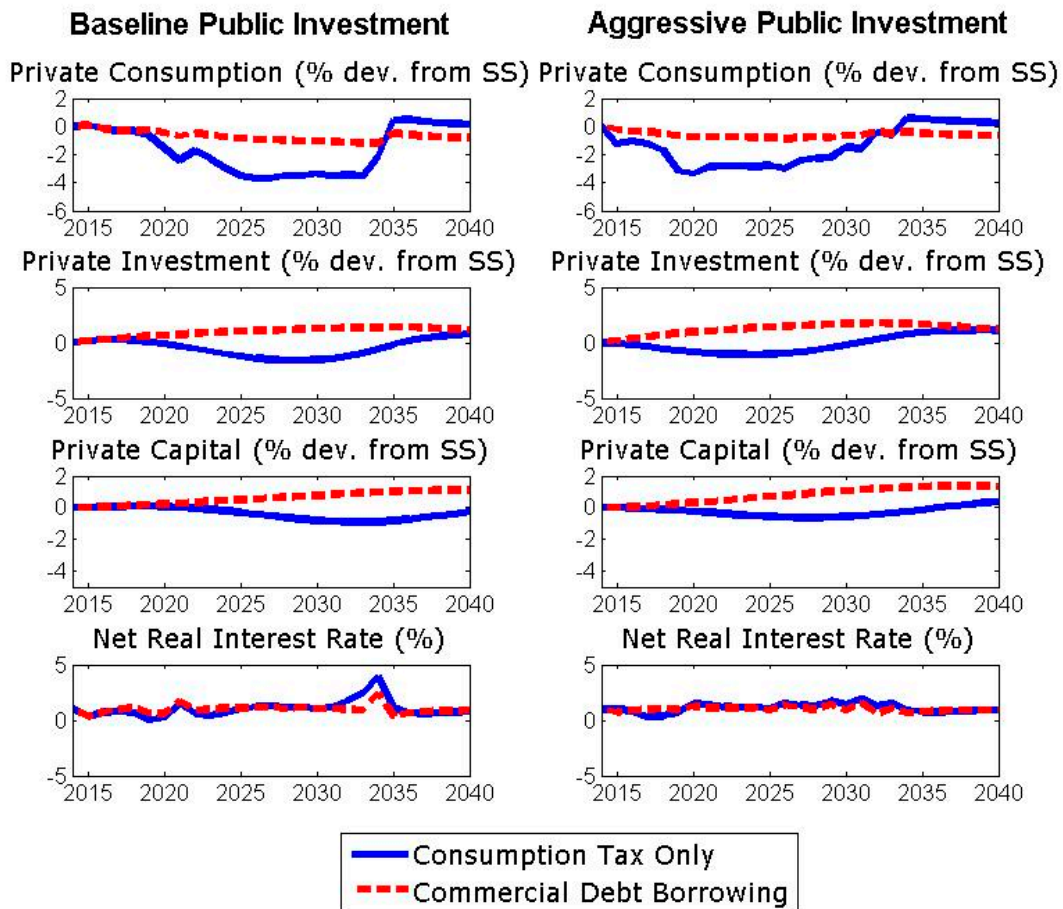


Figure 2. Niger: Baseline vs. Aggressive Public Investment Plans under the Adverse Natural Resource GDP Scenario

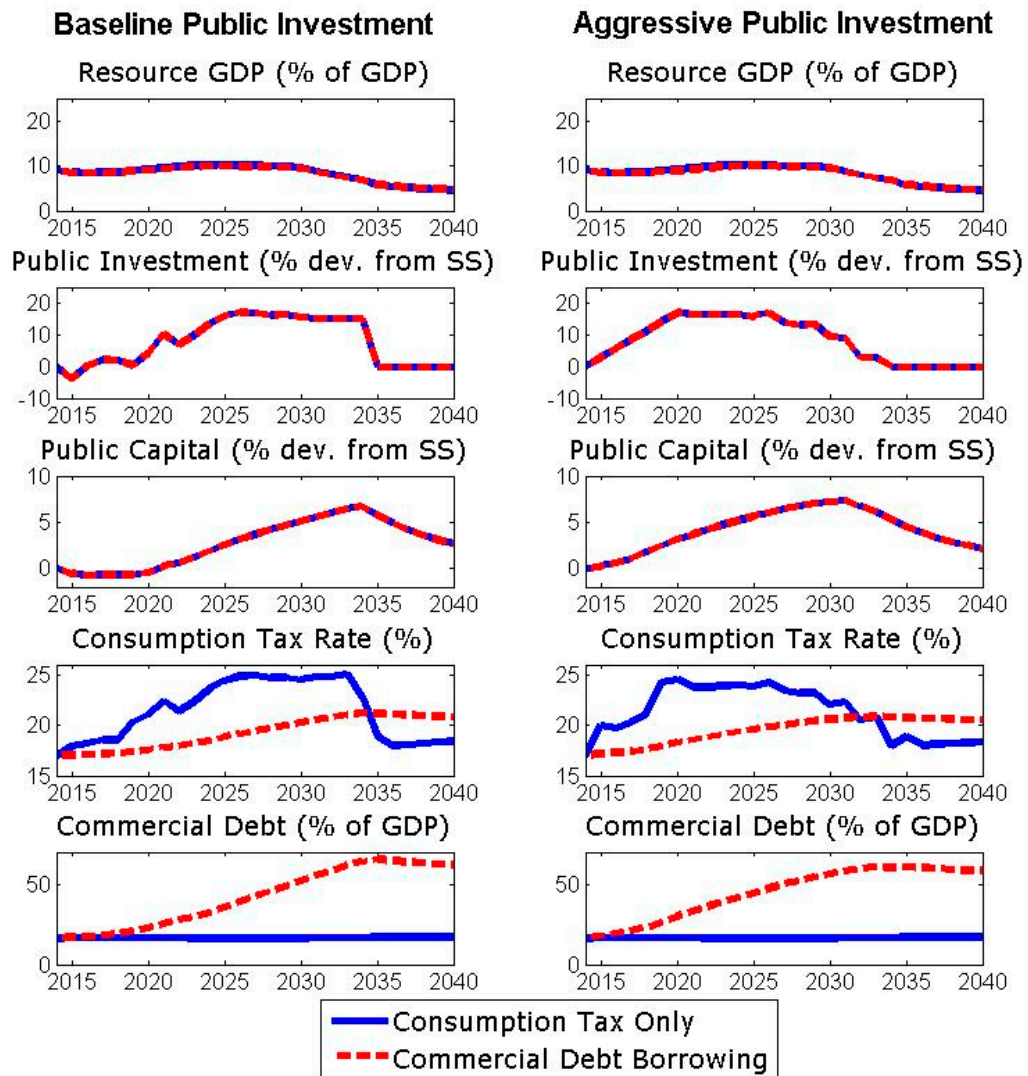
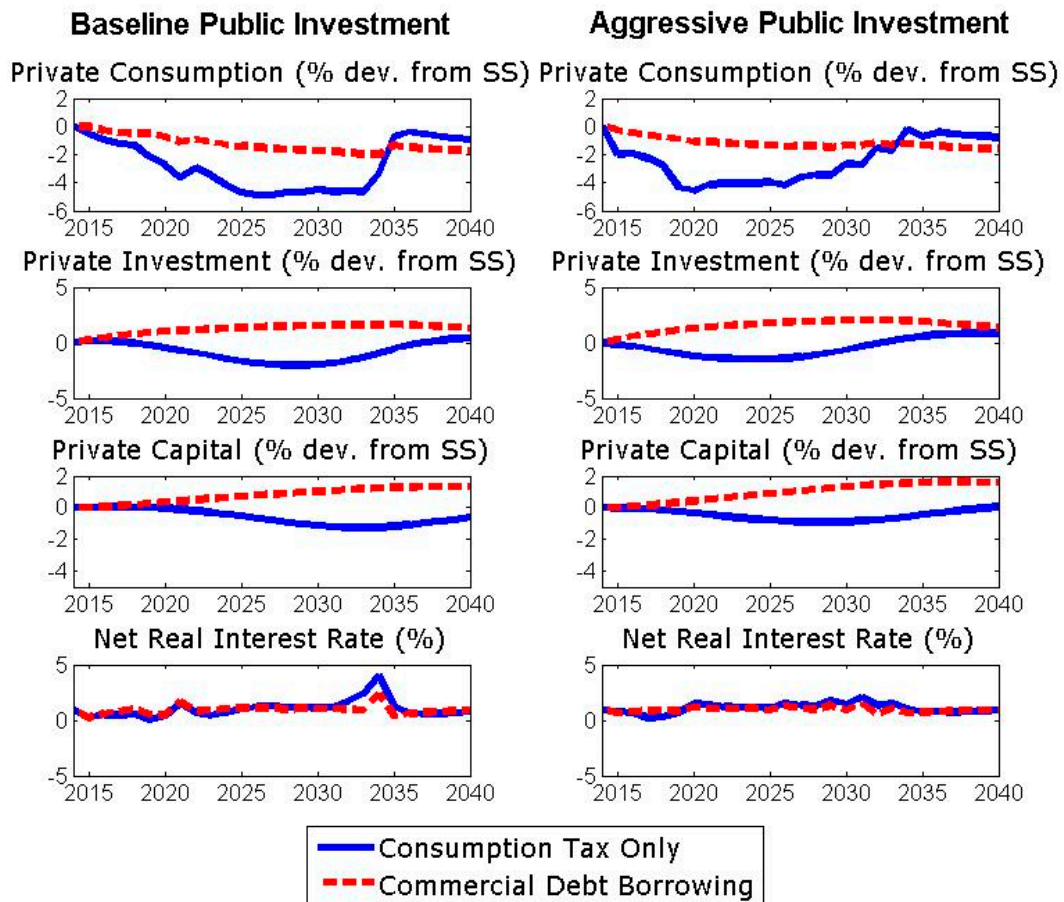


Figure 2. Niger: Baseline vs. Aggressive Public Investment Plans under the Adverse Natural Resource GDP Scenario (concluded)



Appendix. Key Model Equations

The economy features three sectors: natural resource production, nontraded goods production and traded goods production. Since the natural resource sector employs a small and stable fraction of labor force and a large part of investment is financed by foreign investment, we assume that natural resource production follows an exogenous process described by

$$\frac{\tilde{y}_{O,t}}{\tilde{y}_O} = \left(\frac{\tilde{y}_{O,t-1}}{\tilde{y}_O} \right)^{\rho_{yO}} \exp(\varepsilon_t^{yO}),$$

where $\rho_{yO} \in (0,1)$ is an auto-regressive coefficient and $\varepsilon_t^{yO} \sim iid N(0, \sigma_{yO}^2)$ is the natural resource production shock. Due to the small open economy assumption the international natural resource price is taken as given and evolves according to

$$\frac{\tilde{p}_{O,t}}{\tilde{p}_O} = \left(\frac{\tilde{p}_{O,t-1}}{\tilde{p}_O} \right)^{\rho_{pO}} \exp(\varepsilon_t^{pO}),$$

where $\rho_{pO} \in (0,1)$ is an auto-regressive coefficient and $\varepsilon_t^{pO} \sim iid N(0, \sigma_{pO}^2)$ is the resource price shock.

The government collects natural resource revenues from its production

$$t_t^O = \tau^O s_t \tilde{p}_{O,t} \tilde{y}_{O,t},$$

where τ^O is royalty tax rate that can be made time-varying, if necessary. s_t is the relative price of traded goods to the consumption basket. Assuming that the law of one price holds for traded goods implies that s_t also corresponds to the real exchange rate.

Firms in both nontraded and traded sectors produce according to a Cobb-Douglas production function using labor, private capital and public capital

$$y_{i,t} = z_i (k_{i,t-1})^{1-\alpha_i} L_{i,t}^{\alpha_i} k_{G,t-1}^{\alpha_G},$$

where z_i is a total factor productivity scale parameter, k_i is the sectoral-specific private capital, L_i is the sectoral-specific labor, k_G is the public capital, α_i is the labor share of sectoral income and α_G is the output elasticity with respect to public capital, $i \in \{N, T\}$ represents nontraded or traded sector.

We explicitly model inefficiency in the public sector. Effective investment is given by

$$\tilde{g}_t^l = \epsilon (g_t^l) g_t^l,$$

where g_t^l is government public investment expenditure, and $\epsilon \in (0,1]$ governs the efficiency of public investment. The law of motion of public capital is given by

$$k_{G,t} = (1 - \delta_{G,t}) k_{G,t-1} + \tilde{g}_t^l,$$

$\delta_{G,t}$ captures the time-varying depreciation rate due to lack of maintenance on existing public capital.

References

- Araujo, J., Li, B. G., Poplawski-Ribeiro, M., Zanna, L.-F., 2013, "Current Account Norms in Natural Resource Rich and Capital Scarce Economies" IMF Working Paper No. 13/80, (Washington: International Monetary Fund).
- Buffie, E.F., Berg, A., Patillio, C., Portillo, R., Zanna, L.-F., 2012, "Public Investment, Growth and Debt Sustainability: Putting Together the Pieces" IMF Working Paper No. 12/177, (Washington: International Monetary Fund).
- Berg, A., Portillo, R. Yang, S.-C. S., Zanna, L.-F., 2013, "Public Investment in Resource Abundant Developing Countries" IMF Economic Review 61 (1), 92-129.
- Melina, G., Yang, S.-C. S., Zanna, L.F., 2014, "Debt Sustainability, Public Investment and Natural Resources in Developing Countries: the DIGNAR Model" IMF Working Paper No. 14/50, (Washington: International Monetary Fund).

FISCAL POLICY AND DEVELOPMENT: SPENDING PRIORITY IN NIGER¹

The discovery of new oil reserve will create significant fiscal revenues for Niger, but high pro-cyclicality of fiscal policy raises a concern on the efficiency of public spending on the medium-term development. High basic fiscal deficit calls for a fiscal adjustment to be in compliance with West African Economic Monetary Union (WAEMU) convergence criterion, but it requires the establishment of new fiscal framework to better manage natural resource revenues. This note provides a cross-country comparison of the level of public spending and highlights critical efficiency gap of Niger compared with other WAEMU countries due to the low quality of public spending. It shows that continued expansion of public spending, financed by larger resource revenues, will have only limited impact on growth unless the efficiency of spending can be improved. Finally, it proposes an improvement in institutional capacity is necessary for Niger to catch-up with income level in other WAEMU countries.

A. Recent Fiscal Situation

1. Niger's development projects in resource sector and basic infrastructure are expected to be the main drivers of growth and poverty reduction. However, there are a number of uncertainties in the timing of these projects and the petroleum sector, including the potential of oil reserves and the evolution of commodity prices. The historical fiscal data suggest that public expenditure has recently become more expansionary as the economy exhibited stronger growth (in the period of positive output gap) with increasing resource-related windfall revenues. The positive correlation of public spending with output gap (i.e., pro-cyclicality of fiscal policy), much higher than other WAEMU countries in similar per capita income level, created larger macroeconomic volatility and discretionary government spending, reducing the efficiency of public spending (Figure 1 and 2).²

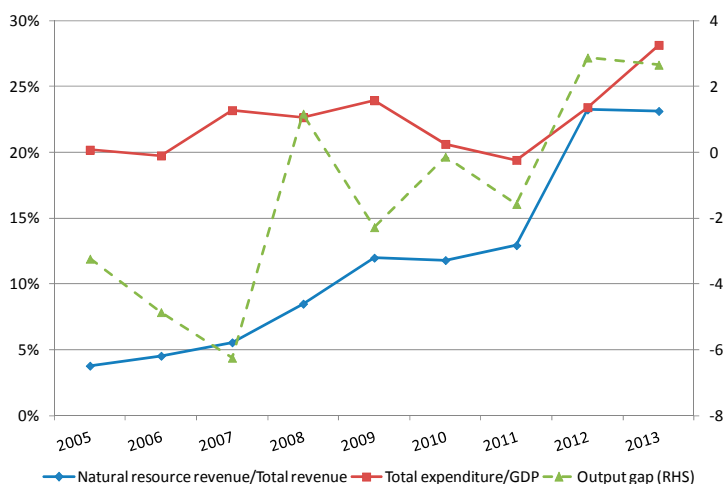
2. The main fiscal challenge therefore is how to use these increased revenues. The pro-cyclicality of fiscal policy has become particularly large since 2008 (the correlation coefficient is about 0.7). As Niger is expected to be oil exporter after 2017, it is particularly important to ensure an efficient, transparent, and sustainable use of the resource revenues to finance poverty reduction programs, while striking the right balance between spending now and conserving some assets for the future. This note assesses the priority of fiscal policies to meet the short-term and medium-term development needs.

¹ This note is prepared by Manabu Nose (FAD).

² Output gap is computed as the percentage GDP gap between actual GDP and potential GDP. Potential GDP is computed by applying the Hodrick-Prescott (HP) filter to annual series of nominal GDP for each country with the smoothing parameter of 100.

Figure 1. Niger: Correlation of Resource Revenue, Expenditure, and Output Gap

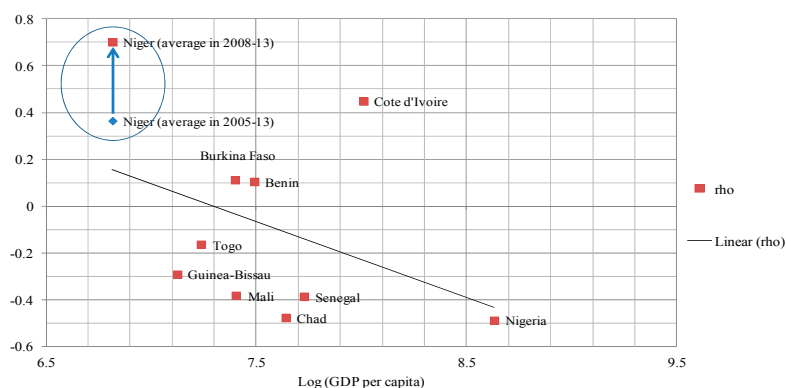
Pro-cyclicality of public expenditure has been rising since 2008 in Niger.



Source: IMF staff calculations.

Figure 2. Niger: Cross-Country Comparison of Pro-Cyclicality of Fiscal Policy in WAEMU¹+ Countries (2008-14)

Pro-cyclicality of public expenditure is exceptionally high in Niger, while other WAEMU countries tend to take counter-cyclical measure as they develop.



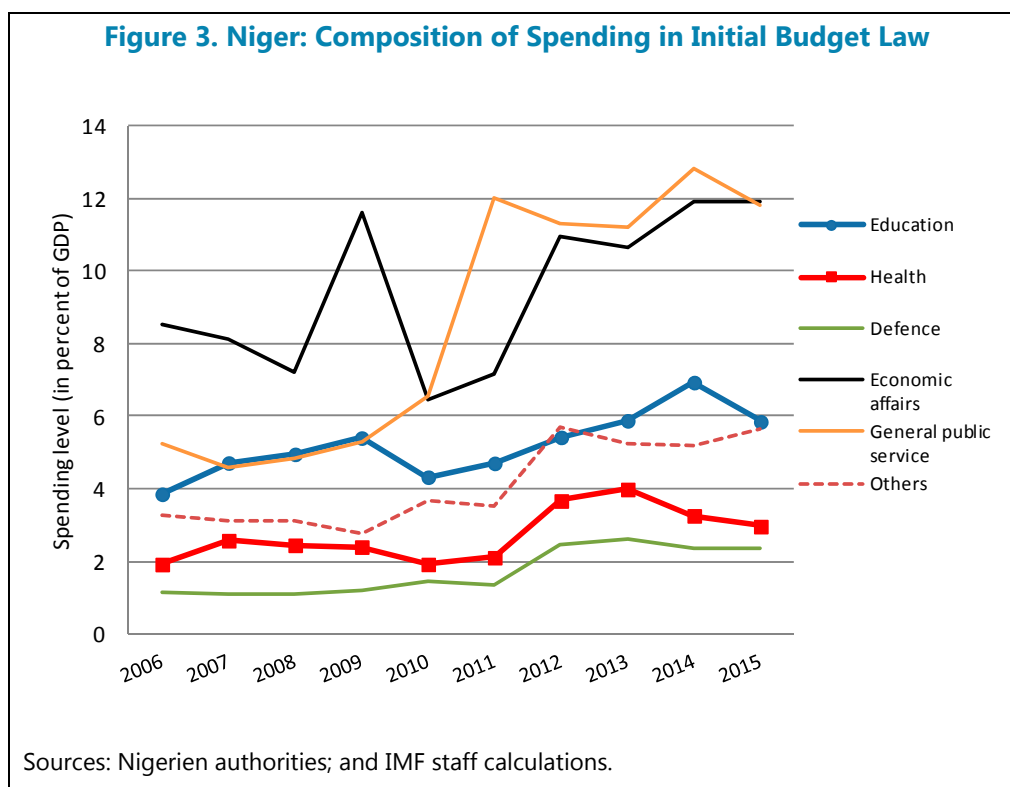
Source: IMF staff calculations.

¹The WAEMU+ countries contain 8 WARMU member countries and two natural resource rich countries (Nigeria and Chad).

B. Level and Efficiency of Spending—Cross-Country Comparison

3. **An increase in windfall revenues has contributed to higher level of public spending, which resulted in Niger’s high capital intensity compared with peer countries.** The level of public investment stood at 17.2 percent of GDP which is much higher than the WAEMU’s average

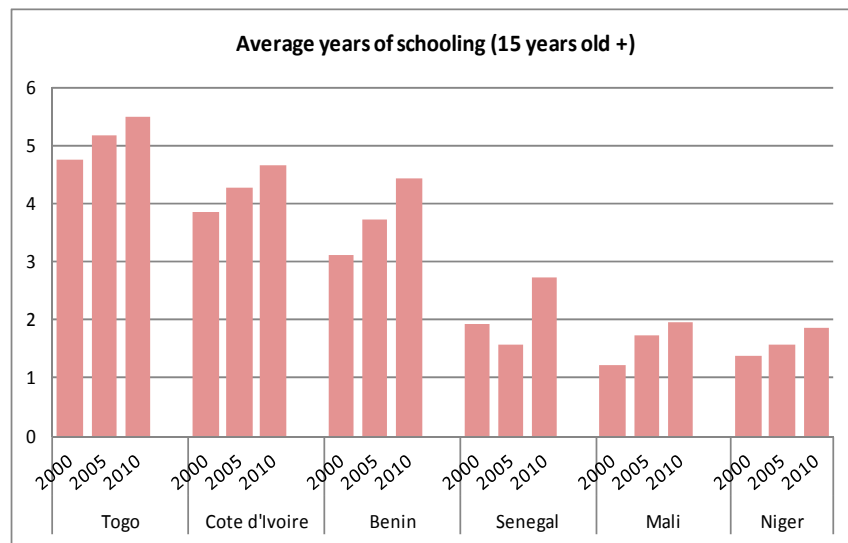
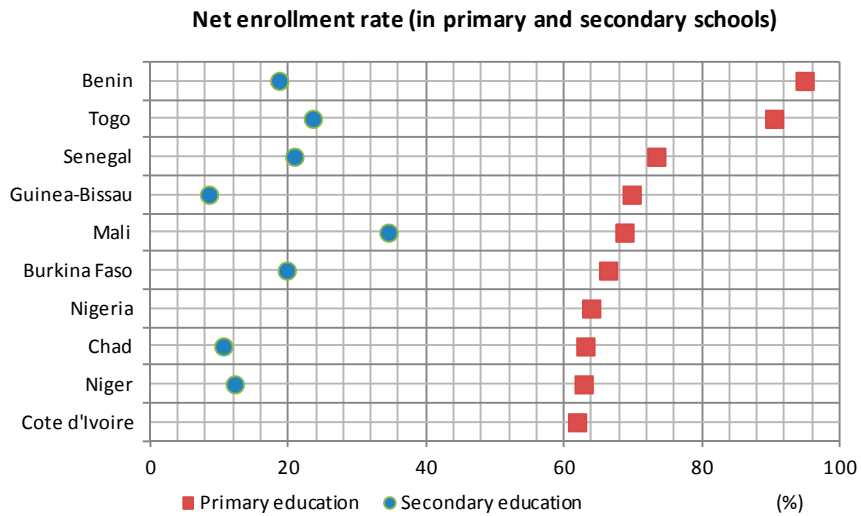
level of 10.2 percent of GDP in 2014. In recent years, Niger has also recorded progress in increasing both education and health spending, comparable to the average level of other WAEMU countries. As the increase in public spending exceeded revenue mobilization efforts, the WAEMU's fiscal convergence criterion (zero basic fiscal balance targets) has not been respected in recent years. By looking at the composition of budget allocated to each type of spending, it appears clear that larger fiscal windfall revenues have been absorbed by general public services and spending related to economic affairs (including agriculture, transport, and infrastructure), while social spending has also been gradually expanded (Figure 3).



4. **Despite progress in increasing education and health spending, Niger fares the worst in social performance especially in education sector and still faces large spending needs to do with worsened security environment and to fill in infrastructure gap.** In education, net enrollment rates in primary and secondary educations are 62.8 percent and 12.2 percent respectively, far below the level of other WAEMU countries. The level of education attainment is also the lowest in the region (Figure 4). While the quality of basic education service is poor, the school-age population is expected to keep rising over the next 20 years due to high fertility rate. By improving the efficiency in delivering education services, Niger is expected to have large gains in education outcome without increasing the level of spending (Grigoli, 2014).

Figure 4. Niger: Selected Social Indicators (Education)

Despite an increase in education spending, Niger's educational attainment is one of the worst in WAEMU countries.



Sources: World Development Indicators (World Bank); and Barro and Lee Education Attainment database.

Table 1. Niger: Decomposition of Output per Worker

	Output per worker	Contribution from		
		Capital-output ratio	Human capital	Productivity
<u>WAEMU countries</u>				
Niger	0.318	1.335	0.863	0.276
Senegal	0.695	1.303	0.942	0.567
Benin	0.596	1.082	0.922	0.598
Cote d'Ivoire	0.681	0.835	0.928	0.878
Mali	0.535	0.834	0.875	0.734
Togo	0.327	1.105	0.956	0.309
<u>Non-WAEMU African countries</u>				
Ghana	1	1	1	1
Kenya	0.654	0.958	0.981	0.695
Cameroon	0.811	0.991	0.968	0.845

Sources: Penn World Table; and IMF staff calculations.

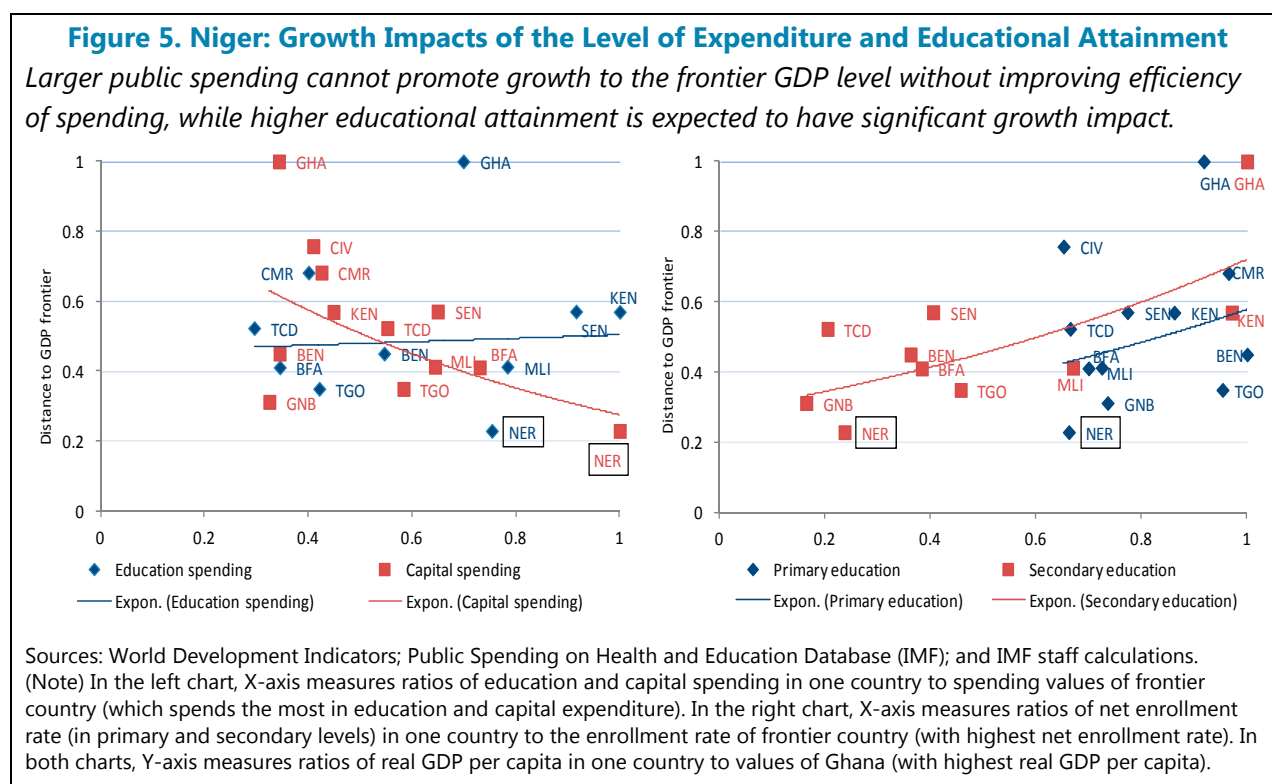
(Note) Output per worker (in the first column) is the product of three contributing factors (capital-output ratio, education attainment, and productivity). Contributions are measured as ratios to the Ghana values using the most recent data available in the Penn World Table.

5. **As for capital spending, a recent World Bank country report indicated that infrastructure spending has made only marginal contributions to the annual per capita GDP growth in Niger, which is among the lowest in West Africa** (Dominguez-Torres and Foster, 2011). The poor condition of Niger's infrastructure, in particular the bad quality of the road network, is a critical bottleneck to growth in Niger. A noticeable lack of infrastructure exists outside Niamey and financing needs to fill in infrastructure gap is large. In addition, as observed in other low income countries, high unit cost of capital spending, and delays in budget execution have been impeding access to basic infrastructure (road, electricity, and information and communication technology).

6. **Although public spending has been significantly increased, it is found to accompany significant spending inefficiency which leads to large gap in productivity and smaller growth impact of human capital compared with other African countries.** Growth accounting analysis (following production function approach used by Hall and Jones (1999)) highlights that output per worker in Niger is far below the level of frontier African countries (such as Cameroon, Ghana, and Kenya) as well as other WAEMU countries due to much lower contributions of productivity and human capital (Table 1).³ The level of education and capital spending is one of the highest among West Africa countries, while its income level locates far behind the GDP frontier level (Figure 5, left

³ The decomposition analysis assumes a Cobb-Douglas aggregate production function which takes the stock of physical capital and human capital-augmented labor (unit of labor with different level of years of schooling) as inputs for production. Following Mankiw, Romer, and Weil (1992), Klenow and Rodriguez (1997), and Hall and Jones (1999), it decomposes differences in output per worker across countries into differences in capital-output ratio, educational attainment and productivity.

chart). An increase in the level of social spending (in education and health) as well as public investment contributed little to development in case of Niger due to the spending inefficiency. However, as demonstrated in other WAEMU countries, it should generate much higher growth impact should public spending are more efficiently managed and could lead to higher social and economic outcomes (Figure 5, right chart).



C. Development Needs and Strategy

7. **Niger faces both short-term and long-term challenges which mainly relate to demographic and geographic constraints:** (i) increasing share of school-age population (from 48 percent to 51 percent in next 20 years); and (ii) geographical proximity to conflict-affected fragile countries. In the short-term, the elevated Islamic terrorism threat and food insecurity have had negative effects on growth by interrupting uranium and agricultural productions and foreign investment. In the long-term, large social and economic gains are expected if the resources are allocated to improve the coverage of education service to increasing number of school-age population and promotes their human capital accumulation.

8. **Given the emerging needs for spending, closely linking budget planning and execution with development plans would be useful in the planning of long-term and short-term development strategies. In this regard, Niger needs to stabilize credit allocation and authorization to prioritized spending.** As Table 2 demonstrates, the inefficiency of spending partly comes from the uncertainty of budget allocation and execution. Actual budget executions in social sector have been much lower for delays in credit release and commitment to implement

investment projects, especially for capital spending, which creates large uncertainties in establishing medium-term social development strategy. Along this strategy, Niger needs to strengthen public financial management and strategic budget planning for allocating consistent amount of resources to prioritized sectors in the medium-term expenditure framework. Finally, as the level of social spending has already reached the regional average level, it is critical to improve the efficiency of social spending by closely monitoring social outcomes based on specific indicators and by improving service delivery in education to maximize educational attainment.

9. **The medium-term fiscal strategy should also focus on improving the composition of public expenditure by shifting resources to social sector; this would have positive repercussions for growth and poverty reduction in Niger.** In terms of the composition of public spending, the expenditure share of subsidy and transfers is currently 5.5 percent of GDP, which is the largest among other current expenditure items. Subsidy and transfers to public schools is also a large expenditure component for education spending (see Table 2). In the past, the government succeeded in creating room for education spending in the 2012 budget (19 percent increase in expenditure compared with the 2011 budget) by the temporary elimination of subsidy on fuel products.⁴ While international import fuel prices still remains at high level, domestic retail prices of main fuel products (gasoline, diesel, kerosene, and LPG) were kept lower than other WAEMU countries as the retail price of crude oil from CNPC to SORAZ remains fixed and below international prices to make fuel products affordable to population. The fuel subsidy has regressive distributional impact on the economy, while it also diverts fiscal resources away from priority public expenditures, which is detrimental for achieving growth and poverty reduction objectives. In this regard, the authorities are encouraged to create fiscal space by reducing subsidies for oil and energy sector and to reallocate the saving to meet urgent spending needs such as food security and security spending.

⁴ The initial reforms to gradually phase out fuel subsidies were implemented in late 2010–early 2011 by a transitional government, but the reform has lost momentum because it believed it had less legitimacy to embark on such a sensitive reform process.

**Table 2. Niger: Budget Allocation and Execution of Social Spending
(Percent of GDP)**

	2010		2011		2012		2013		2014	
	Budget	Executed	Budget	Executed	Budget	Executed	Budget	Executed	Budget	Executed (end-June)
Education										
Wage and salary	1.24	1.23	1.55	1.50	1.63	1.63	1.91	1.91	1.70	0.92
Capital spending	0.71	0.42	0.75	0.46	1.40	0.67	1.84	1.09	2.34	0.72
Materials and supplies	0.33	0.23	0.33	0.24	0.31	0.19	0.35	0.29	0.47	0.16
Subsidy and transfers	2.15	1.97	2.21	2.07	2.51	2.04	2.17	1.94	2.77	1.31
Total	4.43	3.85	4.84	4.26	5.86	4.53	6.29	5.24	7.28	3.11
Health										
Wage and salary	0.35	0.35	0.45	0.39	0.43	0.54	0.62	0.62	0.46	0.31
Capital spending	0.68	0.39	0.48	0.36	0.96	0.31	1.61	0.69	1.12	0.08
Materials and supplies	0.24	0.16	0.24	0.16	0.23	0.17	0.13	0.11	0.19	0.04
Subsidy and transfers	0.45	0.37	0.65	0.59	0.74	0.67	0.68	0.55	0.79	0.21
Total	1.72	1.28	1.82	1.50	2.36	1.69	3.05	1.97	2.57	0.64

Memorandum: Cross-country Comparison 1/

Niger

Education	4.89
Health	2.55
WAEMU average	
Education	4.07
Health	2.07
WAEMU+ average	
Education	3.42
Health	1.85

1/ The sample includes Benin, Burkina Faso, Mali, Niger, Nigeria, Senegal, Chad, and Togo. The most recent available data is used to compute the regional average of social spending level. The data is from IMF's Public Spending on Health and Education Database.

Sources: Nigerien authorities; and IMF staff calculations.

D. Policy Recommendations

10. The above analysis identified three fiscal policies as key reform agendas in the short- and the medium-term:

- 1) *Adoption of resource neutral fiscal rule:* As Niger is expected to receive more revenues by producing crude oil, uranium, and other commodities (gold and coal), the adoption of non-resource primary balance needs to be considered as alternative fiscal policy benchmark, together with traditional fiscal policy anchor (basic fiscal balance) used in the WAEMU currency union, to avoid pro-cyclicality of expenditure and to ensure smoother budget allocation for productive public spending.⁵
- 2) *Mobilization of larger natural resource revenues:* Important strides are recorded in fiscal reforms under the Extended Credit Facility-supported program; a further revenue mobilization effort

⁵ In this regard, IMF's fiscal affairs department provided a technical assistance which provides guidance on new fiscal frameworks (spending and saving options) and action plans to better manage natural resource revenues. For details on the new fiscal framework and policy recommendations, see IMF (2012).

would be welcome. The share of natural resource revenue is only 22 percent of total revenues in 2012. Raising this contribution has been essential to finance development needs and to create fiscal space to absorb future shocks.

- 3) *Expenditure rationalization*: Fiscal adjustments that rely primarily on cuts in transfers and the wage bill tend to last longer and can be expansionary, while those that rely primarily on tax increases and cuts in public investment tend to be contractionary and unsustainable (Gupta, Clements et al, 2005). As the price-gap between domestic and international fuel prices has been recently gradually narrowing, the current government is encouraged to engage in the subsidy reform process again by reconsidering the pricing formula and by reducing tax exemptions on fuel products, accompanied by complementary safe-net provisions, for the transition to a new automatic fuel adjustment mechanism as recommended by the IMF's technical assistance mission in 2010. The reduction of fuel subsidies can create fiscal space for more prioritized social and capital expenditure as was temporarily achieved in the 2012 budget.

References

- Dominguez-Torres, Carolina and Foster, Vivien, 2011 "Niger's Infrastructure: A Continental Perspective", Africa Infrastructure Country Diagnostic (AICD).
- Grigoli, Francesco, 2014 "A Hybrid Approach to estimating the Efficiency of Public Spending on Education in Emerging and Developing Economies", IMF Working Paper WP/14/19.
- Gupta, Sanjeev; Clements, Benedict; Baldacci, Emanuele; and Mulas-Granados Carlos, 2005 "Fiscal Policy, Expenditure Composition, and Growth in Low-income Countries" *Journal of International Money and Finance*. vol. 24, pp. 441-463.
- Hall, Robert and Jones, Charles, 1999 "Why Do Some Countries Produce So Much More Output Per Worker Than Others?", *The Quarterly Journal of Economics*, vol. 114, no. 1, pp. 83-116.
- International Monetary Fund, 2012 "Macroeconomic Policy Frameworks for Resource-Rich Developing Countries".
- Shastri, Gauri Kartini and Weil, David, 2003 "How Much of Cross-Country Income Variation is Explained by Health?", *Journal of the European Economic Association*, vol. 1, pp. 387-396.

ENERGY SECTOR CHALLENGES IN NIGER¹

This note presents developments in the Nigerien energy sector, its main challenges, and policy recommendations on improving access to energy by leveraging its nonrenewable resources and its abundant renewable energy potential.

A. Introduction

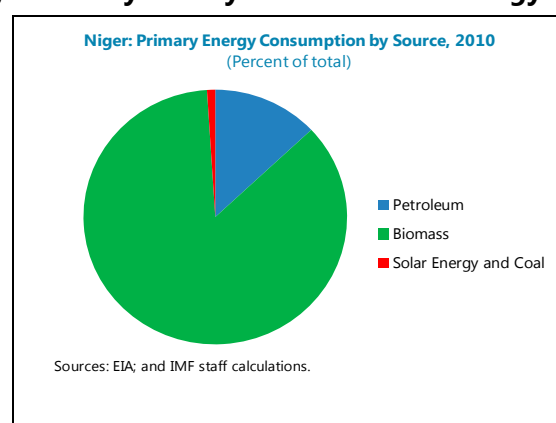
1. **Niger has one of the lowest levels of energy production and consumption in the sub-region and the world.** This low production level reflects its stage of economic development but also hinders prospective growth. Niger's per capita energy consumption was 0.13 toe in 2009, about half of the sub-Saharan Africa average and as opposed to an African average of 0.5 toe. GDP per capita, at US\$445.9 in 2013, is one of the lowest in the world. The population, estimated at 16 million and growing at around 3.9 percent per year (one of the fastest annual population growth rates in the world), implies huge infrastructure needs in the energy sector.

2. **To address development needs in the energy sector, reforms are ongoing and projects under consideration.** Niger is attempting to review the cost structure of the sector and charting a public-private partnership framework as a foundation for cooperation between the private and public sectors in upcoming energy projects. However, further institutional reforms are needed to enhance the incentives for private sector participation in the production of energy, in particular through improvement of the relations among the different players. This note first overviews the energy sector. Then, it considers the challenges before proposing possible avenues for reforms and development of the energy sector.

B. Overview of the Energy Sector

3. **Access to electricity in Niger is limited so Nigeriens rely heavily on biomass for energy.**

A large majority of the population (about 84 percent) lives in rural areas where access to basic services like electricity is lacking. Less than 5 percent of the population uses liquefied petroleum gas (LPG) and the overall electricity access level is only 9 percent—urban access to electricity is almost 40 percent whereas access in rural areas is estimated at less than 1 percent.² The electricity infrastructure, characterized by isolated grids, does not sufficiently satisfy an increasing potential demand and advance steps

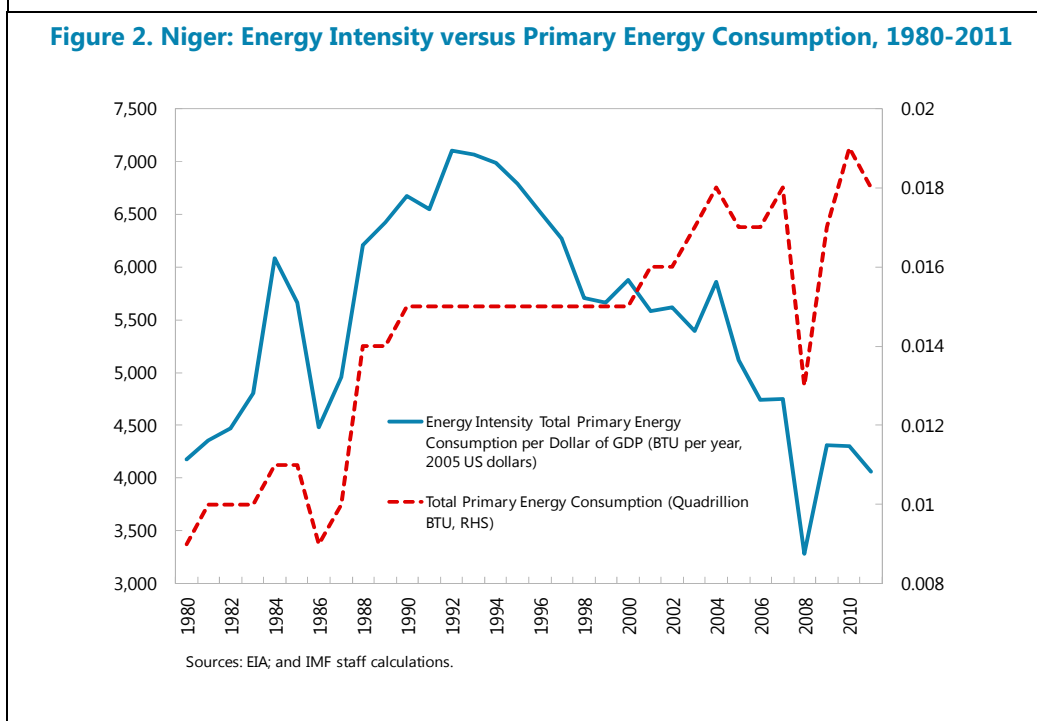
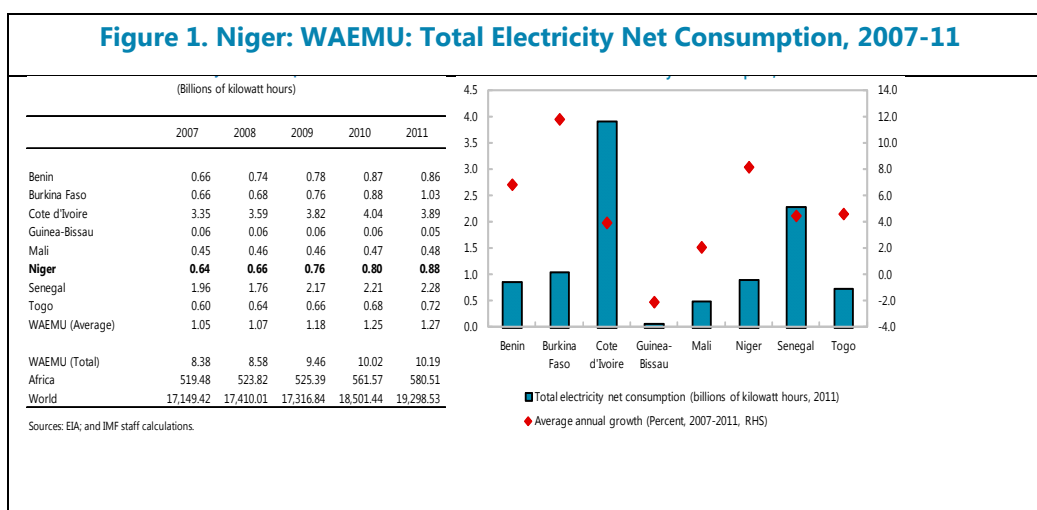


¹ This note was prepared by Jehann Jack.

² Global Framework Report, World Bank 2013.

towards socioeconomic development. The energy mix is highly concentrated and dominated by biomass and wood fuel, and supplemented by petroleum, solar energy and coal.

4. **Demand for electricity in Niger is expanding.** Total electricity net consumption in Niger, (Figure 1) grew at a faster rate (9.2 percent) in 2011 than the total for all countries within the West African Economic and Monetary Union (WAEMU), Africa and the entire world. Of WAEMU countries, aggregate demand was highest in the Ivory Coast followed by Senegal, representing around 38.2 percent and 22.4 percent of total electricity consumed in the region in 2011, respectively. Over the 5-year period to 2011, average annual growth in net electricity consumption was highest in Burkina Faso (11.8 percent) followed by Niger (8.2 percent).



5. **Although total primary energy consumption has trended upwards, Niger has not become more energy intensive.** Over the more than 3-decade period, spanning 1980 to 2011, total primary energy consumption, (Figure 2) has doubled whereas energy consumption per unit of GDP has fluctuated, highlighting the extent of Niger’s macroeconomic vulnerability. Even though commercial energies (petroleum products and electricity) account for only about 10 percent of the energy consumed, they play a major role in supporting economic growth and development. Furthermore this role is expected to increase with the development of the hydrocarbon potential for export. Households’ energy consumption, primarily for cooking, accounts for almost 90 percent of Niger’s total energy consumption, followed by transportation (9 percent) and industry, services and agriculture. Although the agriculture sector is the dominant industry in Niger, it absorbs less than 1 percent of primary energy consumed.

6. **The government is in the process of updating its energy policy.** The current Energy Policy and Strategy was adopted by the government in 2004. Review of this document to ensure that its objectives are specific, measurable, achievable, realistic and time-bound (SMART) is ongoing. The government also plans to develop a long-term energy policy to steer the evolution of the sector, taking into account energy efficiency and the protection of the environment. Official responses to a questionnaire on energy efficiency—country diagnostic analysis—state that the government plans to increase the share of renewable energy in the national energy balance to 10 percent by 2020 (from less than 1 percent) in 2007; concomitantly, the share of biomass in the energy mix is expected to fall to 62 percent in 2020 (from 87 percent in 2007).³ With respect to grid access to electricity, the Accelerated Development and Poverty Reduction Strategy for 2008-2012 had aimed to raise the household access rate to 65 percent in the urban areas and 3 percent in the rural areas by the end of the program.

7. **Niger’s recent discovery of oil has led to the creation of domestic refining capacity, helping to meet growing demand for fuel products.** Commercial development of Niger’s crude oil resources began in 2011 with the commissioning of the SORAZ refinery in Zinder. The SORAZ refinery has a maximum capacity of 20,000 barrels per day of fuel, including gasoline, diesel and LPG, and is presently operating at 18,000 barrels per day. Domestic consumption is surging and supply is not always able to keep up with local demand, which has spiked with salary increases and automobile sales.

C. Challenges of the Energy Sector

Energy Subsidy Reform Experience

8. Energy price developments impact macroeconomic activity through various channels. Rising international oil prices can lead to inflation, fiscal deficits and external sector imbalances in oil-importing countries, with potential impact on GDP growth. The impact of oil prices on inflation is

³ Niger: State of Play – Questionnaire on Energy Efficiency (Country Diagnostic Analysis), February 2012.

apparent when one considers the path of prices' development and that of global oil prices. Higher fuel prices not only affect consumers directly through higher costs of transportation and electricity services but also indirectly through increasing manufacturing operating costs. With respect to the fiscal accounts, fuel tax receipts have been volatile, reflecting fluctuations in the price of oil on the international market and a rigid retail fuel pricing system, and indirect fiscal effects of spiraling international oil prices can be manifested through reduced tax buoyancy on account of a weaker domestic economy. The impact on the external accounts is mostly intuitive via higher outlays for oil imports and potentially increasing external debt based on the payment arrangements.

9. **The impetus for reform in Niger was sustained fiscal revenue losses, but the process of reform has been lumpy.** Given that Niger was a net petroleum importer up until recently, the government lost significant revenues on account of its policy to administer fuel prices and electricity rates. The net fiscal contribution of fuel taxes fell to 0.3 percent of GDP in 2010 from 1 percent of GDP in 2005. In addition there were business climate concerns such as energy efficiency and infrastructure investment to improve access, and environmental considerations like conservation incentives. While the government had made some progress with respect to establishing a transparent price build-up formula, retail fuel prices are still set administratively and electricity tariffs are decided in an ad hoc manner.

10. **Niger initially adopted a nominal price band mechanism.** IMF technical assistance from the Fiscal Affairs Department to Niger in 2001 facilitated the development of a fuel-pricing formula that allowed for the automatic pass-through of global prices to the domestic market. According to the established formula, the retail price would be adjusted monthly whenever the change in international prices exceeded CFAF 5. Otherwise, the price at the pump would not change and taxes would offset the intended increase or decrease in prices. The petroleum price structure broadly consists of ex-refinery or import costs (CIF prices at the border), net fuel taxes (ad valorem customs and value-added taxes and specific excise duties), and costs and margins of importing and distributing fuel to domestic consumers (storage and distribution margins).

11. **An explicit subsidy was introduced in the formula in 2005 when international prices began to rise.** The subsidy was meant to cushion the domestic economy from the destabilizing effects of price fluctuations, particularly the sharp increases, on the global market. Even during the period of rapidly increasing international oil prices that began in 2007 and peaked in July 2008, the subsidy component kept domestic prices fixed for an extended period.⁴ However, by 2010, adverse international price shocks and euro depreciation led to dwindling fuel tax receipts and external sector imbalances. Furthermore, an increase in smuggling into neighboring countries resulted from the artificially low prices in Niger. The government reviewed its general policy and adopted a more flexible retail fuel pricing system whereby international oil price variations were passed through to domestic prices from June 2011 and existing subsidies were gradually unwound.

⁴ Oil prices reached a record of US\$147.50 per barrel on July 11, 2008.

D. The Discovery of Oil and New Challenges in Energy Sector Management

12. Niger became a net fuel exporter since 2012 and could soon export crude oil.

Previously Niger was importing up to 85 percent of its electricity from Nigeria whereas petroleum product imports came officially from Benin, Togo and Ghana. However, since 2012, successful oil discovery allowed for exports to Burkina Faso and Mali to begin. Export markets have also opened in Chad for fuel (especially premium) and Nigeria for gasoil. Proven reserves at the Agadem block, amounting to 80,000 barrels per day, are beyond the refining capacity of SORAZ. Therefore, the government is currently exploring the possibility of exporting around 60,000 barrels per day of crude oil. A study has already identified the most cost-efficient route of export: Niger-Chad-Cameroon.

13. **SORAZ refinery production is mainly destined to SONIDEP, the domestic marketing agency.** In addition to its previously-granted exclusive right to import and store refined petroleum products, SONIDEP was given the monopoly to export the refined petroleum products from the SORAZ refinery; SONIDEP's expanded monopoly power has created some tension between the two entities. SORAZ produces gasoline, diesel, LPG, and most recently kerosene (lamp oil), which is sold to SONIDEP for export and domestic sales. SONIDEP also imports and resells heavy fuel, fuel-oil, and jet oil. Total export sales for the period January to September 2014 fell relative to the corresponding period in 2013 in both volume (6.1 percent) and value (11.0 percent). On the other hand, domestic sales volume rose by 8.6 percent to 436.3 million tons, which was equivalent to an 8.8 percent increase to CFAF 199.8 billion in value. Export sales were strong in the first quarter but fell back during the rest of the reference period when domestic demand firmed.

14. **Prices for crude oil and refined products are administered by the government, creating the possibility for implicit subsidies.** The government controls the price at which SORAZ gets crude oil from the Agadem block as well as the price at which the SORAZ refinery sells its output to SONIDEP. Crude oil is sold to SORAZ at US\$70 per barrel, well below the international oil price (using West Texas Intermediate, WTI, as a proxy) that averaged above US\$94 per barrel each year since 2011. Ex-SORAZ prices are also fixed as shown in the petroleum price structure below (Table 1). Since the January 2012 introduction of SORAZ consumer products (gasoline, diesel, LPG) on the domestic market, there is no retail subsidy on these three products. Nonetheless, the retail price of gasoline, at US\$1.08 per liter, is much lower than the price for the same products in other WAEMU countries except for Benin.⁵ The only remaining explicit subsidy is on kerosene (lamp oil), which is imported. This subsidy stands at 96.02 CFAF/liter (approximately 19 US cents/liter). Given the startup of lamp oil production by SORAZ in April 2014, it is expected that this subsidy will be reduced or even eliminated over time.

⁵ The domestic gasoline prices for WAEMU countries averaged US\$1.34 per liter in 2010, ranging from US\$1.04 per liter in Benin to US\$1.68 per liter in the Ivory Coast.

Table 1. Niger: Petroleum Price Structure, as of August 1, 2013

Quantity Source	(USD per unit)				
	Gasoline	Diesel Oil	Fuel Oil	Kerosene	LPG
	Liter SORAZ	Liter SORAZ	Liter Imported	Liter Imported	12.5 kilo SORAZ
Price Ex-SORAZ/Border	0.63	0.64	0.64	0.93	3.00
Taxes	0.19	0.20	0.12	0.07	...
Storage, losses etc (SONIDEP)	0.06	0.07	0.07	0.06	0.20
Transport to SONIDEP storage facilities	0.09	0.08	0.08	0.05	...
Price Ex-SONIDEP	0.97	0.98	0.90	1.11	3.20
Expenses and distribution margin	0.11	0.09	0.00	0.08	4.30
Subsidy	0.00	0.00	0.00	-0.19	...
Retail Price	1.08	1.08	0.90	0.99	7.50
<i>of which:</i> 6kg LPG cylinder					3.60
3kg LPG cylinder					1.80

Sources: SONIDEP; and IMF staff calculations.

15. **The price structure may be a source of revenue loss for the government and poses risks to the financial soundness of the refinery.** Had the prices been fully liberalized, SORAZ would have received more sales revenue and the government would have benefitted from increased tax receipts, even after accounting for reasonable price elasticity. Given that the refinery is almost operating at full capacity, additional investment may be needed to increase the refinery's operating capacity. However, it may not be possible to recoup the investment costs from savings elsewhere rather than by allowing the ex-refinery prices to increase.

16. **Ensuring the financial equilibrium of the electricity sub-sector has also been cited as a key challenge.** The World Bank's Energy Sector Assessment (June 2012) highlights the fact that Niger's transition to an oil producer can pose certain risks to the electricity sub-sector and NIGELEC, given that electricity imports from Nigeria on good financial terms may be substituted with more expensive domestic generation. NIGELEC holds the public monopoly to generate, transmit and distribute electricity; it is exempt from VAT and TIPP payments to the government, which presents another source of revenue leakage.

E. Conclusion and Policy Recommendations

17. **Improving access to energy should be a key economic objective.** Limited access is a constraint on growth yet price controls, provided as a means to shore up demand by keeping the final cost to the consumer low, act as implicit subsidies and create disincentives for further development in the sector. The trade-off between price stability and fiscal sustainability highlights the main challenge for price-setting in poor countries, particularly when crude oil resources are available. Increasing penetration and investment in the grid to allow for more widespread electricity

distribution is necessary to spread the investment costs in power plants. Current initiatives to develop Niger's renewable energy potential as a means to improve access at reasonable cost to the end-user are encouraging. Such initiatives include a 20MW solar photovoltaic power plant at Guesselbody (20km from Niamey); a 200MW (expandable to 400MW) coal plant at Salkadamna (Tahoua); and a 130MW hydroelectric plant at Kandadji.

18. **Niger should seek to harness and develop its abundant renewable energy potential.**⁶

While traditional energy is not overexploited in Niger, the country can benefit from investment in renewable energy sources that can increase energy access and may be more suitable for the off-grid, rural population centers. Alternative energy forms like solar, wind, coal, geothermal and hydroelectric energy are worth further consideration given Niger's natural environment and geographical context. Solar energy development is one of the most feasible options given the country's climatic conditions. Average wind speeds in the northern and southern regions indicate moderate potential for wind power utilization beyond its current small-scale installations for water-pumping. Geothermal energy potential, though unconfirmed, is likely given revelations of the presence of geothermal basins during oil exploration activities. Coal and hydroelectric plants are currently being developed. Despite the potential, tapping renewable energy sources is subject to constraints as the project development often requires large initial capital investments. Moreover the reliability of renewable energy is also not guaranteed and there is usually the need for a back-up fossil fuel facility.

19. **An energy conservation promotional campaign should be included in the public information program that accompanies the new energy policy.** Experience has shown that energy conservation programs have worked best when the public understands the need to reduce wastage. Recommendations for energy conservation at homes and in transportation—such as an incandescent bulb replacement program with solar lamps and energy saving bulbs, and issuing guidelines for the proper use and maintenance of vehicles and household appliances. Shared arrangements, such as car-pooling, may also be promoted as an effective way of reducing traffic congestion and saving on the transportation costs for students and workers.

⁶ Renewable Energy Potential in Niger (www.afrbiz.info).

References

Building an Enabling Environment for the Promotion of Renewable Energy in Niger—SNV Niger; accessed on November 11, 2014

http://www.snvworld.org/download/publications/building_an_enabling_environment_in_niger.pdf.

Clements, B., D. Coady, S. Fabrizio, S. Gupta, T. Alleyne, and C. Sdravovich, eds. (2013), Energy Subsidy Reform: Lessons and Implications (Washington: International Monetary Fund).

Energy Information Administration, 2014, International Energy Statistics, August 2014 (Washington).

“Fuel Price Subsidies in Sub-Saharan Africa,” published online in Africa’s Pulse (Volume 5, Section 2)—Washington: The World Bank; accessed on November 10, 2014
http://siteresources.worldbank.org/INTAFRICA/Resources/Africas-Pulse-brochure_Vol5-Section_2.pdf.

International Monetary Fund, 2010, “Adopting an Automatic Fuel Pricing Mechanism in Niger,” Fiscal Affairs Department Desk Note, November 2010 (Washington).

International Monetary Fund, 2013, Energy Subsidy Reform in Sub-Saharan Africa: Experiences and Lessons (Washington).

“Renewable Energy Potential in Niger,” published online by the Renewable Energy and Energy Efficiency Partnership on July 26, 2013; accessed on November 11, 2014
<http://www.afribiz.info/content/2013/renewable-energy-potential-in-niger>.

The World Bank, 2012, Niger: Energy Sector Assessment, June 2012 (Washington).

INCLUSIVE GROWTH AHEAD OF OIL PRODUCTION¹

This paper analyzes the performance of Niger in poverty reduction and growth inclusiveness based on three surveys conducted in 2005, 2007/08 and 2011, a year before oil production started. The findings show that growth was pro-poor but less inclusive. While there was a significant reduction in the poverty headcount during the period 2005-11, inequality increased; growth was more beneficial to the top level of the income distribution. During 2008-11, higher and more balanced growth associated with lower inflation helped to achieve a higher poverty reduction and a slower increase in inequality compared to 2005-08.

A. Introduction

1. **New developments in the mining sector in Niger provide an opportunity for high and sustained growth going forward.** The growth performance in Niger in the last 10 years has been strong averaging 5.1 percent, although accompanied by large volatility owing mainly to climate shocks and security challenges in the region. The growth rate was below zero in 2004 and 2009 because of droughts but reached a peak of 11.1 percent in 2012 as a newly built oil refinery came on stream. Projects in the resource sector to intensify oil and uranium production and the recent discovery of gold will allow growth to surpass the past decade average of 5.1 percent, on average, in the medium term.

2. **However the performance in terms of poverty reduction and improvement in social conditions was mixed.** According the World Bank, the poverty headcount ratio at US\$ 1.25 per day decreased from 78 percent in 1994 to 43 percent in 2008, infant mortality rate (under 5) decreased from 278.6 per 1000 in 1994 to 124 per 1000 in 2011, and gross primary school enrollment rate increased from 28.7 percent to 70.8 percent between 1994 and 2011. Despite this improvement in the poverty headcount and access to social infrastructure, the country was ranked last in the 2013 Human Development Indicator Report of the UNDP.

3. **Against this background, this paper assesses how recent growth has contributed to improving the welfare of Nigerien.** The findings are crucial to formulate policies that could help the government achieve sustainable growth that is inclusive and pro-poor, reinforcing the social fabric and reducing the spillover risks from the regional security situation. To achieve these objectives, tools and methodologies commonly applied by the IMF are used based on three surveys conducted in 2005, 2007/2008,² and 2011.³

¹ Prepared by Mamadou D. Barry (AFR).

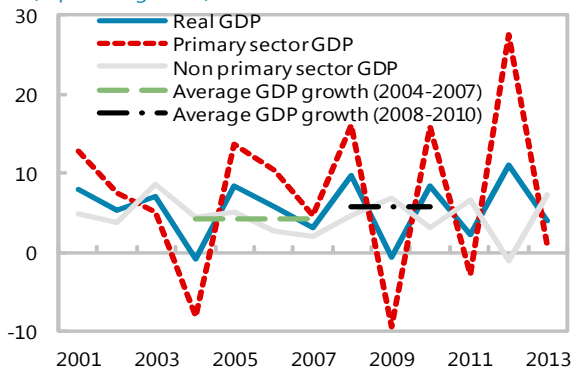
² For future use the 2007/2008 survey will be referred as the 2008 survey.

³ In 2014, a new survey will update the one from 2011.

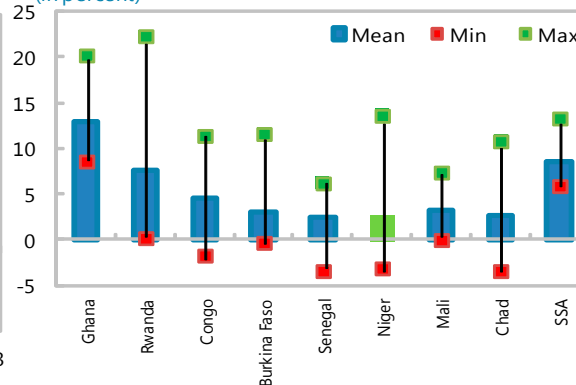
Figure 1. Niger: Stylized Facts: Economic and Social Indicators and the Business Environment

Growth has been strong but volatile.... ... and inflation with large fluctuations, hurting the poor

Niger: Growth, 2011-13
(in percent growth)

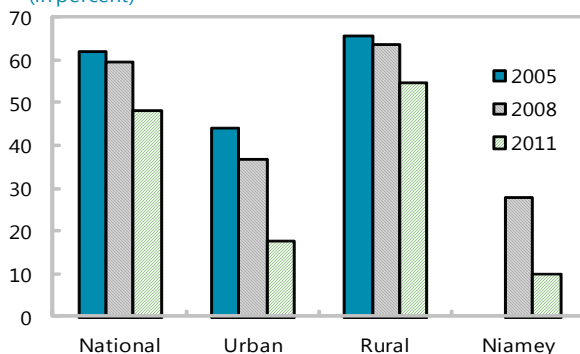


Inflation between 2005 and 2013
(in percent)



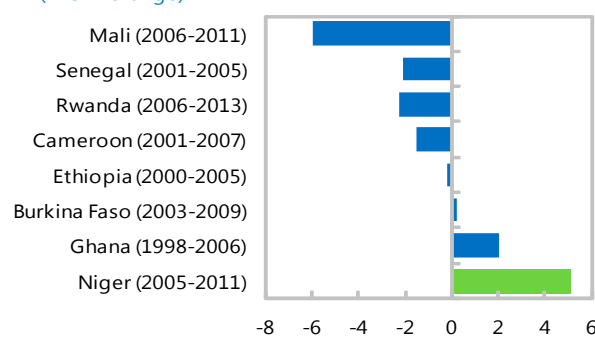
Poverty, though pervasive, has been decreasing ...

Niger: Poverty headcount, 2005, 2008 and 2011
(in percent)



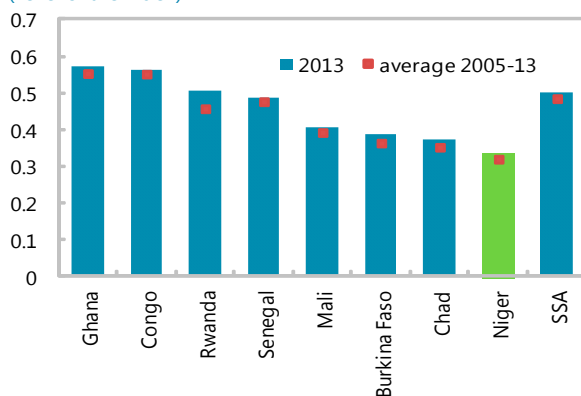
... however, inequality has been rising.

Change in Gini coefficients, various years
(in Gini change)



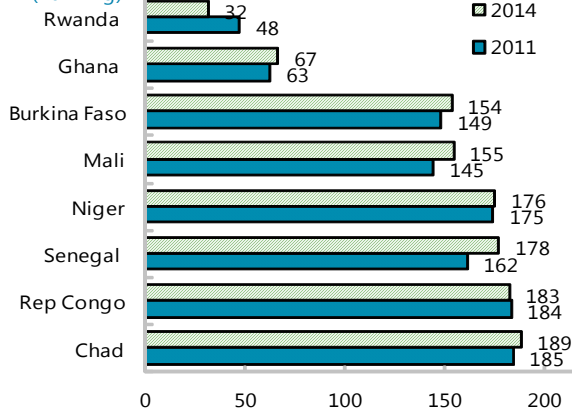
Niger ranked last in terms of human development

Human development index in 2013
(level of the index)



... and among the last in terms of doing business

Doing business rankings, 2011 and 2014
(Ranking)



Sources: Nigerien authorities; World Bank; UNDP; World Economic Outlook database; and IMF staff calculations.

B. Stylized Facts

4. **The Nigerien economy is undiversified and subject to recurrent shocks.** The economy is heavily dependent on agriculture which represents about a third of total GDP and serves as primary activity for about 70 percent of the households in the 2011 survey. The agriculture sector is subject to severe weather shocks that occur on a regular basis and are the source of large GDP variations. Between 2004 and 2011 the country has recorded three major droughts in 2004, 2009 and 2011 that directly affected the poor households through the income channel as most rural households have their primary activity in agriculture or livestock, but also through the price channel as inflation increases after a bad harvest. Another challenge that the Nigerien economy faces is the internal (Tuareg rebellion) and external (regional conflicts and terrorism) security situation that place substantial strains on both resource allocation and the business environment.

5. **Inflation has been very volatile but recent policies put in place by the government have helped to moderate the fluctuations.** Food inflation reached 15 percent in 2005 following the 2004 drought and was negative in 2006 and 2007 before increasing sharply to above 20 percent in 2008 because of the 2007-09 Tuareg rebellion and lower growth in agriculture production in 2007. Inflation has been moderate and less volatile in recent years despite weather shocks owing to the policies that the government has put in place to support the most vulnerable families in urban and rural areas through free cereals distribution or selling at subsidized prices (Figure 2a).

6. **The business climate has not improved in recent years.** Private sector development is key for structural transformation, which is necessary for strong and sustained growth that could benefit a large part of the population, coupled with right policies. Niger is among the countries that offer the most difficult conditions for business development. It ranked 176 in the 2014 Doing Business Report, one notch down from three years ago (Figure 1). The main obstacles for doing business are the predominance of the informal sector, access to finance, and governance (Figure 2b)

Figure 2a. Niger: Inflation, 2000-13

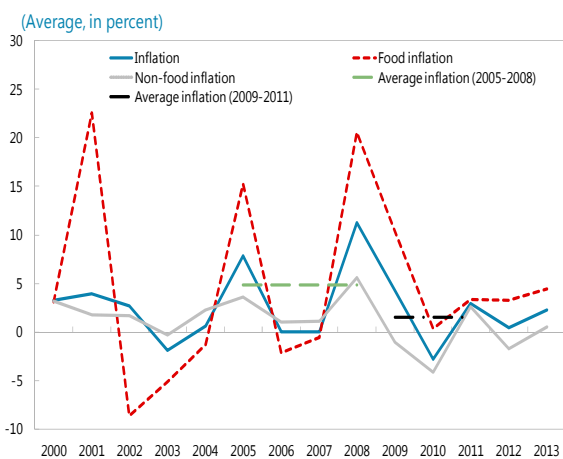
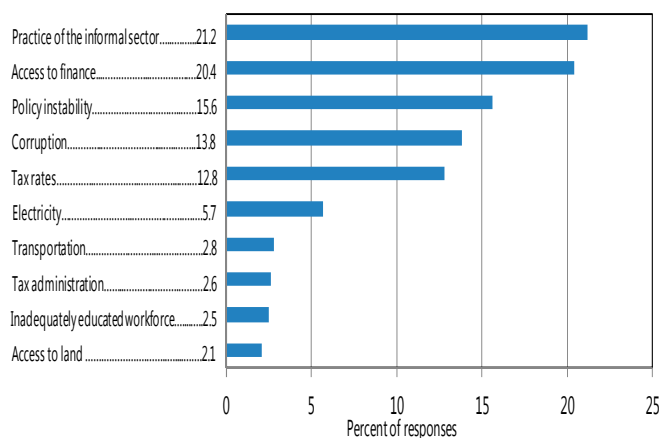


Figure 2b. Niger: Main Obstacles for Doing Business



C. How Pro-Poor and Inclusive was Growth during 2005-2011?

Definition of Pro-Poor Growth and Inclusive Growth

7. **In this paper, we apply the most commonly used definitions of pro-poor and inclusive growth:**— following Ravallion and Chen (2003), growth is defined as pro-poor when it reduces poverty headcount;— and following Rauniar and Kanbur (2010), growth is defined as inclusive when it is not associated with an increase in inequality. In other words, growth is inclusive when it does not lead to a reduction in the income share of the bottom quintile of the income distribution.

How Pro-Poor was Growth?

8. **Growth was pro-poor in Niger during both periods (2005-08 and 2008-11) but more in the second period.** The national poverty headcount using the national poverty line declined from 62.1 percent in 2005 to 59.5 percent in 2008 and to 48.2 percent in 2011 (Figure 1). The drop was more significant in the second period with 19 percent decrease in the poverty rate against 4.2 percent decrease in the first period. The elasticity of the poverty headcount with regard to growth was also higher in the second period 1.2 against 0.3 in the first period. This elasticity is higher than the one for Mozambique 0.3 during 1996/97-2002/03, and lower than the one for Mali 1.9 during 2001-06. The reduction of poverty was more significant in urban than rural areas which are more vulnerable to climate shocks and have a higher fertility rate. The poverty rate in urban areas fell by 16.8 percent in the first period against 2.7 percent in rural areas, and the reductions were respectively 51.2 percent and 14.6 percent in the second period.

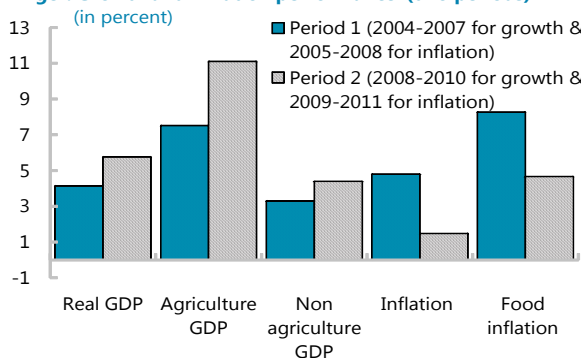
How Inclusive was Growth?

9. **The growth incidence curves and the Gini coefficients show that growth was not inclusive in either period (Figure 3).** The Gini coefficient increased by 11.1 percent during the first period and 4.5 percent during the second period. The growth incidence curve between 2005 and 2008 shows a decline or no improvement in welfare for the bottom half of the income distribution while there was an improvement for the top half that gets bigger as one moves towards the top quintiles. In the 2008-11 period, the growth incidence curve shows that all income categories experienced improvements in welfare with higher increases for the poorest and the bottom of the top half of the income distribution.

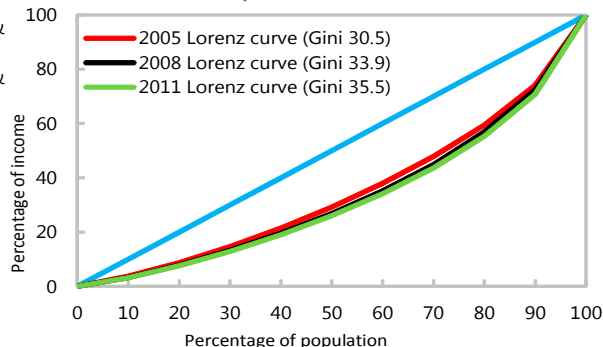
10. **Higher growth in agriculture and non agriculture sectors, with lower inflation explained the more pro-poor and less non inclusive growth in the second period.** Real GDP averaged 4.1 percent in the first period and increased to an average of 5.8 percent in the second period while inflation averaged 4.8 percent in the first period and decreased to an average of 1.5 percent in the second period (Figure 3). The higher elasticity of poverty with regard to growth in the second period suggests that policies implemented by the government to support poor households were effective.

Figure 3. Niger: Growth Inclusiveness¹

Growth and inflation improved in period 2, ...
Niger: Growth and inflation performance (two periods)
 (in percent)



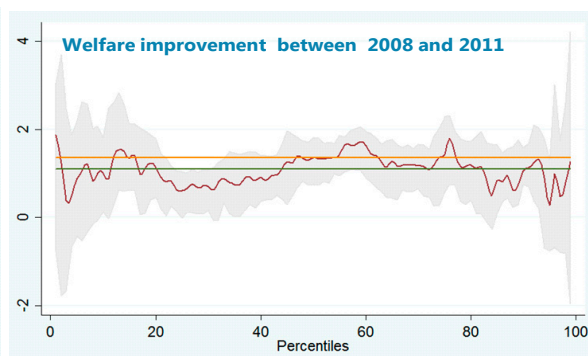
...therefore, inequality increased less in period 2
Lorenz curve for 2005, 2008 and 2011



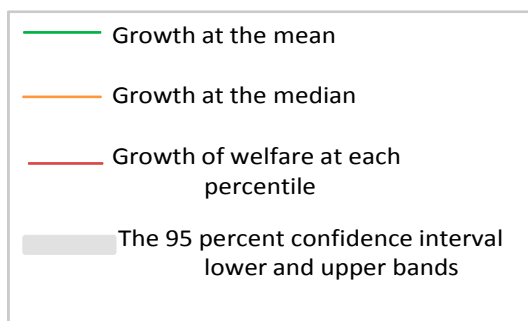
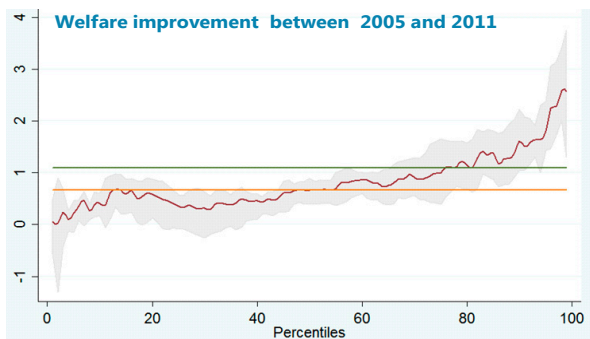
between 2005 and 2008 welfare improved only for the top half of the income distribution, ...



and between 2008 and 2011 welfare improvements were more balanced across income levels



Combining the two periods, welfare improved for all categories but more for the top half of the income distribution



Sources: Nigerien authorities; and IMF staff calculations.

¹As the agriculture GDP in year N is based on the production during the agricultural campaign of year N/year N+1, we used the average growth of 2004-05 to analyze the poverty during the period 2005-08 and the average growth of 2008-10 for the period 2008-11.

D. The Determinants of Poverty in Niger

11. **Mirroring the profile of the Nigerien population, most of the poor are in rural areas and working mainly in the agriculture sector.** Using data of the 2011 survey, we estimated the factors explaining poverty in Niger:⁴

- **The predominance of poverty in the rural areas is evidenced by a strong positive effect of the urban dummy.** Being a woman head of a household in the rural areas increases the likelihood of being poor. In the urban centers gender on poverty is statistically significant but with a marginal effect.
- **Civil servants are better off with stronger effect in the rural areas.** Civil servants working in remote rural areas enjoy often a higher salary because of additional allowances they receive; moreover, with the low cost of living in rural areas, they could save and live in better conditions. **The workers in the trade and transportation sectors are also better off mainly in rural areas and especially for men.**
- **The size of the household has a strong and negative effective on welfare.** The effect gets bigger when the sample is restricted to the rural areas or to male.
- **Lack of education has a strong negative effect on welfare.** The effect more than doubles in urban areas as education gives more opportunity for a well paid job. The effect is small in rural areas. Restricting the sample to men, the effect weakens slightly suggesting that lack of education has a stronger negative effect on welfare for women.
- **Working in the agriculture sector has a negative effect on welfare which almost triples in urban areas and is reduced in the rural areas.** In urban areas only poor families work exclusively in the agriculture sector, the rich families are often doing agriculture as a side activity.

	All sample	Urban	Rural	Male
Household size	-0.37 ***	-0.35 ***	-0.38 ***	-0.39 ***
Age of the head of the household	-0.03 ***	-0.04 ***	-0.03 ***	-0.02 ***
Sex (Male)	0.14 ***	0.02 ***	0.18 ***	
Urban	0.41 ***			0.38 ***
Farmer	-0.10 ***	-0.28 ***	-0.06 ***	-0.11 ***
Education (not educated)	-0.14 ***	-0.38 ***	-0.04 ***	-0.12 ***
Commerce and transport	0.13 ***	0.09 ***	0.19 ***	0.13 ***
Public service	0.38 ***	0.23 ***	0.51 ***	0.39 ***
Constant	0.90 ***	1.59 ***	0.72 ***	1.02 ***
Number of observations	3,859	1,516	2,343	3,344
Number of observations (with weight)	2,521,252	453,116	2,068,136	2,247,590
Adjusted R-square	0.3998	0.3493	0.2437	0.40891
Note: *** indicates significant at 99 percent				
Sources: Nigerien authorities; and IMF staff calculations.				

⁴ We estimate a equation of the deviation from the poverty line ($\ln(\text{welfare}/\text{poverty line})$) on the following factors: size of the household (in \ln), age of the head of household (in \ln) and dummies for: gender, location, education, branch of activity (agriculture, commerce and transport), and socio-professional background (public sector).

E. Conclusion and Policy Implications

12. **The recent growth in Niger was pro-poor, resulting in a significant reduction in poverty; however this growth did not lead to a reduction in income inequality.** Higher growth in all sectors combined with low inflation translated into a faster reduction in poverty and moderated the increase in inequality. Therefore macroeconomic stability with high and sustained growth is important to achieve inclusive growth in Niger. To achieve pro-poor and inclusive growth, the authorities should consider the following policies:

- **Improve budget allocation to priority spending with a balanced and sustainable fiscal policy.** Our results show that spending on education for women is crucial for poverty reduction. Policies to support vulnerable households could also be effective in smoothing inflation and reducing poverty. Better coordination among different stakeholders could improve resource allocation and ensure fiscal sustainability.
- **Reinforce resilience to exogenous shocks through agriculture modernization.** Investing in water management, irrigation, agriculture mechanization, and improved seeds and fertilizers could improve resilience to climate shocks, reducing poverty in rural areas. The government has recently launched the 3N Initiative—(Nigeriens Nourish Nigeriens)—(aimed at scaling up agriculture and livestock production to ensure food self-sufficiency. Downstream activities in the agricultural sector such as storage, agro-processing and trade can also help improve resilience and provide higher incomes.
- **Maintain political stability and improve regional cooperation to mitigate security risk.** Niger is engaged in a peace keeping mission in the north of Mali and is cooperating closely with the international community to tackle the spillover risks of regional conflicts and terrorism threats. This engagement places substantial strains on priority spending. Improved political stability across the region could contribute to ensuring that public resources from the natural resource sectors are invested in high return infrastructure projects ensuring intergenerational benefits.
- **Improve the business climate to promote private sector development and structural transformation.** Private sector development is critical to economic growth. Therefore, it is important that the main impediments to private sector development are quickly addressed. A good judicial system, simple procedures to register businesses, access to official documents, and a simple tax system would be conducive to reducing the informal sector predominance and increasing access to the financial sector.

References

- Balakrishnan, Ravi, Chad Steinberg, and Murtaza Syed, 2013, "The Elusive Quest for Inclusive Growth: Growth, Poverty, and Inequality in Asia". WP/13/152 (Washington, June).
- International Monetary Fund, 2010, Regional Economic Outlook: Asia and Pacific, Consolidating the Recovery and Building Sustainable Growth (Washington, October).
- International Monetary Fund, 2011, Regional Economic Outlook: Sub-Saharan Africa, Sustaining the Expansion (Washington, October).
- International Monetary Fund, 2013, "Mali: Achieving Strong and Inclusive Growth with Macroeconomic Stability". AFR/13/08 (Washington).
- International Monetary Fund, 2014, Regional Economic Outlook: Sub-Saharan Africa: Fostering Durable and Inclusive Growth (Washington, April).
- Institute of National Statistics of Niger and the World Bank, 2013, "Profile and Determinants of Poverty in Niger in 2011 (Niamey, June).
- Rauniyar, Ganesh P., and Ravi Kanbur, 2010, "Inclusive Development: Two Papers on Conceptualization, Application, and the ADB Perspective." Working Papers 57036, Department of Applied Economics and Management (Ithaca, NY: Cornell University).
- Ravallion, M., and Chen, S., 1997, "What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?" World Bank Economic Review, Vol. 11, No. 2, pp 357–82 (Washington: World Bank).
- Ravallion, M., and S. Chen, 2003, "Measuring Pro-Poor Growth," World Bank Policy Research Working Paper No. 2666 (Washington: World Bank).

FOOD SECURITY FOR MACROECONOMIC STABILITY AND INCLUSIVE GROWTH¹

1. **In the last decade, Niger suffered from a succession of food and nutrition crises.** Many Nigeriens are chronically vulnerable to food insecurity, which could affect more than 45 percent of the total population during crises years. Nigerien food crises arise from grains deficits due to poor harvests and locust attacks, leading to increased food prices and making food less accessible (Table 1). Niger has put in place a public prevention system: the National System for Disaster and Crisis Prevention and Management (NSDCPM) supports for more than 15 years a dynamic of food security, by strengthening grain banks and developing labor intensive jobs, promoting small scale irrigation, and other initiatives to improve households' income.

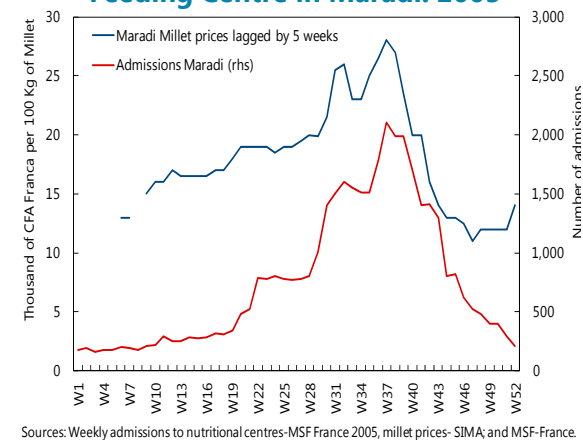
Table 1. Niger: Food Crisis, 2000-12

Year	Explanatory factors	Affected people (Million)
2000-2001	Grain deficit Rising grain prices Employee salaries areas	3.4
2004-2005	Grain deficit Rising grain prices Strained regional trade flows	3.6
2008-2009	Increase of international and regional prices	4
2009-2010	Livestock farming crisis Grain deficit decrease in production	7.5
2011-2012	Livestock farming crisis poor harvests Northern mali political crisis Impact of previous crisis	6.4

Source: Food across borders

2. **Food crises, however, are still eroding households' capital stocks and weakening their nutrition status.** The Nigerien food crisis prevention system—the Food Security Fund and the National Security Stock— have been more effective in some years, for instance in 2010, than others (2001, 2005). Nigerien households contract debt and sell accumulated assets (livestock) to meet rising costs of food. These effects of food crises (see table 1) do not, however, allow affected households to rebuild their capital and means before the occurrence of the next crisis. In addition, increased food prices, by forcing households to concentrate expenses on basic staples (at the expense of health and education), reduce food diversity and households' balance diet, in particular adversely affecting the

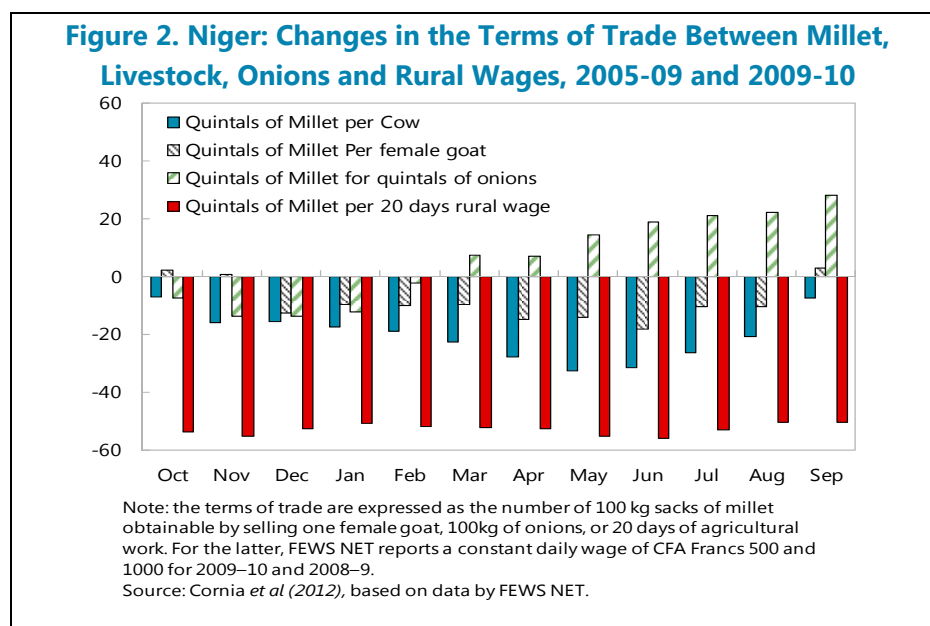
Figure 1. Niger: Weekly Millet Price (lagged five weeks) and Admissions to MSF Feeding Centre in Maradi. 2005



¹ This note was prepared by Cheikh A. Gueye.

nutritional status of children (Figures 1). This makes it unlikely the achievement of the millennium development goals.

3. **Food crisis shocks also increased volatility of production, adversely affecting inflation and terms of trade.** Low and stagnant land yields, and rapid growth of the rural population have increased output volatility and heightened the vulnerability of Niger's food security.² As households' cereal balance sheet (production minus consumption) deteriorate, they become more dependent on markets for food supply. At the same time, food imports from regional markets³ as well Asian markets (for the case of rice) become an increasingly important component of total food supply. As a result, Niger's growing dependence on import affects adversely the terms of trade in time of crises (Figure 2). Despite the importance of imported food in households' baskets, however, inflation seems to be mostly driven by domestic factors,⁴ adversely affecting overall inflation which would have been even higher in the absence of food subsidies. The annualized fiscal costs of food tax decreases were estimated at around .7 percent of GDP between 2006 and 2008, among the highest in a group of 31 countries.



4. **With the increasing role of markets in food supply, inadequate bank financing of cereals markets and lack of reliable information could compound volatility of prices.** Nigerien farmers have benefited from numerous public supports and public investments in the agriculture

² Prior to the 1980s droughts were recorded on average every ten years, over the last 20 years they took place every five years, while over 1997-2004 there were three crisis, though over 2005-10 there were one bad year, and a semi-bad one.

³ Northern Nigeria and to a lesser extent Mali, Burkina Faso, and Benin.

⁴ Cornia and Deotti, 2009.

sector, in particular in irrigation; this limited somehow the impact of insufficient rainfall on available food and consequently on price volatility. However, as recent food crises revealed the increasing role of markets in the supply of food and the dynamics of grains' prices, further increased of bank credit to cereal markets traders may help to better leverage the markets and subdued volatility of prices. So far, only limited number of Nigerien banks (Sonibank, BIA, and Ecobank) started in 2005 opening branches in the agriculture zone of Niger (Marad). As the cereal markets function largely on speculation, lack of reliable information on markets could lead speculative traders to incur significant losses as result of unpredictable price movement during some years.

5. **Policies seem not to have fully integrated the role of markets and traders in managing food security.** Structural food security had been first implemented in the framework of Rural Development Strategy (RDS) which was recently replaced recently by the "3N" Initiative (Nigeriens Nourishing Nigeriens)⁵ aimed at ensuring national and household food security. Despite the 3N initiative to integrate markets and regional interdependences, more needs to be done. The implementation of short-term food security policies by the governments in response to economic crises often come as a surprise to the private stakeholders, thus disrupting the normal functioning of the markets. This type of situation increases the risk to private-sector investment in marketing activities stockpiling, adversely affecting the markets.

Challenges Ahead

6. **Role of markets.** The "3N" reflects strong political leadership in food security; staff will stress the importance of the markets in food security as it has been shown by the 2010 crisis: Food transfers provided by the market are incommensurate with the volume of transfers provided by humanitarian organizations. In addition markets responded more timely, while the resources from international organization take more time to assemble.

7. **Role of regionalization.** Given the prominent role of the regional economy and the many interdependencies with agricultural and food economies of neighboring countries, staff will urge authorities to leverage on the integration framework such as WAEMU Agricultural Policy (WAP) and the ECOWAS agricultural policy.

⁵ "3N" Initiative, defined up to 2035, is included in the Economic and Social Development Plan (PDES) for the 2012-2015 period. Although, it refers to formal integration framework such WAEMU Agricultural Policy (WAP) and the ECOWAS agricultural policy, references were not broken down in the initiative.

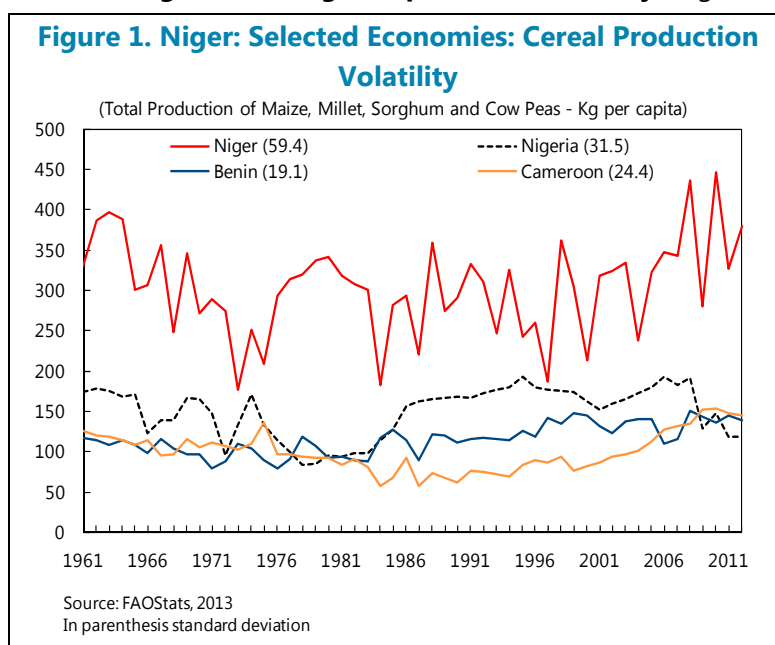
REGIONAL TRADE AND FOOD SECURITY: FOOD CRISES IN 2005 AND 2010¹

Niger has diversified its sources of cereal supply, but Nigeria remains its major supplier. Trade flows are facilitated by proximities and shared values by a network of traders. Other factors such as depreciation of the naira against the CFA franc and evolving regional integration are contributing to increased trade flows. As Niger depends more on Nigeria and other neighbors to manage its grains deficits and stabilize domestic prices, a regional regulation mechanism would help to ensure the stability of food price across the region.

A. Background

1. Cross-border trade of grains between Nigeria and Niger impacts food security. Niger

experiences a high variability of grains production, leading oftentimes to food crisis, significant price increases, food access problems, and consumption shortfalls (Figure 1). Regional trade has often acted as a cushion to grains deficits. For instance, the 2005 and 2010 experiences showed the role that markets and cross border trade can play in dampening food insecurity. Food production deficit was relatively low in 2005, but inadequate functioning of markets aggravated the impact of the crisis. In contrast, in 2010, improved functioning of regional trade increased availability of food and limited significantly the adverse effects of the crisis.



2. **Against this background, the note examines the following issues related to regional trade and food security, in order to better highlight the challenges ahead:** (i) the volume and determinants of regional grains trade; (ii) the cross-border trade and its impact on food security; and (iii) the challenges to cross-border trade.

¹ This note was prepared by Cheikh A. Gueye.

B. Volume and Determinants of Trade

3. **Niger's geographical situation and similarities with neighbors favored regional trade with them, in particular Nigeria.** Niger shares a long border (over 1,500 km) with Nigeria, as well as complementary agro-pastoral activities. Shared culture, language, and social and religious values of the Hausa people on both sides of the border favored the formation of networks of traders. These networks allow intensive trade surrounding the cities of Maradi in Niger, Katsina and Kano in Nigeria (the "K²M axis"). Traded products are livestock, cowpeas (niebe), peppers and tigernuts (souchet) from Niger, grains and manufactured goods from Nigeria, and other products re-exported (from Benin/Togo) to Nigeria.

4. **This cross-border trade plays an important role in Niger's food security.** Trade has benefited to Niger food security, and also to neighbors. For instance, trade allows Nigeria and Niger to make the most of their respective competitive advantages. Niger exploits its advantageous position in livestock production and trade, almost entirely (97 percent) exported to Nigeria, while Nigeria supplies almost 60 percent of Niger's grains deficits. In terms of absolute value, some estimates talk of around 200,000 tons of Nigerian millet and maize having been sold in Niger each year during the 1990s, underlining the importance of Nigerien imports. The Niger's agricultural market information system for the years xxx shows that maize represent between 40 and 55 percent of the country's dryland cereal imports, while millet comprises between 30 and 40 percent of such imports.

5. **Many factors have shaped regional food flows.** Production's fluctuated greatly from one year to the next due to rainfall variability, locust attacks, and the provision of seeds and fertilizers. Governmental policies such as opening or closing of borders to imports or exports, different fiscal policy, and levels of public grains purchases can vary from country to country, leading to high levels of fluctuation for the whole grain availability and access. Also, changes in the three main currencies' (naira, CFAF, cedi) exchange rates could also affect the cross-border trade. International food aid flows and conflicts situations affect regional availability of food and trade flows. The creation of favoured trade areas such as ECOWAS and WAEMU supported also the development of regional trade, through the harmonization of tariffs and fiscal policies.

6. **Other factors still hinder full development of regional trade flows.** Complicated rules and regulations impede the movements of goods and services. While large traders are not sensitive to these practices, small traders' activities seem to be obstructed by these rules. Also, gradually, the language barrier reigns over socio-cultural affinities. Although the naira has been stable over the last years, traders from Niger continue to have reservations to this currency. And, the absence of instruments to hedge against the exchange rate risk surely limits the volume of transactions between the two countries. But most importantly, rising insecurity is becoming a barrier to trade as most of the Nigerien cereal traders prefer Nigerians to come and transact business in Niger.

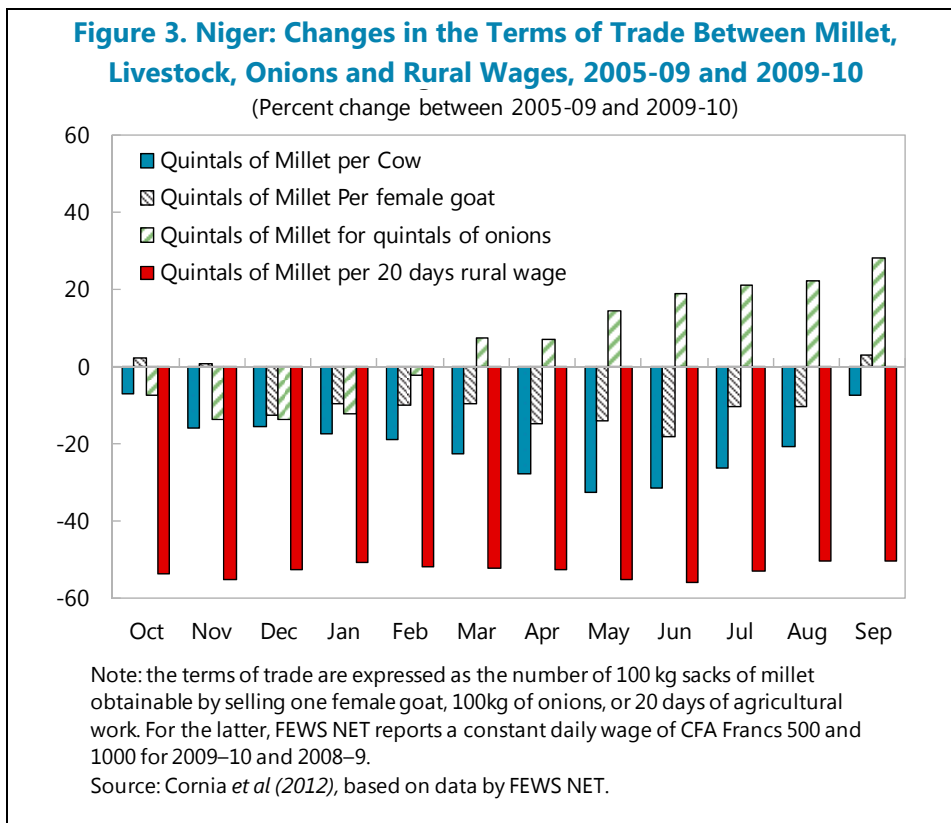
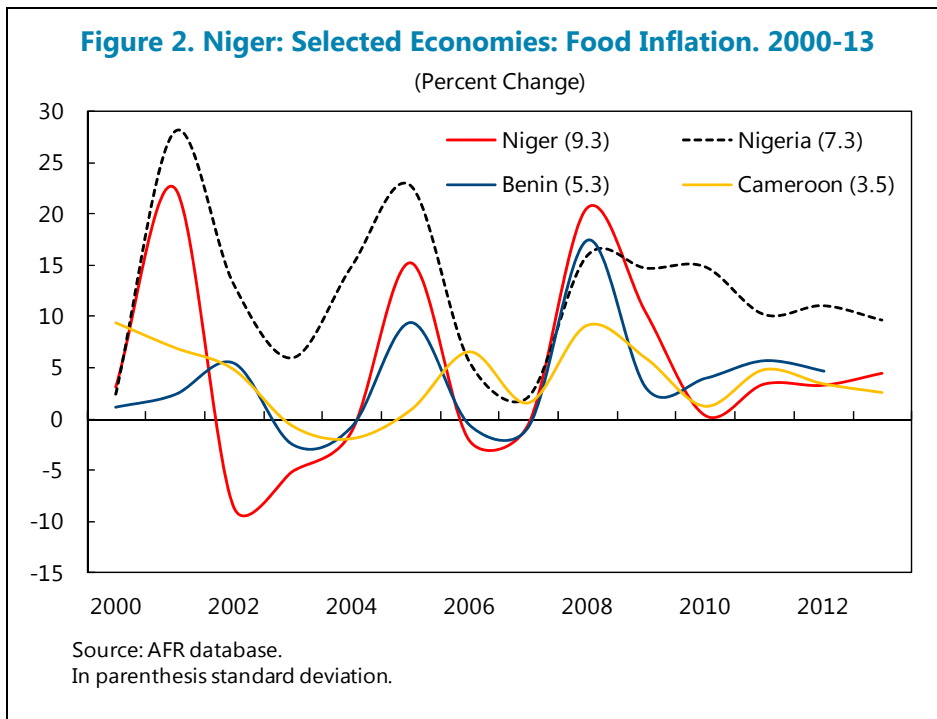
C. The Events of the 2005 and 2010 Food Crises

The 2005 Crises

7. **The drop of production was limited, but prices increased significantly.** The 2005 food crisis in Niger has been due to locust invasion and drought. Production shortfalls were not particularly alarming compared to other years: production at end-2004 was only 7.5 percent below the national food requirement. However, there was an extremely large price hike for millet and other grains. Price surged in July 2005 for millet, with an average between 25000 and 30000 FCFA per 100kg sack, against a normal level of 15000 CFAF. Although the level of the prices were judged reasonable compared to their development during for instance the 2000-2001 agricultural season, their jump was particularly sharp in July.

8. **The price increase was the result of insufficient supply in relation to demand.** Cereal supply from effects of shortages is usually satisfied in Niger through imports from Nigeria, Burkina Faso and Mali for millet, and from Nigeria, Benin and Ghana for maize. In 2005, however, imports could not offset production deficits because: (i) high prices levels in Nigeria were the same in Niger due to increased integration of regional markets, therefore there was no incentives to trade in direction of Niger; (ii) disruption of domestic markets by uncoordinated government intervention as anticipating bidders to government grains' auctions bought most of their stocks from the Niger markets; (iii) a drop of agricultural production in neighboring countries (Cameroon, Nigeria, Chad); (iv) formal and informal obstructions to cross border commodity flows, in particular from the Nigeria side and later from the Niger side; and (v) structural changes in demand due to the increase in urban population in Nigeria.

9. **Nigeria became a net importer, but the early warning system did not detect it earlier.** Niger's early warning system did not also detect the direction and volume of grain flows from Niger to Nigeria, neither the widespread grain shortfall in the sub-region which contributed to tight supply and a sudden price rise on the market (Figure 3). Subsequently, the collapse of the terms of trade between cash crops (for instance onions exported by Niger to Nigeria) and grains on the one hand, between livestock and grains on the other hand (Figure 4), exacerbated poverty in Niger. Finally, as the food crisis was only lately detected, it was aggravated by the tardy and insufficient mobilization of Niger's partners.



The 2010 Crisis

10. **The 2010 grains deficit was almost the same as that of 2005, but timely response of markets altered the impact of grains deficits.** The 2010 crisis was due to production shortfall in the 2009 harvest estimated at around 400,000 tons of grain, almost the same level as the 2005 deficit level. But, its impact was very limited compared to the 2005 crisis because grain imported from Nigeria (and to some extent from Benin) acted very effectively to stabilize prices. The Early Warning System (EWS) detected quickly the 2010 crisis because the government developed in 2007 a national contingency plan for food security and nutrition which included more comprehensive parameters providing information not only on cereal output and prices, but also on imports, the nutritional status of the population.

11. **Swift action of the government helps to avert impact of the crisis.** Availability of grains in neighboring countries, particularly Nigeria, and swift action of the government and its partners helped to avert impact of the 2010 food crisis. In early February 2010, an assessment of markets and food security conducted jointly by CILSS, WFP and FEWS NET showed that 80% to 100 percent of markets in Niger were supplied each week with close to 4,300 tons of dry grain from Nigeria, 1,750 tons from Benin and 240 tons from Burkina Faso. Nigeria was thus the major grain supplier to Niger, as seen in the map above. The World Food Program (WFP) was able to purchase large quantities of grain regionally, from government grain offices (60 percent) and from major traders (40 percent). These supplies were used to benefit the poorest people in the population, through the “work for money” scheme and direct distribution.

12. **Price differential between Niger and Nigeria was positive.** According to a WFP study, the price differential for dry grains (millet, maize, sorghum) between markets in Niger and markets across the border remained positive, creating incentives to export these products to Niger. The cross-border grain trade continued in favor of Niger until July-August of 2010, and prices remained stable.

13. **The 2005 and 2010 food crises emphasize the extent to which the fate of the poorest segments of the population in Niger is closely linked to the health of the Nigerian economy.** This case illustrates Nigeria’s economic responsibility in the sub-region and the importance of regional-scale crisis management in the Sahel.

Challenges Ahead

14. **Improving regional market monitoring systems.** Establish a strong regional market monitoring system is the key that will work together with national market information systems. The regional market monitoring system will encompass prices and flows for both agricultural and livestock products. To do this, an agreed in-depth regional understanding of market behavior is necessary, as well as support for database and cartography development.

15. **Better understanding of the interaction between households and markets.**

Characterizing these relationships would assist in identifying when price changes could leverage food access. Niger could leverage here on the work done in the case of Mauritania.

16. **Institute a regional regulation mechanism of markets and prices of grains.** Niger

depends more on Nigeria and the region to manage its deficits and stabilize domestic prices. However, an efficient regulation of grains markets requires a regional mechanism that would help to ensure the stability of food price across the region.

DRIVING FACTORS OF MIDDLE CLASS' BULGE: A CROSS-COUNTRY VIEW¹

The box looks into the driving forces of the middle class' bulges. Identifying these forces would help to assess what policies help the middle class to grow and contribute more to the development process. Cross country experiences distinguish the following factors: (i) economic growth and income distribution; (ii) well-paid jobs and education attainment; and (iii) mobility and vulnerability.

A. Economic Growth and Income Distribution

1. **Sustaining Economic Growth.** Sustained economic growth tends to lift large numbers of people out of poverty and into the middle class. However, sustained growth requires fiscal discipline, sound monetary policy, and improved infrastructure (Birdsall, 2007). The vibrant example is China, where GDP growth averaging about 10 percent a year has lifted more than 500 million people out of poverty, and all Millennium Development Goals have been reached or are within reach.
2. **Reducing Income Inequality.** To highlight the role of reducing income inequality in building a middle class, Kharas and Gertz (2010) cite the experiences of Brazil and Republic of Korea. From 1965 to 1980, Brazil economy grew an average of 5.6 percent, putting per capita GDP in 1980 at PPP \$7,600. Given its high income inequality, the middle class constituted only 29 percent of the population by 1980. The small size of the middle class and its relatively low levels of consumption hindered the development of a knowledge-based economy, and to this day Brazil remains a commodity exporter. In contrast, the Republic of Korea grew by almost the same level (6.5 percent per year during 1965-86), reaching per capita GDP in 1986 of PPP \$7,700. However a more egalitarian income distribution meant that the Republic of Korea's middle class made up 53 percent of the population, allowing it to develop a service and knowledge-based economy.²

¹ This note was prepared by Cheikh A. Gueye.

² Over the years, the Republic of Korea introduced many programs to boost the bulge of the "middle class: "Workers' Asset Building Savings" in 1976, where employees with a given level of income were entitled to a tax- exempted asset building account, with employer added subsidies in the form of matching funds, raising the effective interest rate to around 60-180 percent higher than the normal rate. The "National Health Insurance System" which provides medical services at affordable prices, was an important foundation for building a middle class. And after the 1997/1998 Asian financial crisis, government remained focused on "Middle Class Recovery" reducing taxes by between 17.9 and 41.7 percent to some income brackets. In March 2009, "Human New Deal for Middle Class" was designed to help maintain and create jobs.

B. Jobs and Education

3. In addition to sustaining economic growth and reducing income inequality, ultimately two factors drive the creation and sustenance of a middle class: (i) stable, secure, well-paid jobs with good benefits, and (ii) higher education.

4. **Creating Well-Paid Jobs.** Examination of middle class profiles in the Philippines, India, and the People Republic of China, shows that a large portion of the middle class have jobs which provide them with stable incomes in comparison to the poor, who are primarily self-employed. Banerjee and Duflo (2008) make a similar point in their paper on the middle class in developing countries: Nothing seems more middle class than the fact of having a steady well-paying job.

5. **Promoting Widespread Education.** This should be done especially post-secondary, is the other important element in creating a large middle class. The United States of America provides an example with the G.I. Bill of 1944—which provided college or vocational education benefits to returning World War II veterans.

FINANCIAL INCLUSION, ACCESSIBILITY, AND DEVELOPMENT¹

This paper attempts to identify factors hindering the development of the financial sector in Niger. The analysis shows that key constraints are lack of credible collateral, as the widespread customary land tenure system impedes land titling; very high overheads, largely reflecting structural constraints; institutional weaknesses, including inadequate protection of creditor rights and the absence of a commercial court; and limited credit information as there are no established credit reference bureaus. Empirical estimates from a panel regression confirm that weaknesses in the institutional and information environment hinder financial sector development in the WAEMU region, which includes Niger.

A. Theoretical Framework

1. **A robust financial sector is crucial for inclusive growth and poverty reduction.**

Countries with better functioning and developed banks and financial markets grow faster than countries without [Levine (1997) and Levine (2004)]. Better developed financial systems provide external financing to firms and enable them to expand. The nexus between financial development and economic growth is summarized in Greenwood and Jovanovich (1990): "...in the early stages of development in which exchange is largely unorganized, growth is slow. As income levels rise, financial structure becomes more extensive, economic growth becomes more rapid, and income inequality across the rich and poor widens. In maturity, an economy has a fully developed financial structure, attains a stable distribution of income across people, and has a higher growth rate than in its infancy..." Thus, a country's level of financial deepening and access to finance for the poor is important for inclusive growth.

B. Stylized Facts

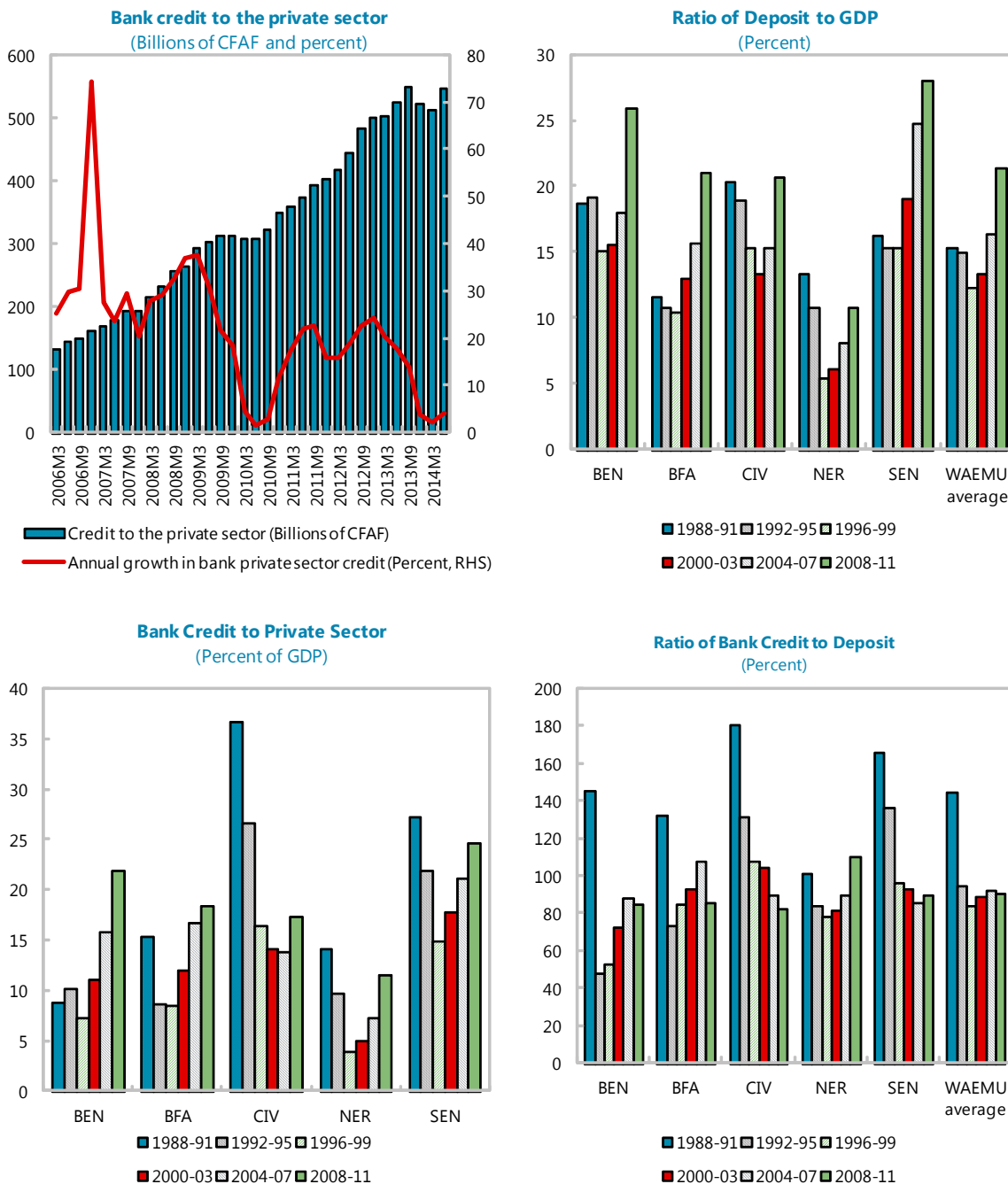
2. **Niger's level of financial development is among the lowest in the West African Economic and Monetary Union (WAEMU).** Although prudential indicators point to relative stability of the banking sector², financial deepening indicators, such as the ratio of broad money (M2) and private sector credit to GDP are low, standing at 24.2 percent and 14 percent in 2013 against the WAEMU average of 37 percent and 20 percent, respectively (Figure 1). Although bank credit to the private sector increased between 2007 and 2012 relative to 2006, it remains at the

¹ This note was prepared by Jimmy Apaa-Okello.

² Problem banks are currently being restructured: the authorities have invested equity in these banks as they consider their survival vital to the economy. The authorities are seeking private investors to acquire the government's shares in one of the three banks undergoing restructuring. Another bank, which had been placed under temporary administration, was undergoing restructuring with a new board of directors already appointed. The third bank was merged with a subsidiary based in Cote d'Ivoire, joining a network in seven other countries in the WAEMU region.

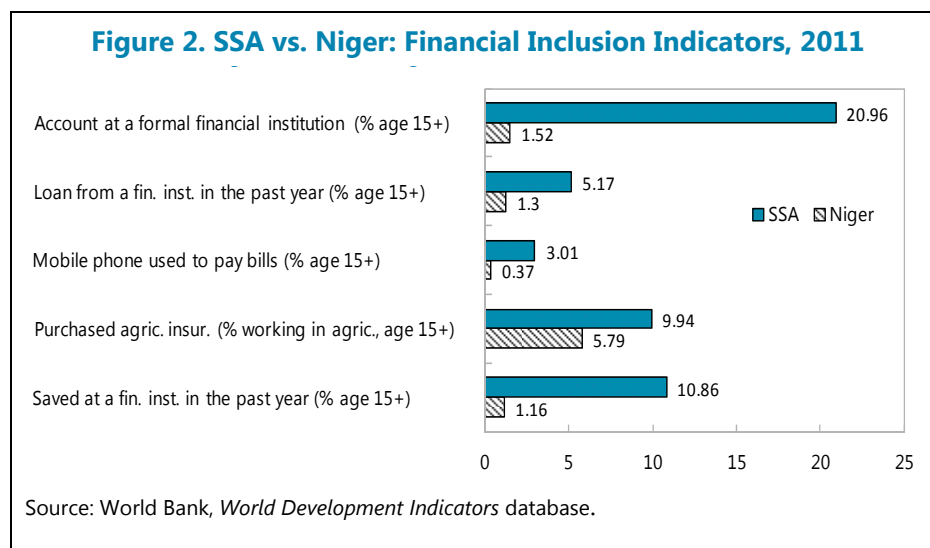
lowest in the WAEMU. In the recent past, credit growth decelerated markedly and has remained modest since August 2013.

Figure 1. Niger: Financial Intermediation and Development, 1988-2014



Sources: World Bank, *World Development Indicators* database; Nigerien authorities; and IMF staff estimates.

3. **Underdevelopment of financial products is pronounced and there is limited access of the population to the financial sector.** Financial inclusion indicators place the country below most sub-Saharan African countries; in 2011 for instance, only 1.5 percent of the population aged 15 years and above had accounts at a formal financial institution compared to 21 percent for sub-Saharan Africa, and 1.3 percent of the population aged 15 plus years had loans from a financial institution in the past year compared to the sub-Saharan average of 5.2 percent (Figure 2).

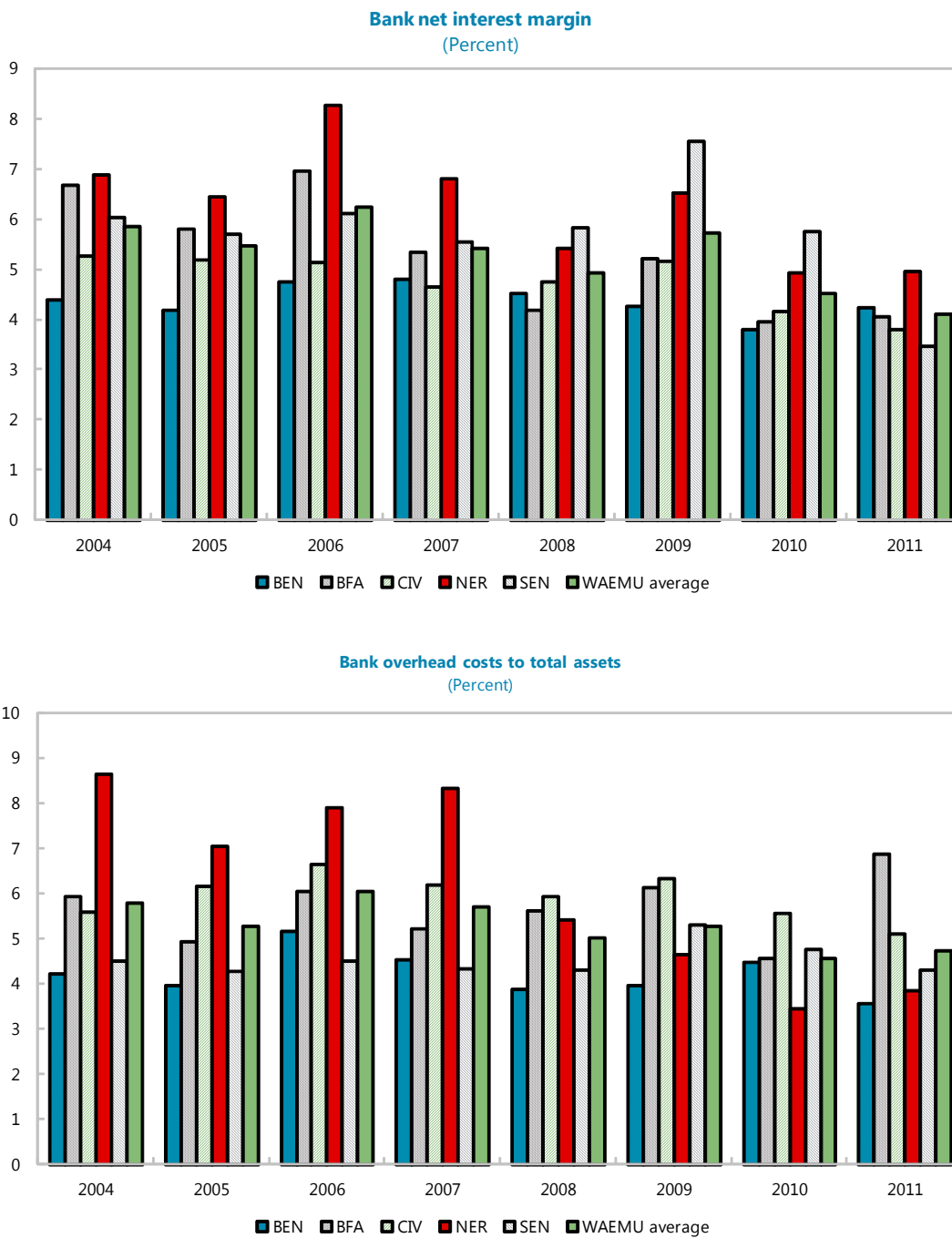


4. **The financial sector is dominated by commercial banks³.** This dominance implies that banks are very crucial in Niger for catalyzing growth, but the economy suffers from limited long-term financing. Almost all banks are associated with foreign, but Pan African Bank (PAB) groups. The development of network banks within the WAEMU region is an important and welcomed phenomenon, as it facilitates economies of scale and is also conducive for sub-regional economic integration. However, these networks could pose risks to the Nigerien banking sector, particularly if regulation and supervision are not harmonized and coordinated.

5. **Banks' net interest margins and overheads are very high relative to other countries in the region.** The high bank net intermediation margin (Figure 3) reflects high lending rates and degree of inefficiency, and limited competition in the banking sector. The high bank net interest margin also reflects heightened risks and vulnerabilities that the financial sector faces. The economy's export of primary commodities exposes the financial sector to large terms of trade shocks and volatile food and petroleum prices. The banking sector is also characterized by high overheads, which reflects investment in networks and structural rigidities related to inefficient basic infrastructure and energy.

³ There are currently 11 banks, 40 registered microfinance institutions, several postal offices providing financial services, four insurance companies, the national social security fund (*Caisse Nationale de Sécurité Sociale*-CNSS), one brokerage firm, and one branch of the WAEMU regional stock exchange.

Figure 3. Niger: Bank Net Interest Margin and Overhead Costs, 2004-11



Source: World Bank, *World Development Indicators* database.

6. **The institutional and information environment remains weak.** The ease of doing business indicators show that the institutional and information environment is lagging behind the sub-Saharan African average (Table 1). Enforcement of contracts, inadequate public registries and a weak judicial system represent some of the main constraints to credit growth in Niger. The combination of these factors reduces the efficiency of creditor rights and predictability of debt recovery in case of defaults, which adversely impact the willingness of banks to extend credit. These problems are complicated by the lack of credible collateral owing to inefficient land ownership systems, which have held back land titling.

Table 1. Niger: Cross-Country Comparison of Selected Doing Business Indicators, 2012

	Benin	Cote d'Ivoire	Guinea-Bissau	Niger	Senegal	SSA
Registering property						
Procedures (Number)	4	6	8	4	6.4	6
Cost (% of property value)	11.8	13.9	11	11	9	20
Cost of business start-up (Percent of GNI per capita)	126.8	130	42	112.8	67	64
Getting credit						
Legal rights (Index)	6	6	6	6	6	6
Credit information (Index)	1	1	1	1	1	2
Public Registry Coverage (% of adults)	10.9	2.9	1.1	0.8	5	4
Protecting investors						
Director liability (Index)	1	1	1	1	1	4
Shareholder suits (Index)	3	3	5	3	2	5
Investor protection (Index)	3.3	3.3	4	3	5	3
Enforcing contracts						
Procedures (Number)	42	33	40	39	39	43
Cost (Percent of claim)	65	42	25	60	51	27

Source: World Bank.

Note: The legal rights index ranges from 0-10, with higher scores indicating that laws are better designed to expand access to credit. The credit information index ranges from 0-6, with higher values indicating that more credit information is available from a public registry or private bureau. The Investor Protection Index is an average of three dimensions: transparency of transactions (extent of disclosure index), liability for self dealing (extent of director liability index) and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index); each of these indexes varies between 0-10, with higher scores indicating better investor protection. Cost is recorded as a percentage of the claim, assumed to be equivalent to 200% of income per capita. Only official costs required by law are recorded, including court and enforcement costs and average attorney fees where the use of attorneys is mandatory or common.

7. **Empirical estimates from a panel regression confirm that weaknesses in the institutional and information environment hinder financial sector development.** We augment the financial structure database developed by Beck, Demirgüç-Kunt and Levine (2000), Beck, Demirgüç-Kunt and Levine (2009) and Čihák et al (2012), using a select set of the World Bank's doing business indices to empirically assess the determinants of financial sector development in the WAEMU (eight countries⁴) relative to countries in the East African Community (EAC) (Kenya, Tanzania and Uganda) and Nigeria, Ghana and South Africa. The paper posits that the impact of these factors varies across regions. The findings (table 2) confirm that in addition to the high bank net intermediation margin, weaknesses in the institutional and information environment hinder financial sector development in all countries in the sample. Using the differential impact assessment⁵, the findings show that the impact of institutional and information weaknesses is more pronounced in the WAEMU countries than in the EAC, Nigeria, Ghana and South Africa combined. Also, the impact of high bank net intermediation margin in the WAEMU is more prominent but becomes irrelevant in the EAC countries, Nigeria, Ghana and South Africa combined.

C. Policy Recommendations

8. **Banks should hold more capital buffers.** Although all banks have met the new WAEMU minimum capital requirement of CFAF 5 billion, the large exposure to unanticipated risks remains a concern. The expected booms in the mining and oil sectors in the medium to long-term will provide banks with enormous opportunity to increase credit extension. Combined with prudential management of asset quality, the expected increase in credit calls for proactive regulation, including consideration for the introduction of a countercyclical capital buffer. The countercyclical capital buffer is to achieve a broader macro-prudential goal of protecting the banking sector during periods of excessive credit growth, which often is followed by a build-up of system-wide risks. The countercyclical capital buffer can play the function of protecting the banking sector from losses that often follow protracted credit booms; helping ensure that credit remains available during periods of stress; and during the buildup phase, as credit is being extended at a rapid pace, countercyclical capital buffers may cause the cost of credit to increase, thereby acting as a check on unrestrained credit growth.

9. **The authorities should address the weaknesses in the business environment.** The authorities should prioritize establishing a commercial court to resolve commercial disputes to increase the predictability of debt recovery in case of defaults. The regulator should urgently consider establishing a credit reference bureau to facilitate credit information sharing among banks and other financial institutions.

⁴ Member countries of the WAEMU are: Senegal, Niger, Benin, Burkina Faso, Cote d'Ivoire, Mali, Guinea Bissau and Togo.

⁵ This is done by interacting the dummy variable with bank net intermediation and doing business indicators (dummy = 1 for countries outside the WAEMU and 0, otherwise).

10. **The authorities should tackle the constraints hindering land titling to provide credible collateral.** Customary land tenure systems hinder land transactions and investment. Since land titling requires expensive undertakings of surveying all land, it is a costly undertaking to title all the land in the country at the same time. However, the authorities can nonetheless begin by surveying and titling land that are in or adjacent to major urban centers.

11. **Banks should embrace mobile banking as a way of rapidly enhancing financial access.** In Niger, there is an emergence of the use of mobile money services in recent years; currently three telecom companies provide mobile money services⁶. The rise in mobile banking is a welcome gesture as it is a way of increasing financial access. However, more widespread use could increase the potential for increased risks to customers and the financial institutions. The authorities should therefore put in place regulatory and supervisory frameworks to not only ensure safety for end-users, but facilitate innovation, efficient competition and the development of the sub-sector.

⁶ The BCEAO reported that, as at end June 2014, there were 3 bank intermediaries involved in mobile banking; the number of mobile banking service outlets countrywide was 15,234 compared to 655 in 2011; and the number of holders of electronic purse was 958,010 compared to 538,378 in 2011.

References

- Beck, T., Demirgüç-Kunt, A., and Levine R., (2000), A New Database on Financial Development and Structure, *World Bank Economic Review* 14, 597-605.
- Beck, T., Demirgüç-Kunt, A., and Levine R., (2009), Financial Institutions and Markets Across Countries and over Time: Data and Analysis, *World Bank Policy Research Working Paper* 4943, May 2009.
- Čihák, M., Demirgüç-Kunt, A., Feyen, E., and Levine, R., (2012), Benchmarking Financial Development Around the World, *Policy Research Working Paper* 6175, World Bank, Washington, DC, August 2012.
- Greenwood J., and Jovanovic, B., (1990), Financial Development, Growth, and the Distribution of Income, *The Journal of Political Economy*, Vol. 98, No. 5, Part 1. (October 1990), pp. 1076-1107.
- Levine, R., (2004), Finance and Growth: Theory and Evidence, *NBER Working Paper Series*.
- Levine, R., (1997), Financial Development and Economic Growth: Views and Agenda, *Journal of Economic Literature*, Vol. XXXV (June 1997), pp. 688–726.

Table 2. Niger: Dependent Variable – Ratio of Private Credit by Deposit Money Banks to GDP

	Baseline	Net interest margin		Credit depth of inf.		Strength of legal rights		Procedures to enforce contract		Public credit registry	
		Non-WAEMU	WAEMU	Non-WAEMU	WAEMU	Non-WAEMU	WAEMU	Non-WAEMU	WAEMU	Non-WAEMU	WAEMU
Intercept	0.66 (0.19)	0.64 (0.17)	0.64 (0.17)	0.55 (0.17)	0.55 (0.17)	0.61 (0.17)	0.61 (0.17)	0.60 (0.17)	0.60 (0.17)	0.66 (0.17)	0.66 (0.17)
Bank net interest margin	-0.58 (0.32)	-1.04 (0.40)	-1.04 (0.40)	-0.96 (0.35)		-0.92 (0.36)		-0.97 (0.35)		-1.00 (0.36)	
Credit depth of information index	0.02 (0.00)	0.02 (0.00)		0.01 (0.01)	0.01 (0.01)	0.02 (0.00)		0.02 (0.00)		0.02 (0.04)	
Strength of legal rights index	0.01 (0.00)	0.01 (0.01)		0.01 (0.01)		0.01 (0.01)	0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	
Procedures to enforce a contract	-0.01 (0.00)	-0.01 (0.00)		-0.01 (0.00)		-0.01 (0.00)		-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	
Public credit registry coverage	0.53 (0.30)	0.69 (0.34)		0.69 (0.33)		0.71 (0.33)		0.70 (0.33)		0.71 (0.34)	
Dummy is 1 for non-WAEMU and 0 otherwise		0.72 (0.05)		0.07 (0.04)		0.05 (0.05)		0.04 (0.05)		0.08 (0.04)	0.08 (0.04)
Bank net interest margin*Dummy		0.22 (0.45)									
Credit depth of information index*Dummy				0.02 (0.01)							
Strength of legal rights index*Dummy						0.01 (0.01)					
Procedures to enforce a contract*Dummy								0.00 (0.00)			
Public credit registry coverage*Dummy										0.24 (0.71)	
R-square	0.7079	0.6622		0.7185		0.6786		0.6713		0.6605	
Prob > chi2	0.000	0.000		0.000		0.000		0.000		0.000	
sigma_u	0.046	0.0436		0.0442		0.0418		0.0419		0.0416	
sigma_e	0.0336	0.0354		0.0355		0.0346		0.0351		0.0349	
rho	0.6518	0.6028		0.6086		0.5931		0.5879		0.5859	

Note: Credit depth of information index (0=low to 6=high); strength of legal rights index (0=weak to 10=strong); procedures to enforce a contract (number); public credit registry coverage (% of adults). Standard errors are in parentheses; data range is 1997-2011 and the number of cross section identifiers is 14.

FINANCIAL SECTOR PROFILE¹

This note presents an analysis of Niger's financial system, assesses its depth and reach as well as its soundness and vulnerabilities.

1. **Niger's shallow financial system is dominated by the banking sector.** Despite some progress, the level of development of Niger's financial system remains below peers'. Overall, the level of financial depth, proxied by broad money (M2) to GDP, is among the lowest in the world at 23 percent in 2012 against an average of 37 percent in Sub-Saharan Africa. The system consists of ten banks,² one financial institution, 49 registered microfinance institutions, several postal offices providing financial services, five insurance companies, the national social security fund (*Caisse Nationale de Sécurité Sociale* - CNSS), one brokerage firm, and one branch of the WAEMU regional stock exchange. At the end of 2009, the total assets of these institutions amounted at about 660 FCAF billions, of which about 80 percent corresponding to the banking sector (93 percent excluding the CNSS).

2. **Niger's banking sector's characteristics lag behind other developing countries' (Figure 1).** Niger's banking sector's total assets are the second smallest in the WAEMU.³ In 2012, bank credit to the private sector accounted for only 14 percent of GDP while the deposits to GDP ratio was 11.8 percent. Penetration of bank services is also low: the estimated share of population with a bank account amounts to merely 1.5 percent,⁴ and the range of products offered by the banking sector is very limited. For instance, from publicly available information there is no indication of provision of leasing and factoring services to SMEs in the country.

3. **Distribution of banks' credit shows limited support to the private sector (Figure 2).** The share of credit directly granted to the public sector or to semi-public enterprises is limited to approximately 20 percent of the total. Loans are mainly extended to the extractive industry, commerce, and transport. The allocation of credit also reflects the banking sector's focus on corporate rather than on small and medium-sized enterprises, as proven by the large exposure to few borrowers.⁵ This credit distribution doesn't reflect the relative importance of the various sectors' contribution to the economy. For instance, agriculture and livestock sectors contribute for more than 40 percent to total GDP, but they receive only less than 1 percent of total bank credit. On the

¹ This note was prepared by Daniela Marchettini.

² According to the classification criterion of the BCEAO, 4 banks are middle size (with total assets between 100 and 200 billion CFAF) and 6 small (with total assets inferior to 100 billion CFAF).

³ A comprehensive analysis of financial market depth and breadth within the WAEMU area can be found in the IMF Country Report No. 13/92 – Supplement – Financial Depth and Macro-Stability.

⁴ Data from the survey carried out by Gallup over the 2011 calendar year (WB Findex database). An alternative measure of penetration (access) is the bank accounts to total population ratio that, for the year 2011, is equal to 1.7 percent (BCEAO).

⁵ The credit granted to the 5 biggest borrowers corresponds to 12.3 percent of the total at the end of 2012.

positive side, there are signs of maturity lengthening over time, with the share of medium- and long-term credit increased from 16.89 percent on average in 2004 to 38.26 percent in 2013.

4. **Bank financing is limited in size and also highly segmented.** Formal financial services are typically limited to small segments of the population. Enterprise Survey⁶ data provide evidence that small firms (5-19 employees) face greater financing obstacles relative to medium and large enterprises. Only 17.6 percent of the firms which belong to this segment have a bank loan or a credit line against 67.2 percent of the medium firms (20-99 employees) and 56.9 percent of the large firms (100+ employees). Banking financing is also highly segmented on the basis of ownership and gender factors. Most firms with 10 percent or more foreign ownership have a bank loan or a credit line (65.8 percent), differently from domestic firms (20.7 percent). The firms where the top management is female are the most disadvantaged with only 9.7 percent of them having access to a bank loan or a credit line. Firms outside of the main urban centers are not covered by Survey data but should be expected to be even more credit constrained.

5. **Sector-wide prudential indicators have shown significant improvement between 2010 and 2012 but signs of deterioration are noticeable in recent months (Table 1).** In addition, there are several pockets of risk from large exposures. The average capital adequacy ratios have improved steadily in the period 2010-2012 and at the end of 2012 they largely exceeded the regulatory threshold of 8 percent.⁷ Gross non-performing loans remain above WAEMU average (17.36 percent of total loans against a WAEMU average of 16.98) but provisioning is adequate. The profitability of the banking sector, measured in terms of both return on equity and return on assets, is also high and would permit additional provisioning if needed. There is however heterogeneity among banks. At December 2012 three banks were below the minimum requirement. In addition, some deterioration in capital adequacy and asset quality has emerged in 2013. Credit concentration on the five largest borrowers is very high at 143 percent of regulatory capital at end-June 2013 and represents a major source of risk. Another source of risk stems from the fact that Niger's banking system has a large share of foreign ownership. Foreign shareholding at year-end 2012 constituted 54 percent of the banking sector's total capital. The foreign presence is dominated by regional-based groups representing western and northern Africa.

6. **Development of non-banking financial institutions and services is limited.** The microfinance sector is one of the least developed in the region, with a volume of outstanding loans corresponding to 0.6 percent of GDP in 2010 against an average of 1.4 percent in the WAEMU. In addition, due to the poor management practices and weak profitability, the sector has undergone a

⁶ In Niger's IFC/WB Enterprise Surveys, the universe under consideration consists of manufacturing firms surveyed in the cities of Niamey and Maradi.

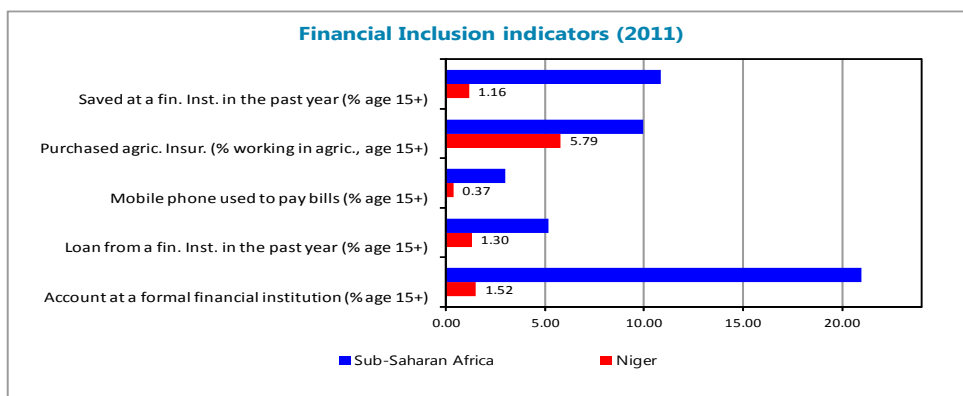
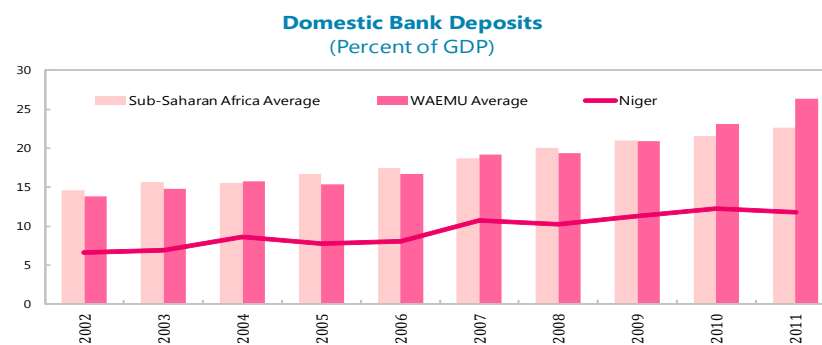
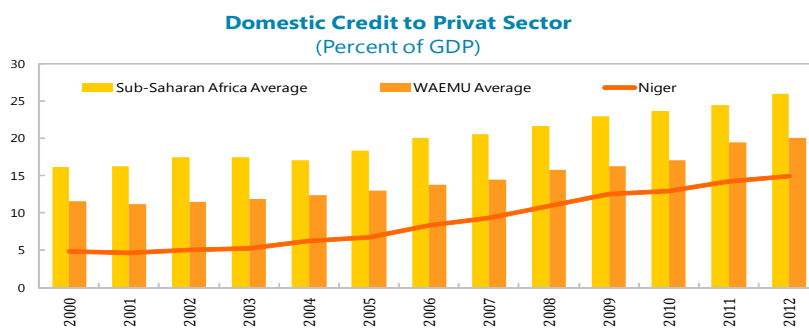
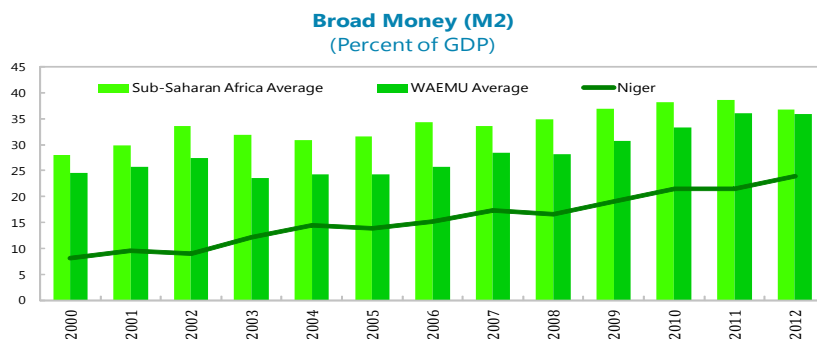
⁷ While this evolution reflects some private capital injections, the contribution of the government has been dominant, with private (national and foreign) capital and government participation increasing 23 and 419 percent respectively between 2010 and 2012 (source: BCEAO).

consolidation process.⁸ For instance the level of penetration of the insurance sector, measured as premiums in relation to GDP, is very low at about 0.6 percent in 2010. Operations in the regional securities market and the regional bond market are limited.⁹

⁸ Between 2009 and 2012 the number of deposit-taking micro-financial institutions has reduced to 49 from 106. (Source: IMF Financial Access Survey).

⁹ Niger sovereign issued a 7-year bond for 16.6 billion CFAF in 2009 and a 5-year bond for 25 billion CFAF in 2013.

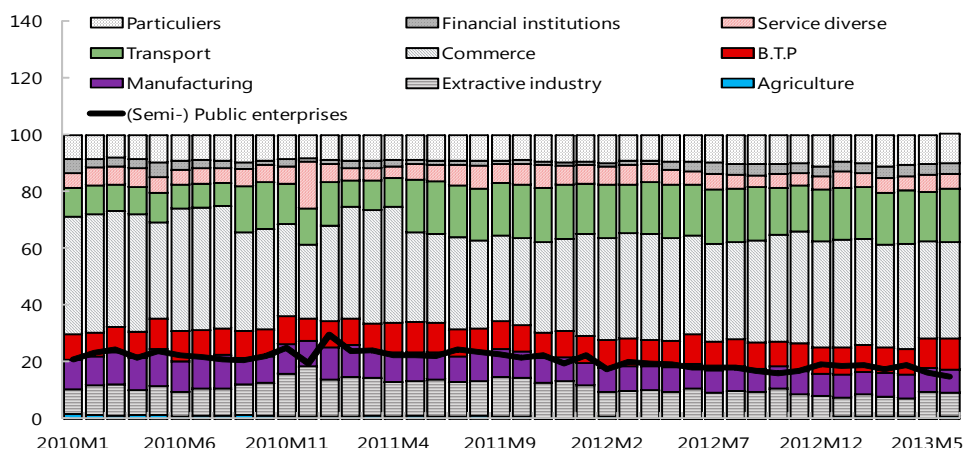
Figure 1. Niger: Financial Depth and Inclusion



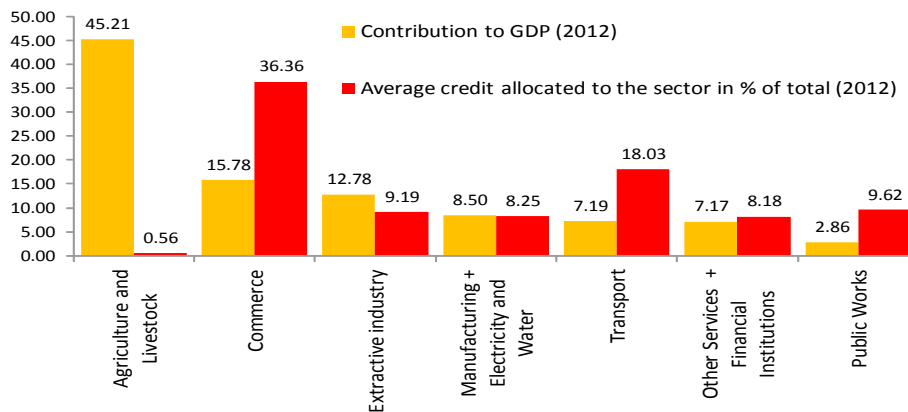
Sources: World Bank database; FinStats; and Findex

Figure 2. Niger: Bank Credit Allocation and Maturity Structure

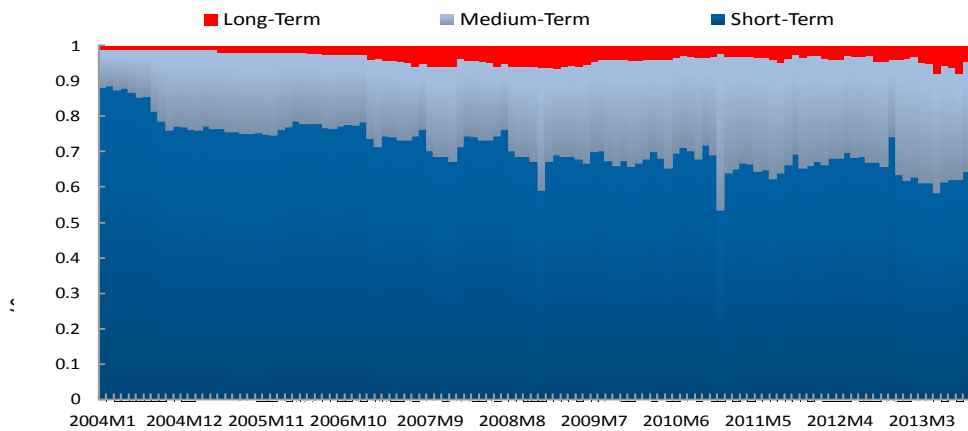
Bank Credit allocation (percent of total credit)



Sectorial Credit Allocation vs Sectorial Contribution to GDP (2012)



Bank Credit Maturity Distribution



Source: Authorities' data.

Table 1. Niger: Financial Soundness Indicators

(Percentage unless otherwise indicated)

	2008	2009	2010	2011	2012	2013	2014	2014
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.
Solvency ratios								
Regulatory capital to risk-weighted assets	4.0	8.3	13.5	13.5	16.7	15.5	16.0	16.5
Tier 1 capital to risk-weighted assets	3.2	7.8	13.2	13.2	16.1	14.9	15.5	16.0
Provisions to risk-weighted assets	4.9	9.1	8.6	11.5	10.2	12.0	12.9	12.1
Capital to total assets	2.6	6.3	8.4	9.2	10.1	9.4	9.4	9.6
Composition and quality of assets								
Total loans to total assets	60.8	62.3	56.1	61.2	60.0	58.6	58.8	57.4
Concentration: credit to the 5 biggest borrowers to regulatory capital	748.6	219.1	123.8	152.2	135.6	128.3	128.5	127.9
Gross NPLs to total loans	16.0	14.7	18.2	19.6	17.1	16.5	19.3	17.3
Provisioning rate	50.3	64.9	47.7	58.0	54.6	67.3	61.1	48.6
Net NPLs to total loans	6.3	8.2	10.5	9.3	8.6	6.1	8.5	7.0
Net NPLs to capital	148.1	80.8	70.3	61.6	51.0	34.3	42.5	38.6
Earnings and profitability¹								
Average cost of borrowed funds	2.1	2.0	2.6	2.2	2.1	...	...	...
Average interest rate on loans	10.4	10.1	11.2	10.4	10.5	...	...	...
Average interest margin ²	8.3	8.1	8.6	8.2	8.4	...	...	...
After-tax return on average assets (ROA)	...	...	2.3	1.0	1.8	...	...	...
After-tax return on average equity (ROE)	0.2	6.1	13.0	7.3	16.2	...	...	...
Non-interest expenses to net banking income	55.4	21.1	54.3	55.9	53.9	...	...	...
Salaries and wages to net banking income	20.7	18.8	20.6	23.2	23.5	...	...	...
Liquidity								
Liquid assets to total assets	35.3	33.3	29.7	33.4	32.5	22.4	...	...
Liquid assets to total deposits	49.9	49.8	46.0	52.6	51.4	36.2	...	...
Total loans to total deposits	86.0	95.7	94.0	108.8	104.7	93.7	93.3	90.2
Total deposits to total liabilities	70.7	65.1	65.4	63.5	63.2	62.6	60.8	63.6
Sight deposits to total liabilities	43.8	41.0	43.4	41.1	42.0	41.0	39.8	42.8
Term deposits to total liabilities	26.9	24.1	22.0	22.4	21.2	21.6	21.0	20.8

Source: BCEAO.

^{1.} Items reported with biannual periodicity.^{2.} Taxes on financial operations excluded.