



CHAD

SELECTED ISSUES

August 2016

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Approved By
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MACROFINANCIAL LINKAGES IN CHAD¹

Chad is at a critical juncture, as the sharp and persistent decline in international oil prices and regional security threats continue to severely affect the economy. The authorities' response included a large fiscal adjustment together with the mobilization of additional financing. Still, the government accrued a sizable amount of domestic payment arrears. In this context, and after overviewing the financial sector's structure in Chad, this chapter describes the key macro-financial linkages with a focus on (i) banks vulnerabilities associated to the decline in oil revenue and the sharp fiscal adjustment, and (ii) the consequences of the government's quest for additional financing. Finally, in light of the potential crowding-out of credit to the private sector, we analyze the recent trends on financial inclusion with a focus on microfinance.

A. Financial Sector Overview

1. Chad's financial sector is underdeveloped and dominated by a few commercial banks.

There are eight commercial banks,² with CFAF 1,034 billion in assets as of December 2015 (US\$1.8 billion, 16 percent of GDP), equivalent to 7 percent of CEMAC banks' assets, while Chad accounts for almost 15 percent of CEMAC's total GDP. The banking sector is concentrated, with three banks holding close of two thirds of total assets. The two largest banks are subsidiaries of foreign banks, while four other banks include state participation ranging from 20 to 62 percent of total equity. Banking intermediation is weak, with credit to the private sector limited to 8.4 percent of GDP in 2015, minimal interbank transactions, and no established secondary market for government debt.

2. Microfinance institutions (MFIs) are numerous but their activities are limited. Despite the presence of more than 100 MFIs operating in network, mostly in the form of cooperatives, access to financial services is limited and virtually non-existent in some rural areas. As of end-2015, the microfinance industry is estimated to have more than 200,000 beneficiaries, with a stock of credit of about CFAF 18 billion and CFAF 12 billion in savings (2.8 and 1.9 percent of GDP, respectively).

3. The rest of the financial system is composed by two small pension funds and three insurance companies. Pension funds exist only for the private sector (the pensions of civil servants are directly paid by the State budget) and their activities are extremely limited. It is estimated that less than 5 percent of all employees pay contributions to the National Social Insurance Fund (*Caisse Nationale de Prévoyance Sociale* - CNPS). In the same vein, the activity of insurance companies is small.

¹ Prepared by Gabriel Léost, Jephthe Nsumbu Kibidikila, and Alex Ho.

² Orabank Tchad, Société Générale du Tchad, Ecobank Tchad, Commercial Bank Tchad, Banque Agricole et Commerciale, Banque Commerciale du Chari, BSIC-Tchad, and United Bank for Africa Tchad (<https://www.beac.int/index.php/supervision-bancaire/lexique-des-banques-de-la-cemac>).

4. The financial sector remains relatively stable, but latest available financial soundness indicators suggest some deterioration within an increasingly challenging macroeconomic environment in Chad (see Table 1). The ratio of non-performing (NPL) to gross bank loans rose to 16.5 percent as of end-2015, a 5 percentage point increase from 2014. Returns on assets and on equity have also declined for two consecutive years. The capital adequacy ratio remained moderate at 14.6 percent as of end-2015 (compared to a regulatory target of 8 percent), but well below the peak of 22 percent in 2013. Liquidity ratios remained favorable, with liquid assets representing 142 percent of short-term liabilities (compared to a regulatory target of 75 percent). Going forward, with a dimmer domestic economic outlook, there are important risks to financial stability (see part B).

Table 1. Chad: Financial Soundness Indicators

	2010	2011	2012	2013	2014	2015
Capital Adequacy						
Regulatory capital / Risk-weighted assets	12.5	20.0	18.1	22.0	13.4	14.6
Asset Quality						
Gross nonperforming loans/Gross banking loans	9.9	7.6	7.4	9.8	11.7	16.5
Provisions / Nonperforming loans	81.1	89.0	64.5	65.3	68.3	56.1
Net nonperforming loans/Gross banking loans	1.9	0.8	2.6	3.4	3.7	7.3
Profitability						
Return on assets	3.2	2.1	2.0	2.3	1.8	1.6
Return on equity	32.0	19.2	15.5	21.1	19.4	13.1
Liquidity						
Liquid assets / Total assets	29.4	24.3	28.1	24.0	25.7	26.0
Liquid assets / Short term liabilities	148.3	149.3	146.6	139.3	152.9	142.1

Source: COBAC.

B. Key Macro-Financial Linkages in Chad

Macroeconomic Background

5. Since mid-2014, Chad is facing two massive external shocks. The persistent decline in oil prices has implied a massive reduction in fiscal oil revenues, expected to fall by almost 70 percent in nominal terms between 2014 and 2017. In addition, the security shock linked to regional conflicts (in particular Boko Haram activities) entails important economic and fiscal costs: security concerns directly affect some activities, a disrupt transportation systems and cross-border trade flows with Cameroon and Nigeria, and affects private investment. Direct fiscal costs are difficult to assess, but only the operations against Boko Haram have a cost estimated to be at least CFAF 10 billion (US\$ 16.5 million) per month, i.e., more than 2 percent of non-oil GDP in 2015.

6. In response to those shocks, the authorities have implemented a sizable fiscal adjustment and mobilized domestic and external (concessional) financing. Still, despite sizable support from BEAC (in the form of statutory and exceptional advances) and the international community, the continued fall in oil prices and lower than projected domestic bank financing led to

the accumulation of domestic payment arrears that could not be settled by the end of 2015. Those arrears complicated even further the prospects for 2016 and may strain the financial system.

7. Macroeconomic outcomes are being affected by the external shocks and the fiscal adjustment. The real non-oil GDP is estimated to have contracted by 2.9 percent in 2015 (compared to 7.1 percent growth in 2014), with economic sectors dependent on public expenditure particularly affected (e.g., construction contracted by an estimated 12.5 percent), and the economy remained sluggish in the first months of 2016.

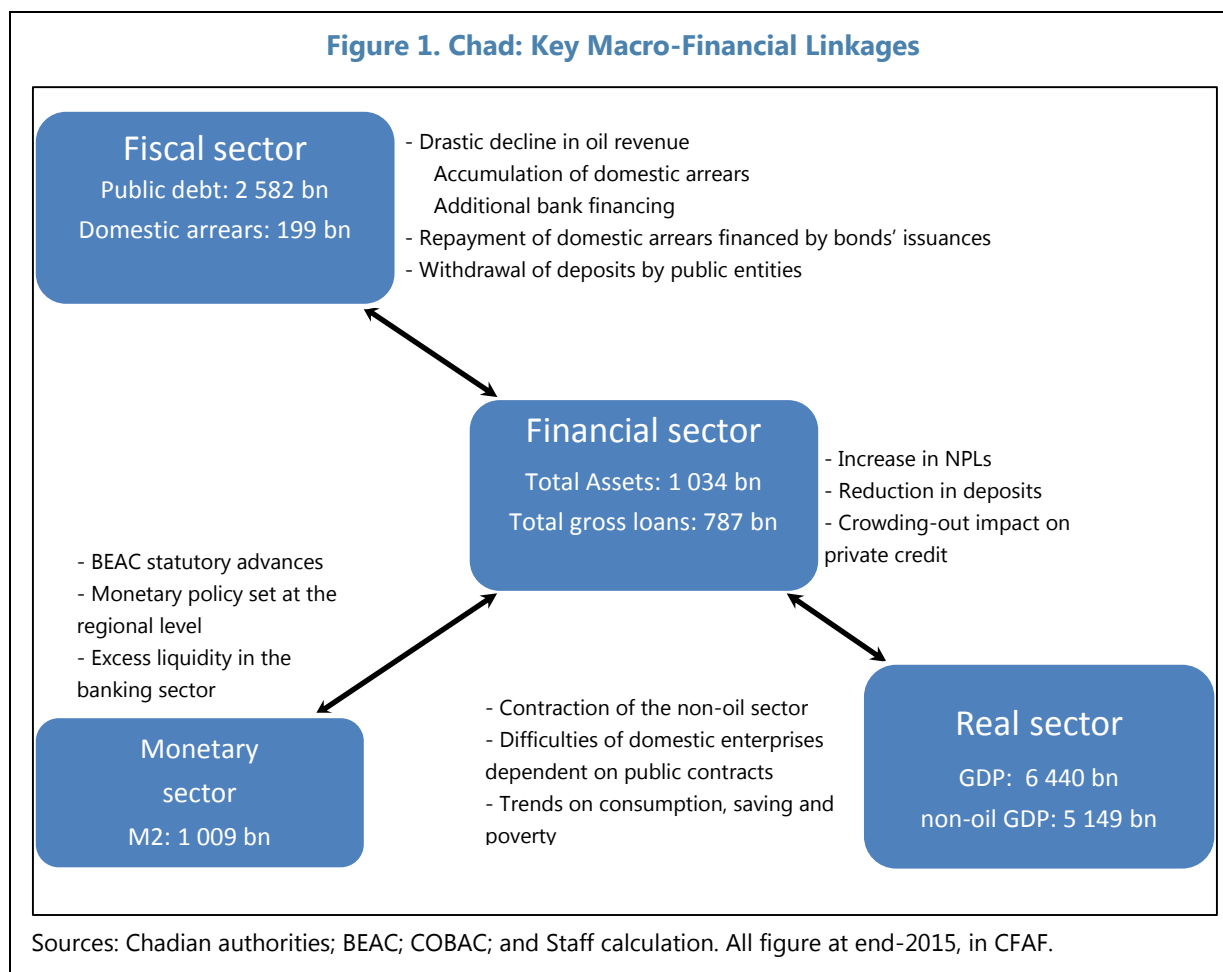
Macro-Financial Linkages in Chad

8. Macro-financial linkages in Chad are driven by a government sector that dominates economic activities in the more modern sectors of the economy thanks to oil-related revenues. Government spending has been a key source of economic growth in recent years, particularly in the urban centers that constitute the backbone of the Chadian financial system's development. Key economic actors (i.e., employees, companies, and even commercial banks) depend directly from government spending, be it in the form of wages, transfers and equity injections to (state-owned) companies, and contracts with private firms for the provision of goods and services and the construction of physical infrastructure. Under that setting, the fiscal, financial, and real sectors are closely inter-related and developments in any of them can be traced back (or forward) to developments in the other sectors. This framework is complicated further by the fact that Chad is a member of the Central Africa's currency union, with monetary policy and the regulation and supervision of the financial system set at the regional level.

9. In that context, the sharp fall in oil prices and its impact on public finances is an event with significant macro-financial implications for Chad. The fall in oil prices should negatively affect the oil companies' profitability, which in turn, could stress the firms and individuals providing services to them. In addition, it also forces the government to reduce spending and increase its financing needs, domestically and externally because oil related income is the government's main revenue source. Overall, economic activity is then being hit both by developments in the oil sector and also by the impact of the government's policy responses. The analysis that follows tries to put together the various transmission channels of the oil price shock (exacerbated by the deterioration in the regional security situation) to the financial system and the spillback to other sectors. In particular, it examines how recent fiscal developments can affect the stability of the financial sector, the margins of maneuver of banks to respond to the government's demand for additional domestic financing (including through a potential securitization of domestic arrears), and the crowding-out impact on private sector of this additional government financing.

10. The main macro-financial linkages are indirect through the associated sharp fiscal adjustment and the government's quest for additional financing (Figure 1). While the direct impact on banks of the oil price shock, through their exposure to oil companies and their suppliers, appears to be limited, the indirect impact of persistent low oil prices, through a contracting economic activity, appears to be sizable (paras. 11 and 12). The latter link mainly works through the banking sector's exposure to the public sector. First, the banks have significant credit and liquidity

exposure to the public sector (para. 13). In addition, the whole economy is highly dependent on public spending, with large cuts in public investment and consumption and the accumulation of domestic arrears leading to a deterioration of banks' loan portfolio (paras. 14 and 15). Finally, the government's need for additional domestic financing can place a burden on banks (para. 17) and lead to a crowding-out of credit to the private sector.

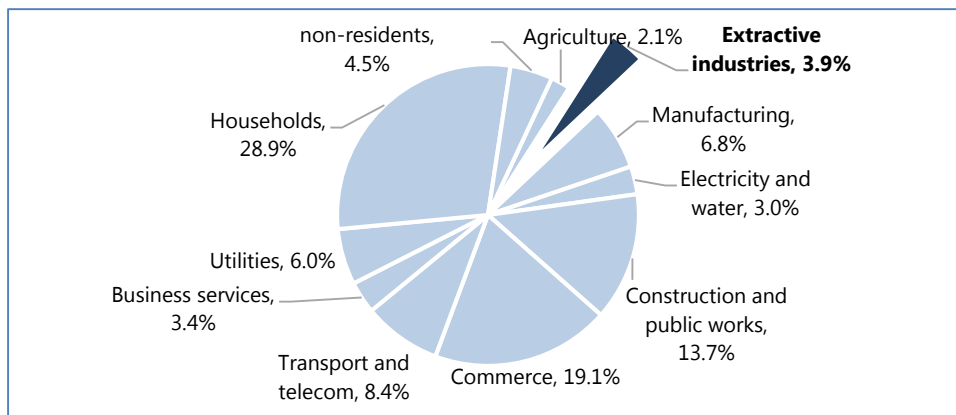


11. Direct credit risks linked to the oil sector appear limited. Oil companies operating in Chad are foreign-owned and rarely borrow from banks operating in Chad. At the end of 2015, the extractive industries' sector accounted for less than 4 percent of the Chadian banks' stock of loans to the private sector, and only one oil sector company was among the largest exposures of one of the Chadian commercial banks.

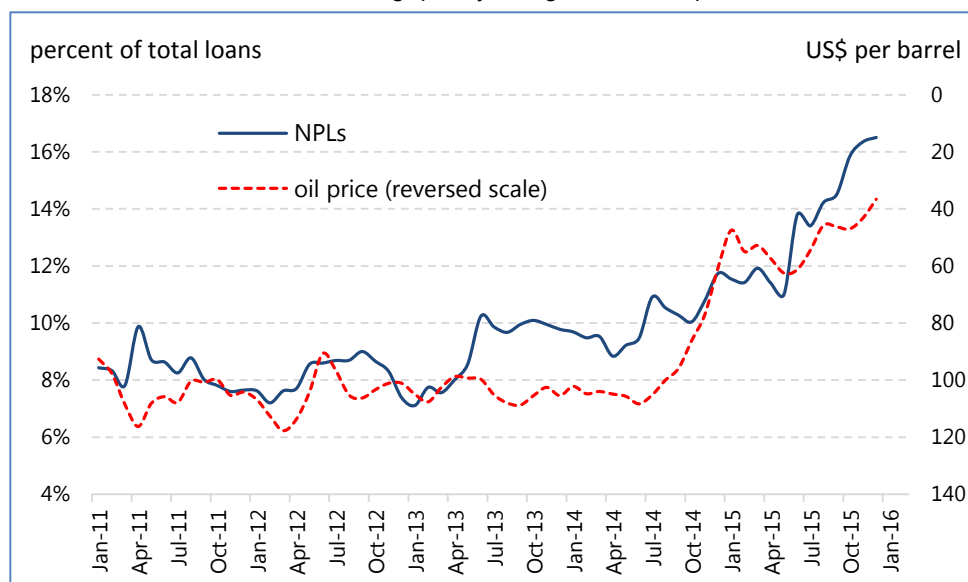
12. However, there seems to be a link between declining oil prices and deteriorating banking soundness indicators. With a prolonged period of low oil prices, financial stability risks are expected to increase as banks face a period of slow asset growth, weakening asset quality, declining profitability and capital erosion. In fact, there has been a rapid increase in banks' non-performing loans (NPLs) in Chad since mid-2014, from 9.5 percent of total banks' loans in June 2014 to 16.5 percent in December 2015.

Figure 2. Chad: Oil Prices and Health of the Banking Sector’s Loan Portfolio

While the banks’ direct exposure to the oil sector is low



...NPL's are increasing quickly along with the oil price fall.

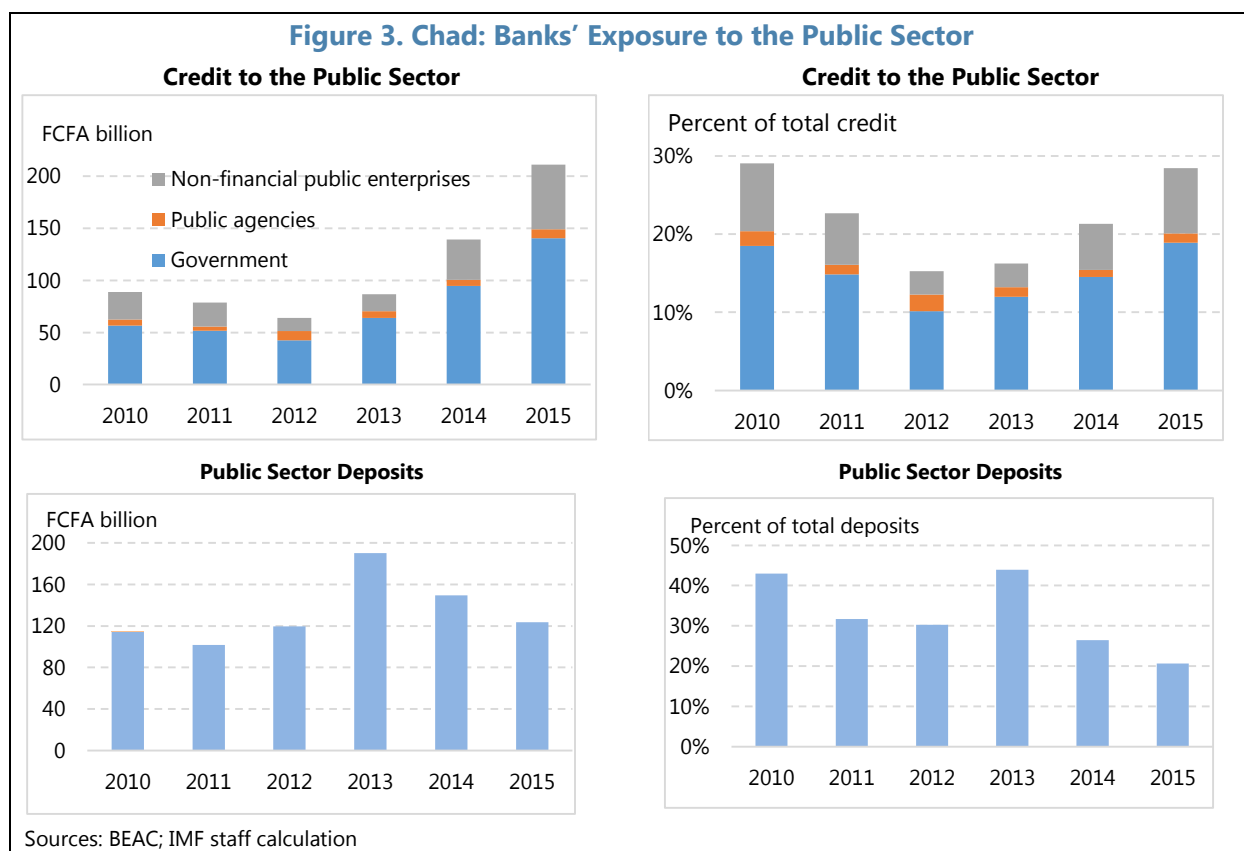


Sources: COBAC; WEO; and staff calculation.

13. Commercial banks have a significant credit and liquidity exposure to the public sector

(Figure 3). The central government, public agencies, and nonfinancial public enterprises accounted for about 28 percent of banks’ total credit as of December 2015 (CFAF 211.2 billion, i.e. US\$353 million or 4 percent of non-oil GDP). This increase in commercial banks’ credit exposure to the public sector could have been even stronger given government efforts to mobilize domestic financing in 2015. However, while the authorities issued a significant amount of securities in the regional bond market, a large part of its proceeds ended up in swaps against existing banks loans (para. 16). This would suggest that there was limited appetite or space for banks to expand its lending exposure to the government under the conditions prevailing in 2015. In terms of deposits at commercial banks, the public sector represented on average more than 30 percent of total deposits between 2008 and 2015, with a maximum of 44 percent in 2013. Since then, public sector deposits

have significantly decreased. At the end of 2015, at CFAF 124 billion (versus CFAF 149 billion at the end of 2014), they represented 20.6 percent of total deposits in commercial banks.

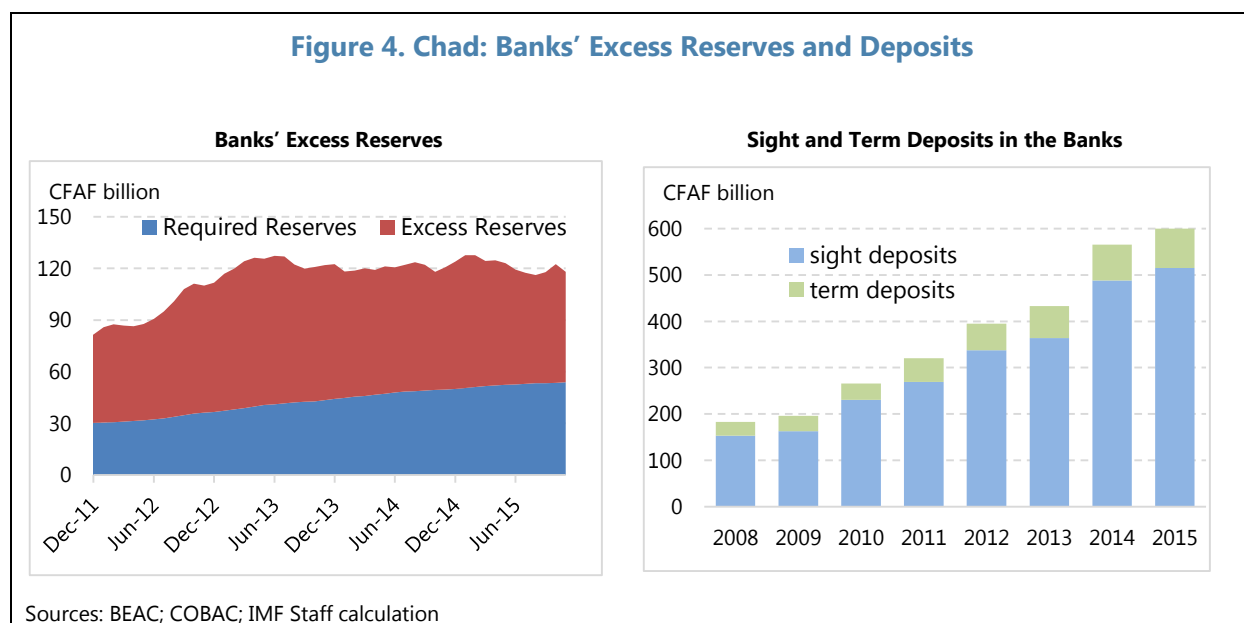


14. The current economic conditions negatively affect private companies dependent on public contracts (and, to a lesser degree, on the oil sector activity), potentially hitting the health of banks' loan portfolio. A significant share of private companies with access to the banking sector depend on public contracts. Their operations should be clearly affected by the 50 percent decline in public investment and outlays on goods and services in 2015 and 2016 relative to 2014 levels. In addition, oil companies have delayed some investments and significantly reduced their operational costs, which translates into fewer contracts awarded to local companies. The impact, however, is certainly more modest than that related to the decline of public contracts because oil companies mainly award contracts to foreign companies. In addition, the projected reduction in government transfers and subsidies over 2016-17 could negatively affect banks' credit portfolio to public corporations or decentralized entities.

15. The recent accumulation of domestic payment arrears brings about several risks to banks. In 2015, the government accrued a sizable amount of domestic payment arrears (around CFAF 148 billion or 3 percent of non-oil GDP, bringing their stock to CFAF 200 billion or 4 percent of non-oil GDP). Initially, companies awaiting the settlement of their bills by the government would have resorted to short-term bank financing, which would explain the fact that credit to the private sector was still growing significantly in the first half of 2015. By contrast, the accumulation of

domestic arrears would have been a factor behind the increase in banks' NPLs to 16.5 percent of total banks' loans as of end-2015. Aware of those problems, the government is implementing a plan to gradually clear its arrears as a way to give a breath of fresh air to the private sector and, consequently, limit the damage to banks' credit portfolio. However, the accumulation of domestic arrears also impacted many decentralized public entities (e.g., universities, hospitals), that have been forced to withdraw deposits (and have in some cases resorted to bank overdrafts) to maintain their operations in the face of a reduction and delays in government transfers, exacerbating thereby banks' resource constraints.

16. The short term-structure of their liabilities have forced banks to maintain high liquidity levels to mitigate risks (Figure 4). The proportion of sight deposits is particularly high in Chad (85 percent of total deposits, the highest ratio among CEMAC members), making banks particularly vulnerable to a withdrawal of deposits. In that context, the banking sector has remained relatively liquid with liquid assets representing 26 percent of total assets. Banks in Chad, as generally in the CEMAC region, have long been characterized by excess liquidity. At end-2015, banks' excess reserves exceeded CFAF 64 billion or 6.2 percent of their total assets.³ On the other hand, the reduction of liquidity risks translates into reduced "transformation of maturities" (a key contribution of banks to economic development) and the provision of credit only at short-term. Short-term loans represented 75 percent of total commercial banks' loans at the end of 2015.

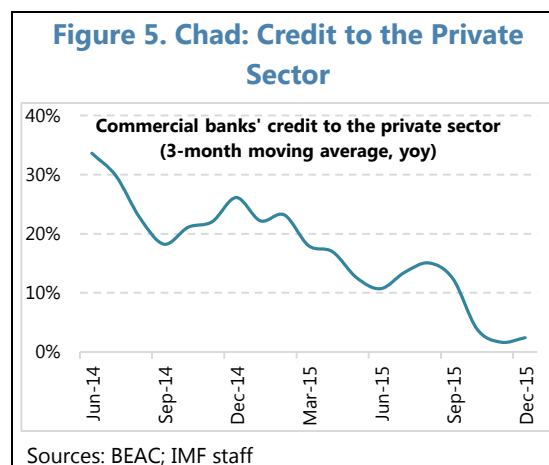


17. The government's needs for additional domestic financing, including to repay part of the stock of domestic arrears, can place a burden on banks, despite recent measures of the BEAC to strengthen their liquidity position.

³ Before the decision from the BEAC's monetary policy committee, on April 6 2016, to lower by 50 percent the reserves requirement for CEMAC's commercial banks.

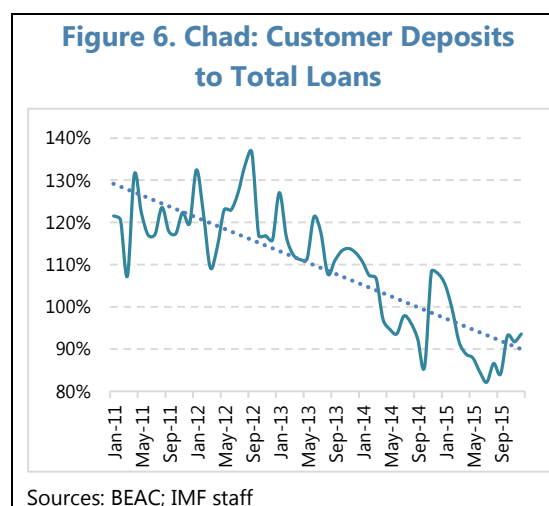
- **Direct monetary financing from the BEAC, widely used in 2015, should no longer be an option in 2016.** In 2015, Chad benefitted from statutory and exceptional advances (on the basis of the security challenges faced by the country) for a total of CFAF 232 billion. Additional direct monetary financing is unlikely in 2016, as it would require changing again the ceiling on such advances, already reached by Chad. In addition, it is not advisable, as further direct monetary financing could compromise the stability of the common currency.
- **The authorities intend to continue to resort to public securities' issuances in the regional market.** Chad successfully increased its public security issuances in the CEMAC regional market in 2015, with net issuances of Treasury bills and bonds of CFAF 190 billion. However, several of those issuances were used to swap against existing banks' direct loans, leading to a principal repayment of the domestic debt of CFAF 234 billion in 2015 (compared to only CFAF 80 billion in 2014). The main benefit of the increased use of Treasury bills and bonds for commercial banks is in terms of increased liquidity of their claims given that they can be rediscounted at the Central Bank. For 2016, the authorities intend to issue Treasury bills and bonds for a net amount of at least CFAF 150 billion (2.5 percent of non-oil GDP). This appears ambitious given developments in 2015.
- **This program of issuance includes an operation of repayment of domestic arrears that can restraint the banks' margins of maneuver for other financing.** As part of their strategy to clear domestic arrears, the authorities issued two Treasury bonds at the end of March 2016, for a total amount of CFAF 65 billion, which proceeds will be used to repay part of the accumulated domestic arrears. This operation benefits the agent banks in two ways: directly as the operation includes a discount of 7 percent on the arrears' claims to be kept by the bank involved in the operation, and indirectly as the clearance of domestic arrears would improve financial conditions of enterprises repaid, therefore improving the banks' credit portfolio. That said, funding for this operation competes with the ordinary financing of the 2016 budget, a reason why additional similar operations should be considered with extreme caution.
- **Recent decisions at the regional level could help the authorities to meet their financing objectives.** The monetary policy committee of the BEAC took two decisions late March and early April 2016. The first one was to raise the ceiling for Chadian commercial banks' refinancing at the BEAC from CFAF 200 billion to CFAF 300 billion, which should amplify their rediscount operations and provide them with more liquidity buffers. The second one was halving of required reserves at the central banks, which immediately translated into around CFAF 25 billion in additional liquidity for Chadian commercial banks.
- **In addition, the ability of banks to respond positively to the offer of Chad's public securities shall be estimated at the regional level.** Only half of the stock of Chadian public securities issued in the regional market is held by domestic banks, the other half being held by banks in other CEMAC countries (mainly in Cameroon). Therefore, the BEAC decisions in terms of monetary easing also impact Cameroonian or Gabonese banks that tend to purchase Chadian government securities. That said, non-Chadian banks holding securities are branches of regional banks, and decisions taken at the banks' headquarters can put added pressure on local banks to satisfy the Chadian government's financing needs.

18. Additional public sector financing could also lead to a crowding-out of bank credit to the private sector. The authorities' quest for additional financing can create competition with the private sector, reinforcing the difficulty of private companies to access to commercial banks' loans, with knock-on impacts on non-oil growth and even on banks' NPL ratios. While short-term credit lines have for now prevented credit to the private sector's growth to fall into negative territory, there is clear evidence of a credit slowdown since mid-2014 (Fig. 5).



Summary of the Risks for the Banking Sector

19. The composition of commercial banks' assets and liabilities is experiencing significant changes that can make them vulnerable. Recent developments related to the macro-financial linkages described above might jeopardize, if they get worse, the traditional key strengths of Chadian commercial banks, which are a deposit-based funding model and high liquidity buffers. For instance, the deposit intermediation level remains prudent with a deposits-to-loans ratio of 94 percent in December 2015, but is declining (Fig. 6). There might be an increasing risk of maturity mismatches between short-term deposits and banks' assets, reinforced by the growing role played by Treasury bonds, as these securities have an average maturity close to 3 years.



20. Recent stress tests show that further increases in NPLs or declines in deposits could have a significant impact on the ability of some banks to comply with the regulatory solvency and liquidity ratios (Box. 1). In the context of regional discussions with the CEMAC, stress tests were carried out in early 2016 on the basis of information provided by the COBAC. Their results show that if NPLs were to reach 20 percent of total loans, some commercial banks would not meet anymore the minimum risk-weighted capital adequacy ratio, especially banks with capital originating in CEMAC countries. In the same vein, a further 25 percent decline in total deposits at commercial banks (for instance with a 50 percent decline in government deposits combined with a 20 percent decline in deposits from non-financial enterprises) would bring most of the Chadian banks below the regulatory liquidity ratio.

21. In this context, a close monitoring of the banking system is warranted. The authorities need, in coordination with the regional regulator, to closely monitor the health of the banking

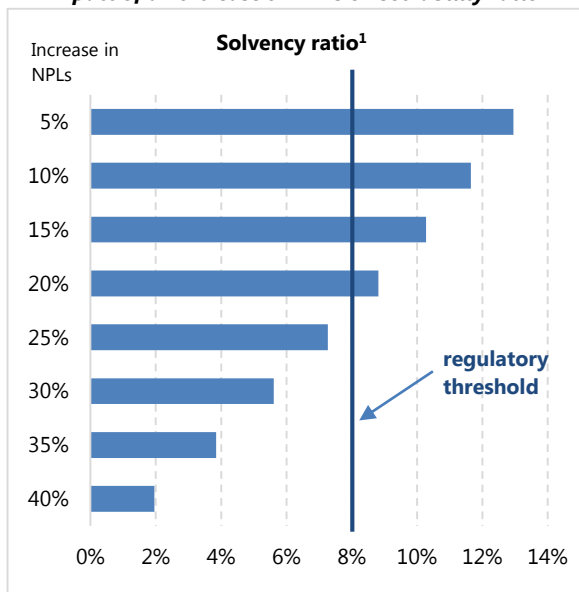
system to minimize potential fiscal costs, including through potential recapitalizations of government-owned banks.

Box 1. Chad: Stress Tests on Commercial Banks

Stress tests were run by IMF staff in the context of the regional consultations with the CEMAC. For the Chadian banking sector as a whole, main vulnerabilities stem from the indirect impact of oil price shock to the real economy, through the risk that government payment delays and arrears pose to economic sectors (like construction) largely dependent from public contracts:

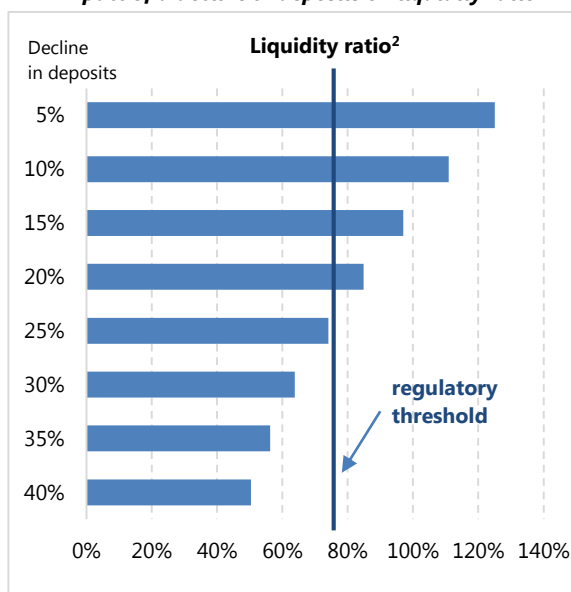
- A further increase in NPLs would deteriorate the solvency ratio, which stood at 14.6 percent at the end of 2015. If NPLs increase by 25 percent, leading them to more than 20 percent of total loans, the solvability ratio would be under its regulatory threshold of 8 percent.
- A decline in deposits at commercial banks would deteriorate the liquidity ratio, which remained at a comfortable level at the end of 2015 (142 percent compared to a regulatory threshold of 75 percent). An important decline in deposits (by 25 percent) would be necessary to see the liquidity ratio under its regulatory threshold. It would suppose, for instance, a decline by 50 percent on public deposits, combined with a decline by 20 percent from non-financial companies.

Impact of an increase in NPLs on solvency ratio



¹Ratio of regulatory capital to risk-weighted assets

Impact of a decline in deposits on liquidity ratio



²Ratio of liquid assets to short term liabilities

Sources: COBAC; IMF staff

C. Financial Inclusion and Microfinance

22. A deeper and more inclusive financial sector could help reduce poverty and improve growth in Chad. Financial inclusion, which means an expansion of access to financial services by households and firms, can lower poverty by reducing credit constraints on the poor and help small firms and entrepreneurs to do business. As shown by Sahay et al (2015), household’s access to

finance has a strong positive relationship with economic growth in general. In particular, they found that higher density of ATM and bank branches has a monotonic positive relationship with economic growth.

23. This section gives an overview of financial inclusion in Chad and discusses policies to promote financial inclusion. Similar to other studies along these lines, the analysis uses mainly 2014 data from IMF's financial access survey (FAS) and the World Bank's Global Findex⁴ (Findex) on financial inclusion.

24. Similar to other SSA countries, underdevelopment of financial services and lagging financial inclusion are chronic problems in Chad. As showed in Alter and Yontcheva (2015), the "financial development gap," which is the ratio between the benchmark and actual private credit to GDP level, was nearly 3 percent in Chad in 2012, compared to 1.7 percent in SSA which is already considered as a large deficiency gap. Even by other metrics to be discussed below, Chad is still lagging behind its peer countries.

Overview of Financial Inclusion in Chad with a Cross-Country Perspective

25. The use of financial services by households has expanded somewhat over the years along with the expansion of commercial banks' physical presence. The geographic expansion of the banking sector in recent years has been significant. The number of branches of the eight commercial banks in Chad doubled between 2004 and 2014 to reach 58. In the same vein, the number of Automated Teller Machines (ATMs) significantly increased in recent years. Together with improvements in the physical presence of banking facilities, the use of financial services also increased remarkably—the number of households' deposit and loan accounts increased in the last decade to 23.82 and 10.93 per 1,000 adults in 2014, respectively. Consequently, households' access to basic financial services has been improving, with the size of households' deposits increasing to 4.1 percent of GDP, and outstanding loans from commercial banks to households reaching 2.3 percent of GDP.

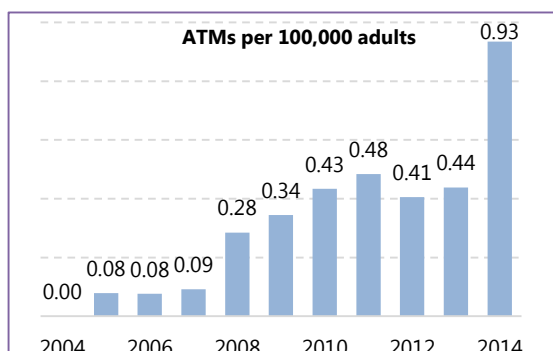
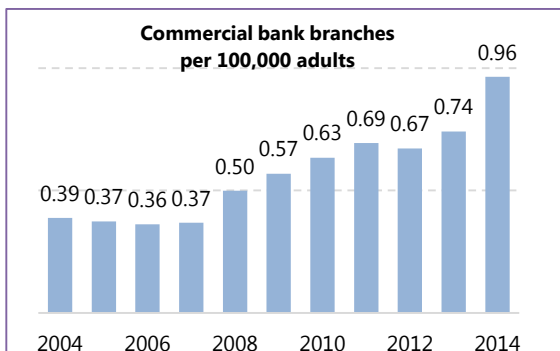
26. Despite this progress, financial inclusion in Chad remains limited and lagging behind its peers. According to Findex, Chadian households' access to basic services in the formal financial sector lags even relative to its CEMAC peers.⁵ In 2014, only 12 percent of adults reported to have an account in Chad and only 7 percent to have an account with a financial institution. In comparison, almost 35 percent of the adult population in Sub-Saharan Africa (SSA) reported to have an account in 2014, with nearly 30 percent having an account with a financial institution.

⁴ Global Findex database is a comprehensive database on financial inclusion, based on interviews with about 150,000 adults in over 140 countries.

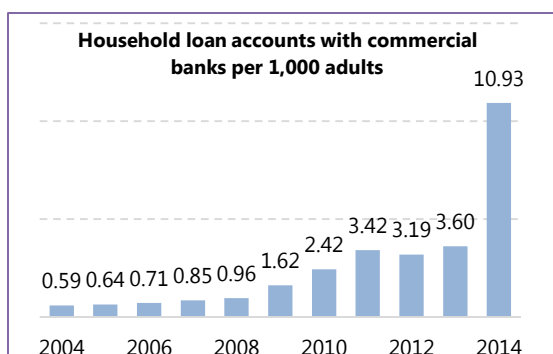
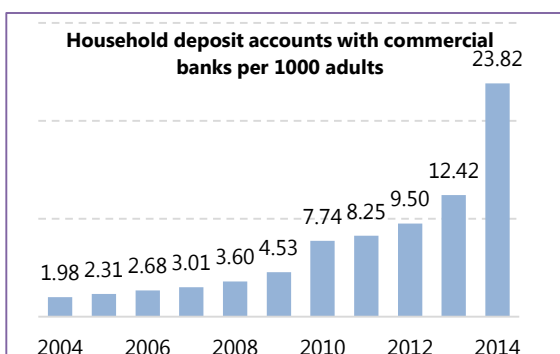
⁵ CEMAC countries include Cameroon (CMR), Central African Republic (CAF), Chad (TCD), Gabon (GAB), Republic of the Congo (COG) and Equatorial Guinea. However, data are not available for Equatorial Guinea in Findex.

Figure 7: Chad - Households' Financial Access

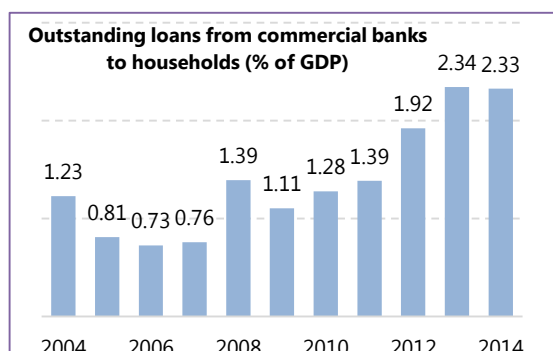
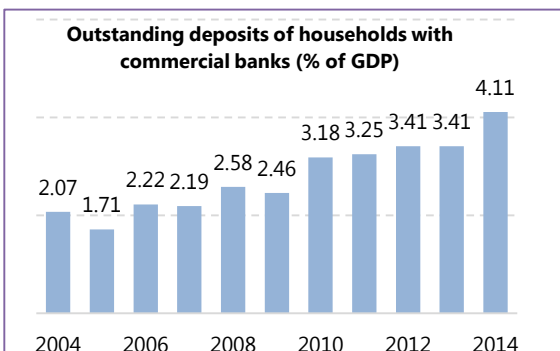
Banks are becoming more accessible over the years.



Improvement in the access to banks' branches translates into a significant increase in the use of banking services.



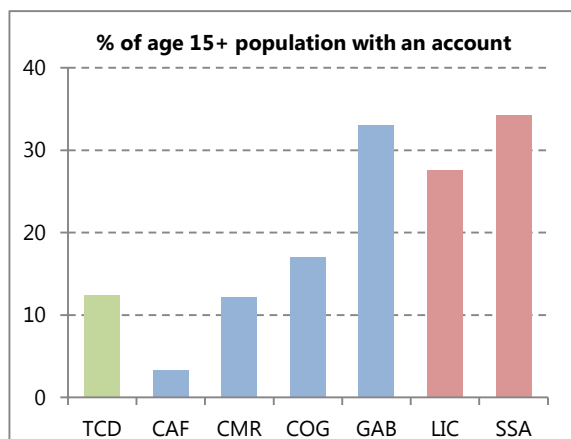
This improvement is shown by the increase in households' deposits and loans.



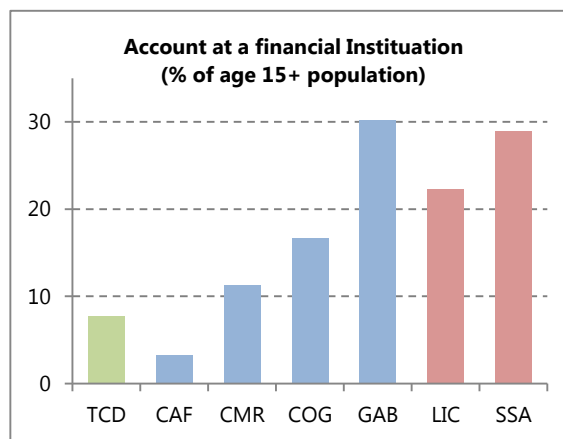
Source: Financial Survey Access, IMF

Figure 8.Chad: A Cross-Country View of Financial Inclusion

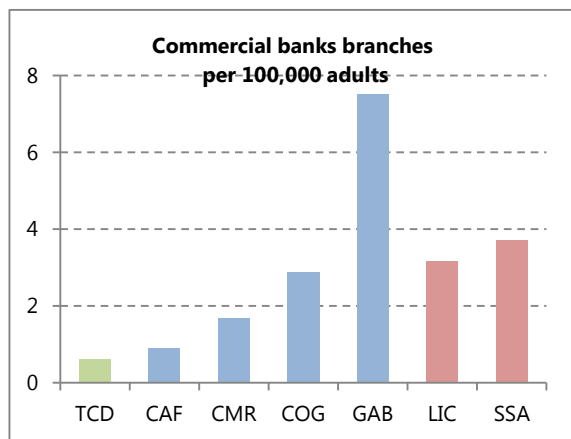
Financial inclusion in Chad is still lagging behind peers...



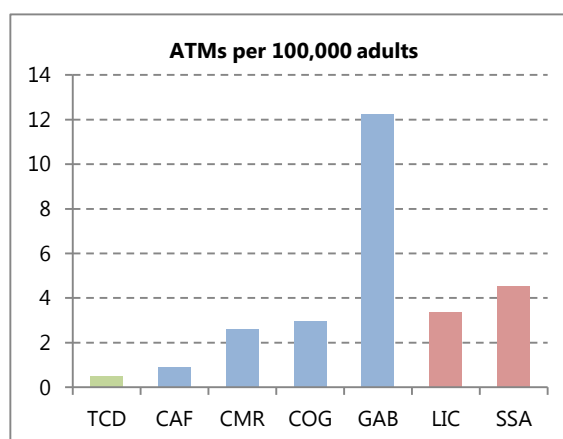
...especially in terms of using the formal financial sector.



Despite the expansion of banking facilities...



...financial access in Chad remains behind its peers.

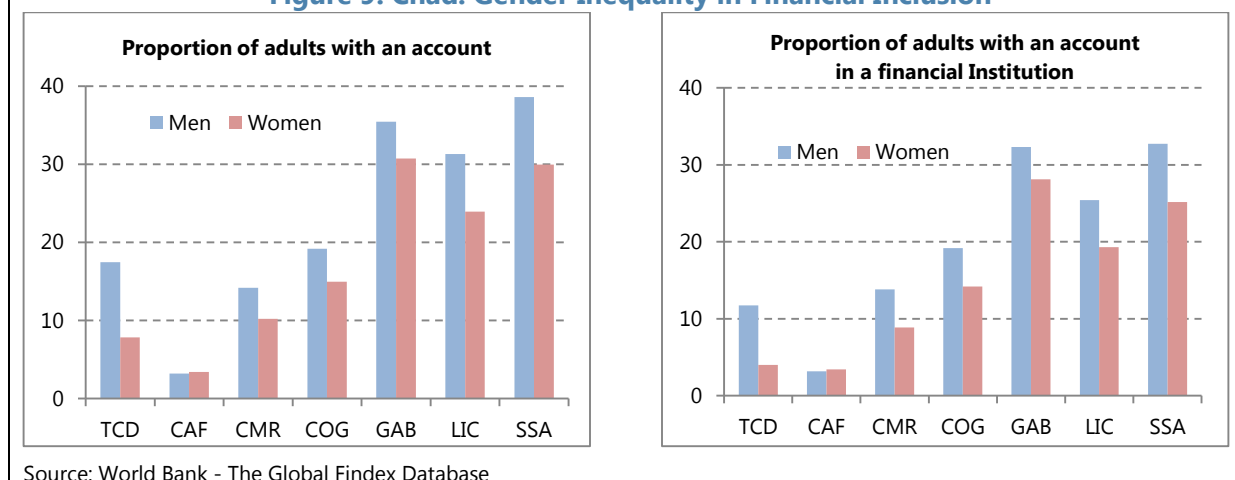


Source: World Bank - The Global Findex Database

27. Gender inequality in access to financial services in Chad is severe and worse than in most of its peers. Women in Chad have considerably less access to basic financial services. Only 8 percent of adult women have an account (only 4 percent in a financial institution) compared to 18 percent of adult men (and about 12 percent in a financial institution). The degree of gender inequality in financial inclusion in Chad is similar to most of its CEMAC peers, but worse than the average for LICs and SSA countries. As argued in Sahay et al. (2015), closing gender gaps in account usage and promoting diversity in the depositor base would help to improve growth without impairing financial stability.

28. The low utilization of financial services in Chad prevails across all demographic groups. Findex shows that adults belonging to the poorest 40 percent, young adults (between 15 and 24 years old), and adults living in rural areas have lower financial access than the adult population in general (in terms of having an account). Once again, all these demographic groups have lower financial access in Chad than in other CEMAC countries, or more generally in other SSA countries.

Figure 9. Chad: Gender Inequality in Financial Inclusion



The Use of Financial Services

29. Low levels of financial access and the lack of development of the financial system are reflected in the main payment methods used in Chad. Most payments are done in cash. The use of more advanced payments methods (checks, electronic payments, debit/credit cards) remains unusual. For instance, in 2014, only 2.8 percent of the population aged 15 years and over had a debit card (compared to 17.9 percent on average in SSA countries) and only 0.5 percent of the population used it to make payments (8.7 percent on average in SSA countries).

30. Underdeveloped financial markets limit the access to the formal sector despite appetite for financial services. Nearly 41 percent of adults in Chad reported to have borrowed any money in 2013 according to Findex, but less than 3 percent borrowed from a financial institution. As expected, the poor face the greatest difficulties in accessing credit. Nearly 27 percent of the poorest said it is not at all possible to come up with emergency funds. On the other hand, almost half of the adults in Chad have saved money in the past year, which is relatively close to the average for SSA countries (59.6 percent). However, only 4.6 percent declared having saved at a financial institution, in contrast with 15.9 percent on average in SSA countries.

Mobile Banking in Chad

31. Increasing mobile phone penetration in Africa in recent years led to rapid development of mobile banking in the continent. Mobile banking complements the traditional form of financial services and allows households and businesses to perform certain transactions, such as making transfers or paying bills, without access to physical banking facilities, which is generally scarce in CEMAC countries. Due to the higher coverage of mobile phone services in the population, mobile banking is now considered as a way to improve financial inclusion.

32. As of 2014, Chad has higher percentage of adults reporting to have a mobile account than its CEMAC peers. According to Findex, about 5.7 percent of adults in Chad reported to have a mobile account in 2014, which is the second-highest among CEMAC countries (just behind Gabon

with 6.6 percent of adults having a mobile account). Nevertheless, this ratio remains significantly lower than the 10 percent and 11.5 percent, respectively, observed on average in LICs and SSA countries.

Microfinancial Institutions in Chad

33. Microfinance institutions started to develop in Chad in the 1980s and 1990s, a period of growing interest in microfinance as a tool for mobilizing local savings, and financing business activities especially in rural areas. According to the Central African Banking Commission (COBAC), Chad had more than 200 MFIs by end-2004. While MFIs were first operated informally, a CEMAC regulatory framework on microfinance was adopted in 2012. Under this regulatory framework, the MFIs need to hold a valid license to operate; they must join the country's professional MFI association; and the COBAC is responsible for regulating and sanctioning MFIs. Implementation of those regulations led to a decline in the number of MFIs, accentuated in 2014 when the unit in charge of microfinance at the COBAC was reinforced and took more decisive administrative actions.

34. The development of the microfinance sector has had a positive, albeit limited, impact on financial inclusion. Despite the recent decline in the number of MFIs in Chad, the number of beneficiaries continued to increase and is now above 200,000 people. Along with the expansion of the client base, the amount of outstanding savings, loans and transfers handled by MFIs also increased significantly. That said, the share of MFIs in the financial market is still limited. At the end of 2015, deposit at MFIs represented only 1.6 percent of total deposits in the financial system while the loans made by MFIs accounted for only 2.3 percent of the total loans by the financial system.

35. MFIs have been innovative in establishing credit tailored to borrowers' specific circumstances. The loans offered by MFIs in Chad comprise commercial loans, targeted to people establishing new activities, construction/housing loans, agricultural loans, and educational and social loans. The MFIs accept different kinds of collaterals, including cattle, land, or equipment. Lending rates are generally at a minimum of 2 percent per month, significantly above the 8-15 percent per year offered by commercial banks.

36. The contribution of MFIs to greater financial access and inclusion may be limited by their geographic concentration. Ideally, MFIs should be located in areas where the presence of banks is limited, where they can substitute their activities and thereby improve the access to financial services. Despite the efforts of international development partners, the microfinance sector expansion has been unevenly distributed throughout the country, with the majority of the MFIs remaining located in the central and southern regions, where the banks' presence is the heaviest.

Table 2. Chad's MFI Sector

Period	MFI (number)	Clients (number)	Employees (number)	Outstanding savings (CFAF billion)	Outstanding loans (CFAF billion)
2000	76	31,300		0.61	1.38
2004	214	97,318		4.42	3.67
2013	170	190,109	880	8.51	10.64
2014	113	197,262	900	10.29	16.04
2015e	--	>200,000--	--	12.00	18.00

Sources: COBAC; professional microfinance association; and Ministry of Finance and Budget

37. Poor performance of MFIs also limits their ability to expand their services and coverage in Chad. MFIs management and financial performance remains weak. Most MFIs have poor management procedures, high administrative costs, and poor internal controls mechanisms. The existence of some MFIs relies on subsidies from foreign partners, and they often have a weak business model to sustain their operations. The lack of risk management procedures can also send some MFIs into distress.

Policy Steps to Improve Financial Inclusion

38. The Chadian authorities recognize the importance of MFIs but the government has mobilized only limited resources in support of the sector. Successive National Development Plans made the microfinance sector a priority, as a tool for economic development and poverty reduction. A specific Ministry in charge of microfinance was created in 2006, but was replaced in 2014 by a technical unit part of the Ministry of Finance and Budget. The resources allocated to this unit are low, and most of the support to the sector is through agreements with development partners, as for instance the Support Program for Inclusive Finance of Chad financed by the Chadian government and the UNDP, or the Microfinance Project in Chad co-funded by the government of Chad and the Islamic Development Bank.

39. Drawing experience from countries in the region, the first key step to increase financial inclusion is to develop appropriate legal, regulatory, and institutional frameworks and a supporting information environment. Even if its direct support to the microfinance sector is limited, the government has a central role to play in dismantling obstacles to financial inclusion by introducing laws that protect property or creditor rights, and by ensuring that these laws are enforced. It can also set standards for disclosure and transparency and promote credit information-sharing systems and collateral registries. More fundamentally, it has a role in educating and protecting consumers. The government could also consider policies such as granting exemptions from onerous documentation requirements, allowing correspondent banking, and shifting to the use of electronic payments into bank accounts for government payments. By moving forward with these policy measures, the authorities can generate significant progress in increasing financial inclusion, reducing inequality, and boosting growth.

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CHAD'S FIRST STEPS IN THE REGIONAL PUBLIC SECURITIES MARKET¹

Except for two issuances through bank syndication in 2011 and 2013, Chad never resorted to the regional public securities market before the last quarter of 2014, when the country issued its first ever Treasury bills. Since then, Chad expanded its issuances and was the largest issuer among CEMAC members in 2015. The first steps taken by Chad in the regional securities market have been encouraging, obtaining financing regularly at relatively low interest rates and without exchange rate risk. On the basis of a more comprehensive analysis of the CEMAC securities market, this chapter stresses some challenges and makes some recommendations to strengthen Chad's participation in the regional public securities market.

A. Background

1. **The development of domestic public securities' markets in Sub-Saharan Africa (SSA) has been the subject of several studies and analyses.** Sy (2007) focused on the primary market in the WAEMU region and the determinants of prices of local-currency denominated public securities. Again for the WAEMU market, Diouf and Boutin-Dufresne (2012) studied the determinants of interest rates, identified challenges and prospective reforms that could help make the market more dynamic, and assessed the potential systemic risks that it may pose for the region's banking system. Very few (if any) similar analyses have been made for CEMAC, which can be explained by the relatively recent establishment of this market (first issuances of securities by Cameroon at the end of 2011) and limited data.
2. **A specific analysis for the CEMAC market is particularly relevant today in the context of the sharp fall in oil prices since mid-2014.** Such a shock has a massive impact on CEMAC public finances, forcing its countries to seek for additional financing sources. Indeed, after a gradual development since late 2011, CEMAC countries yearly issuances of public securities doubled in 2015 compared to 2014. A deeper and more liquid securities' market would help for monetary policy through potential open market operations, for fiscal policy by accessing more resources, and for the financial sector stability by offering more of low-risk assets with different maturities.
3. **For Chad, a detailed analysis is motivated by its recent access to the auction market,** with Treasury bills first issuances in late 2014 followed by a significant expansion in 2015 within the context of the ECF-supported program.
4. **This study is supported by the creation of a dedicated database** based on the statements of each issuance published on the website of the BEAC. This database contains the

¹ Prepared by Gabriel Léost (AFR) with inputs from Chaker Soltani, Public Debt Management Advisor at AFRITAC Centre. This chapter also benefited from inputs and comments from Vincent Fleuriet (MCM), Patrick Imam (AFR), Nicolas Million (ICD), Monique Newiak (AFR), and Samuel Delepierre (OED).

following details: the issuer country, the date of the issuance, maturity, number of primary dealers as bidders, amount announced by the Treasury, amount of bids, amount auctioned, and the interest rates or prices (minimum and maximum proposed by the primary dealers, ceiling rate or maximum price accepted by the Treasury, and weighted-average interest rate).

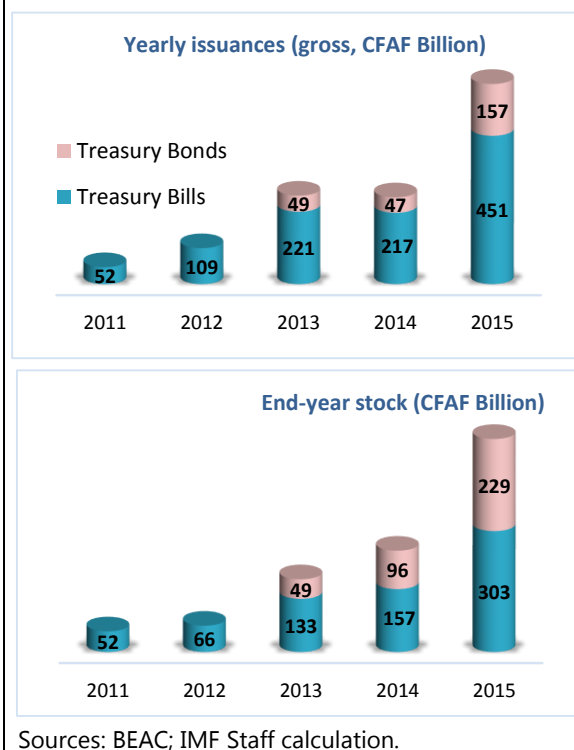
B. Gradual Development of the Market, Which Remains Limited Despite a Record High Level of Issuances in 2015

5. In the late 90s, the decision of a gradual phase-out of direct central bank financing to governments in the region paved the way for the development of the regional public debt market. The Executive Board of the BEAC decided in 1999 to freeze its statutory advances to national Treasuries and approved the establishment of a domestic market for the issuance of Treasury bills and Treasury bonds. Due to lack of political support, this project was long delayed, until the approval by the Monetary Policy Committee in March 2008 of a transitional scheme providing for the coexistence of statutory advances (scheduled to decrease) and the issuance of government securities.

6. CEMAC countries' public securities issuances through auctions have grown since 2011 and reached their highest level in 2015

(Figure 1). After the success of their first issuances in late 2011 (CFAF 50 billion), the Cameroonian authorities doubled their issuances of Treasury bills in 2012. The only other actor in the regional auction market at that time was the Central African Republic, with CFAF 1.56 billion issued in 2011 and CFAF 9.4 billion in 2012. Gabon joined the auction market in 2013, issuing CFAF 99 billion in Treasury bills. The first auctions of Treasury bonds occurred in 2013, both from Cameroon (CFAF 23.5 billion with a two year-maturity) and Gabon (CFAF 25 billion with a three-year maturity). Auctions of public securities stagnated in 2014 at around CFAF 265 billion, despite Chad's entry into the market. Finally, gross issuances more than doubled in 2015 compared to 2014, reaching CFAF 608 billion, in a difficult economic context characterized by a sharp fall in oil revenue.

Figure 1. Chad: CEMAC Public Securities Auction Market



7. The stock of auctioned public securities more than doubled in 2015 to reach CFAF 532 billion. This was the result of longer maturities for Treasury bills issued in 2015 and increased placements of Treasury Bonds. There was a high level of one-year Treasury bills' issuances

in 2015 (CFAF 196.5 billion). In addition, Chad was very active in the Treasury bonds' market. At the end of 2015, Treasury bonds represented 43 percent of the stock of auctioned public securities.

8. However, the objective of replacing BEAC direct financing by public securities issuances' remains only a long-term objective. Until recently, the BEAC was taking steps to reduce financing to CEMAC member states and promoting market-based mechanisms for financing government budgets. However, in early August 2015, and in response to the external shocks faced by the region, the mechanism of "statutory advances" (i.e., BEAC's overdraft facility for budget financing) was reactivated with the approval of a 52.4 percent increase in their ceilings. On top of this, the BEAC approved in late September 2015 an additional mechanism of "exceptional advances", allowing for a disbursement of CFAF 140 billion to Chad in October 2015 and CFAF 9.2 billion to the Central African Republic in May 2016.

9. The stock of statutory (and exceptional) advances is still almost 6 times larger than the stock of public securities. At the end of 2015, the stock of BEAC statutory advances to CEMAC countries amounted to CFAF 1,984 billion relative to a stock of public securities of CFAF 330 billion. In fact, Cameroon is the only CEMAC country whose balance of statutory advances is lower than its stock of securities. Conversely, Congo and Equatorial Guinea, virtually absent from the securities market (two issuances by Equatorial Guinea), are the biggest users of BEAC's statutory advances.

C. Chad's Participation in the Regional Public Market

10. Although the CEMAC's auction market for public securities started in late 2011 with the first issuances by Cameroon, Chad never resorted to it before 2014. Until then, the authorities used to negotiate direct financing from the banking sector. In two occasions, they proceeded to large regional bond issuances (CFAF 107 billion² in 2011, and CFAF 85 billion in 2013) through syndications³ arranged by two banks designated as primary dealers. Chad issued its first ever Treasury bills in the last quarter of 2014 and expanded its issuances (both Treasury bills and bonds) in 2015.

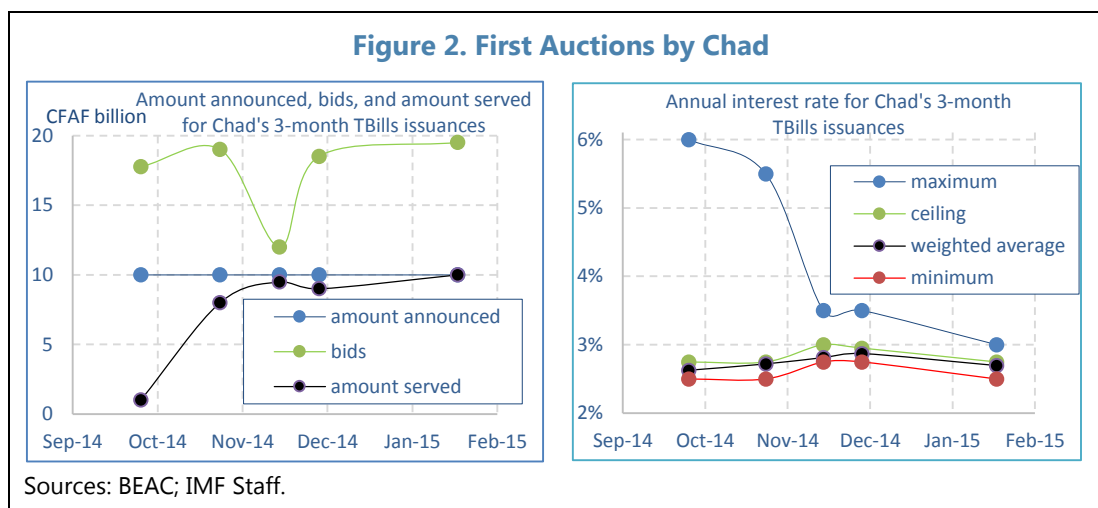
11. In the first auctions, the Chadian authorities implemented an auction strategy aimed at forcing primary dealers to lower their offered interest rates (Figure 2). After announcing to seek up to CFAF 10 billion with a maturity of 3 months, and despite total bids approaching CFAF 18 billion, the Treasury accepted only CFAF 1 billion to send a strong message on the maximum interest rate it was ready to accept.⁴ This strategy was successful, as the maximum interest rate proposed by the SVTs (Spécialistes en valeurs du Trésor, primary dealers) fell sharply by the third issuance in December 2014. Through four 3-month-Treasury bills' issuances, the Chadian Treasury

² The CFAF is fixed to the Euro with a parity of 655.957 CFAF against 1 Euro.

³ There are two procedures in the CEMAC market for the issuance of public securities: by auction for Treasury bills and by auction or syndication for Treasury bonds.

⁴ Bidders are required to submit offers for both the amount and the interest rate. The Treasury then decides on the allocation of bonds to bidders and the accepted interest rates.

was able to mobilize a total of CFAF 27.5 billion in 2014, at a weighted average annual interest rate of 2.8 percent.



12. Based on the success of their first issuances, and facing large financing needs with the fall in oil revenue, the authorities reinforced their issuance program for 2015. Treasury bills were regularly issued throughout 2015, but with a gradual lengthening of maturities. In fact, Chad conducted six 6-month Treasury bills issuances between March and July 2015 totaling CFAF 71 billion. All of them were oversubscribed and resulted in relatively low annualized interest rates (3.05 percent on average). Between September and end-2015, Chad issued one year-Treasury bills, with five issuances totaling CFAF 64 billion at an average annual interest rate of 3.4 percent. Treasury bonds' issuances were delayed compared to the initial calendar, but they still ended up exceeding initial plans: CFAF 139.3 billion was issued with maturities of two, three and five years, and an effective average interest rate of 4.3 percent.

13. Chad was the most active CEMAC country in terms of amounts issued in 2015. The Chadian Treasury placed CFAF 156 billion (gross) in Treasury bills and CFAF 139.3 billion (gross) in Treasury bonds, for a total of around CFAF 190 billion in net placements of public securities. However, net domestic financing (excluding from BEAC) was actually negative as several of those issuances were used to swap or roll-over existing banks loans. The main benefit of those operations was then to lengthen the maturity of outstanding Chadian government liabilities and potentially lower the future debt service, while providing banks with more liquid securities that could be refinanced by the central bank.

Chad's Domestic Risk Premium and Potential Market Mispricing

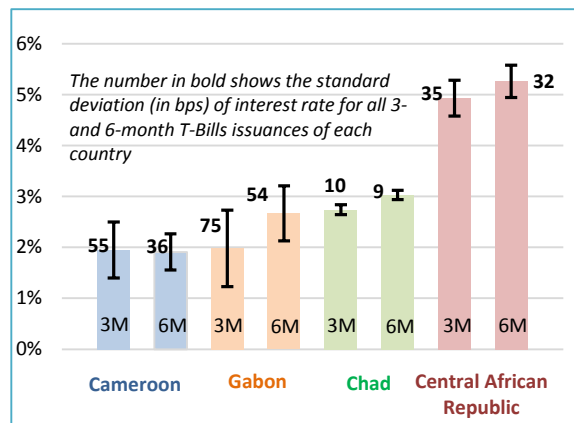
14. Chad has paid slightly more than 100 basis points (bps) than Cameroon in interest rates on 3- and 6-month Treasury bills. Comparing issuances by Chad to those of Cameroon (the most active country in the regional market and the one enjoying the lowest interest rates)

undertaken at identical or close dates,⁵ the interest rate spread stood at 104 bps for 3-month Treasury bills and 110 bps for 6-month Treasury bills.

15. More generally, a clear hierarchy in terms of risk premiums would have existed among CEMAC countries for 3- and 6-month Treasury bills. There were a total of 142 individual issuances of Treasury bills in the regional market between November 2011 and end-2015, and more than half of those issuances (76) were undertaken by Cameroon. Using the interest rates obtained by Cameroon as benchmarks, the following observations can be made (Figure 3):

- Gabon is the second “best” risk among CEMAC countries, with interest rates 30–40 bps higher than Cameroon, but with a large standard deviation.
- Interest rates are higher for Chad than for Gabon, but with a low variance among issuances, which could be explained by the lumping up of similar maturity issuances.
- The Central African Republic faces the highest interest rates, at around 5 percent per year for 3 month-Treasury bills and slightly more than 5 percent for 6 month-Treasury bills.

Figure 3. Chad: Weighted Average Interest Rate of 3 month and 6 month T-Bills Issuances



Sources: BEAC; IMF Staff calculation.

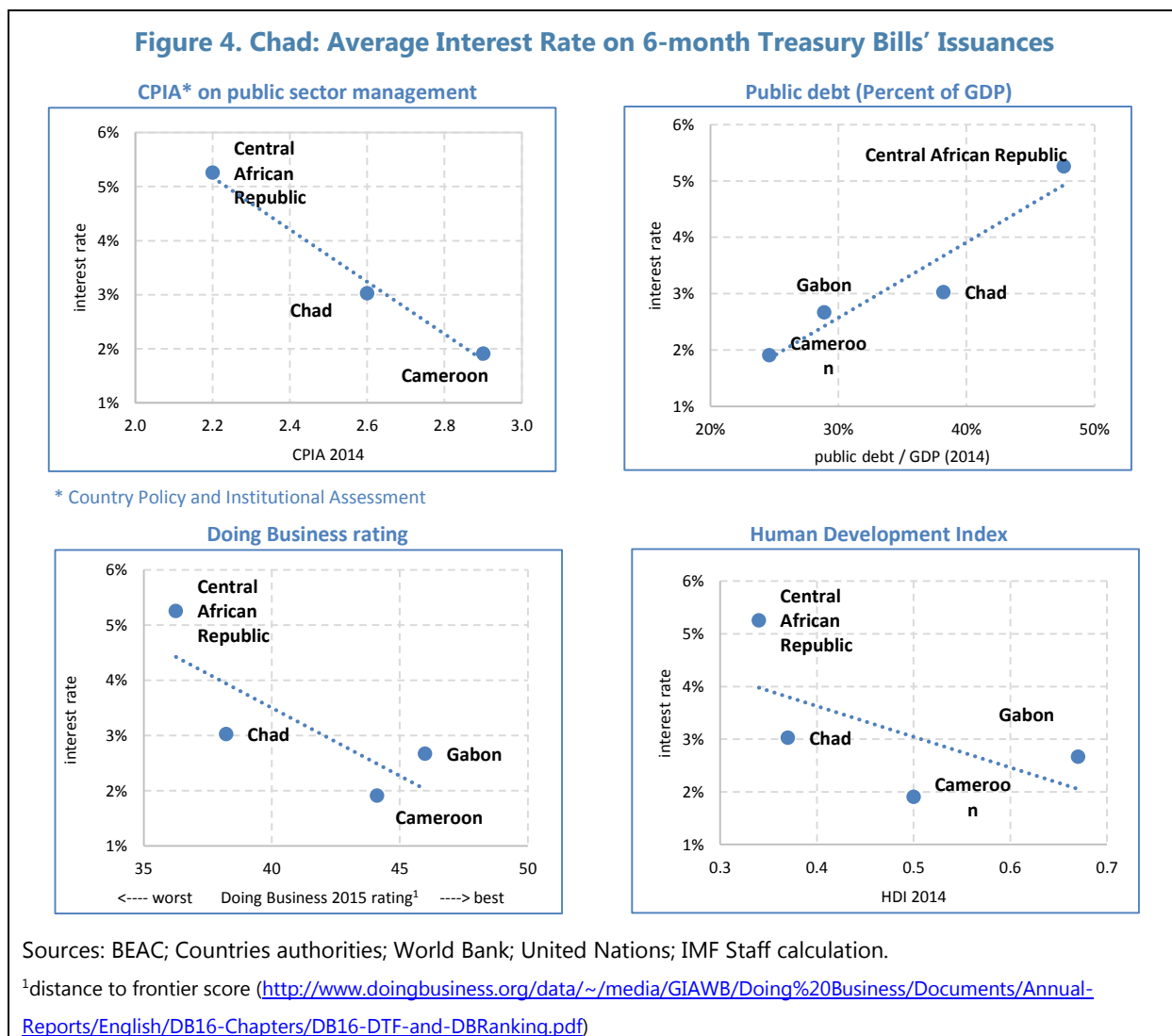
16. Interest rates in the region appear to be positively linked with governance and public management ratings, as well as public debt indicators (Figure 4). While CEMAC countries’ securities issuances are not rated by the main international rating agencies, some trade credit insurers provide a country risk classification that includes these countries, with better ratings for Cameroon and Gabon than for Chad and the Central African Republic.⁶ In the same vein, rankings like the World Bank’s Doing Business show a better rating for Cameroon and Gabon. Public debt indicators follow along the same lines as the ratio of public debt over GDP is significantly lower for Cameroon and Gabon than for Chad and the Central African Republic.

17. The risk premium hierarchy has been less obvious on 1-year Treasury bills. Cameroon had long been the only CEMAC country with regular issuances of one year-Treasury bills (Annex 2). The first 1-year issuance by Gabon was conducted in April 2015 and Chad undertook five issuances

⁵ C. Soltani and B. Debergh found a seasonal effect in interest rates, with a significant increase in September–October when banks would be willing to buy securities only at higher interest rates in order to improve their annual profit figures. In this study, issuances of Treasury bills with the same maturity are compared when auction dates do not differ by more than one month.

⁶ For instance, Hermes-Euler rating for Cameroon and Gabon is at a “significant risk” level, while Central African Republic and Chad are at “high risk” level. Cameroon and Gabon have also a better risk rating than Central African Republic and Chad in the EKF (Denmark’s export credit agency) classification.

of that type between September and December 2015. While Cameroon has benefitted from lower interest rates on average, there is less clarity on risk premium hierarchy among CEMAC countries for this type of maturity. For instance, the one year-Treasury bills issued by Gabon in the last quarter of 2015 had an interest rate of 4 percent on average, significantly higher than similar issuances by Chad (five issuances with an average interest rate of 3.4 percent). Even more surprising, the last auction of the year for Cameroon and Chad were done the same day (on December 23, 2015), with the same amount auctioned (CFAF 8.5 billion), and for the first time the interest rate was higher for Cameroon (3.9 percent) than for Chad (3.5 percent). In the same vein, the first ever issuance by Equatorial Guinea in September 2015 was done at an interest rate of only 1.36 percent (lower than any issuances by Cameroon for any maturities).



18. While limited activity on Treasury bonds makes comparisons difficult, peculiar interest rates' dynamics may suggest the presence of some market mispricing. Only Chad and Gabon resorted to Treasury bonds issuances in 2015, and the interest rate on Gabon 2-year Treasury bonds (4.6 percent) was higher than the interest rate on Chad's 5-year Treasury bonds (4.1 percent). An

inversion of the yield curve was present for Chad, with lower interest rates obtained for 5-year Treasury bonds than for 2-year Treasury bonds. One potential explanation would be that, despite the auction mechanism, the limited number of SVT involved (only one or two SVT making a bid) favors a prior agreement between the Treasury and the bank(s) involved, as in the case of syndication, which could lead to some market mispricing.

19. More generally, the low interest rates obtained by Chad and other CEMAC countries in their auctions confirm the mispricing of the securities, which is a serious obstacle to further market development. With a relatively inexpensive monetary financing (currently at the TIAO--Taux d'Intérêt des Appels d'Offres—of 2.45 percent per year), the governments does not seem ready to pay significantly more on the domestic market, therefore opting for low cut-off rates in their auctions. A comparison with the few international bond issuances by Cameroon or Gabon reinforces the sense that interest rates on CEMAC public securities are abnormally low.⁷ The mispricing of the CEMAC countries' securities is a serious obstacle to further market development, in particular by discouraging the emergence of a secondary market (see section D).

D. Further Development of the CEMAC Public Securities Market: Challenges for the Region and for Chad⁸

Promoting a market that better reflects the reality of risks is necessary for its further development. One of the main dysfunctions of the CEMAC public securities' market is the mispricing of the auctioned securities. It discourages other investors than SVTs to enter to the market (¶20) and hampers the development of a secondary market (¶21). Improvements in terms of communication, planning and executions of the auctions, and debt management would also participate to strengthening the market.

20. Retail investors, including non-residents, need to be attracted to the securities' market. There are no restrictions for retail investors, including non-resident investors, to purchase CEMAC government securities. The SVTs have an exclusive right to direct participation in Treasury bills or bonds auctions, but they have the obligation, at the request of any investor, to buy and sell public securities. In the same way, non-resident banks have the ability to transmit their orders to SVTs. In fact, the SVTs participate in the regional securities market almost only on their own behalf. At the end of 2015, 95 percent of the Treasury bills issued in the CEMAC (92 percent for Chad) were owned by the SVTs, and 5 percent owned by the same SVTs but on behalf of other banks not registered as SVTs. The situation is similar for Treasury bonds, with 88 percent ownership from SVTs, 9 percent on behalf of non-SVT regional banks, and only 3 percent on behalf of private customers (essentially insurance companies).

⁷ The interest rate on the 10 year-Eurobond issuance by Gabon in June 2015 reached 6.95 percent, while Cameroon obtained 9.75 percent in its 10 year-Eurobond issuance in November 2015.

⁸ Most of the recommendations presented in this section are based on technical assistance reports by Afrítac Centre.

21. The secondary market for government securities needs to be developed. Treasury bills and bonds are dematerialized and based on the convention between the BEAC and the SVTs, the latter have the obligation to foster the secondary market by displaying at their counters the purchase and sale prices of government securities. However, the SVT consider the government securities as an option of investment for themselves or as a refinancing instrument (government securities are accepted by the BEAC for rediscounting operations). In any case, the mispricing hampers the development of the secondary market, as SVTs would be forced to realize losses if they would sell the bills/bonds at market price, implying higher yields. At this stage, the secondary market is extremely limited, with only about twenty transactions on BTA and OTA recorded between 2011 and 2014. The secondary market for Treasury bonds issued by syndication is slightly more active. For instance, according to Afritac Centre, 77 transactions on Cameroonian bonds were recorded between 2011 and 2014, which represents an average annual volume of 11 percent of the securities in circulation. The secondary market should also benefit from the planned implementation in 2016 of the legal framework for the repo market (*Sale and Repurchase Agreements*).

22. The network of SVTs should be strengthened and the dialogue with them improved. Each country has its own network of SVTs. However, most SVTs participate in several networks or are a branch of a regional bank registered as SVT in other CEMAC countries. In Chad, the network of SVTs is limited to nine banks, of which three are domestic. A strengthened and continued dialogue with the SVTs is needed to avoid unnecessary and damaging competition among issuers. In addition, such a dialogue could help to reduce the mispricing, and an in-depth market analysis with the SVTs would help the governments to target potential end-buyers (large corporates, insurances companies...).

23. The unification of the Treasury bonds issued through auctions and by syndication could help stimulate the market. Currently, Treasury bonds issued by auction are exchanged over-the-counter (OTC), while bonds issued by syndication are traded on the Douala and Libreville stock exchanges. Afritac Centre advocates limiting that fragmentation, including encouraging domestic syndication: an SVT is designated by the authorities as the leader and it seeks to involve other banks in the operation through the auction market. This would require a modification of the article 9 of the BEAC regulation of public securities, as the determination of the price of the issuance with the SVT will be needed for a domestic syndication.

24. The calendars for planned issuances should be better respected. As specified in the legal and regulatory framework of the CEMAC public securities market, national Treasuries have to publish annual and quarterly indicative calendars of issuances. While this requirement is generally met, it is crucial to better respect those calendars to enhance the credibility of the Treasury securities among market participants. In the case of Chad, several auctions in 2015 were postponed, while other auctions were undertaken without a previous announcement.

25. The communication before and after an auction should be strengthened. The statements published two or three days before an auction are minimalists, mentioning only the nature of the securities (bills or bonds), the maturity, and the desired amount. WAEMU countries are at a more advanced stage, with the pre-auction statement being accompanied by a pre-auction

note including more comprehensive information (results of the previous auctions, planned auctions, amounts that will mature in the coming weeks, etc.), and often preceded (one or two weeks before the auction) by an information note on the issuance, the issuer, and the economic and financial context. All this information is published in the dedicated website of the UMOA-Titres agency, while its equivalent in the CEMAC, the CRCT (Cellule de Règlement et de Conservation des Titres, Unit for the settlement and conservation of securities), does not have its own website. Regarding Chad, results in terms of communication have been mixed: three of the 12 Treasury bills issuances in 2015 were not preceded by the publication of statements announcing the issuances, and two of them were not followed by the publication of a statement of results.

26. Good debt management practices should also help in developing the government securities market. It is important that governments respect as much as possible their planned issuance calendars and disclose comprehensive and timely information to investors. Furthermore, enhanced coordination can help avoid unnecessary competition among CEMAC countries, for instance by not issuing securities with identical maturities on the same day. More generally, sound debt management strategies should also help reassure investors about the government's ability to repay its securities and facilitate the rollover of maturing debt.

27. Improved debt management should include a clearer decision-making process. Decisions on cut-off prices, through the "ceiling rate" in the case of a Treasury bills or "price limits" in the case of Treasury bonds, directly impact the amounts raised. In theory, in order to avoid market distortions, and as long as the bids are sufficient, the issuer should accept all the best SVTs offers up to the announced amount of the issuance, regardless of the proposed interest rates or prices. In reality, the National Treasury can decide to auction less than planned to avoid distortions in the yield curve or, alternatively, to auction more than planned when certain conditions are met. In particular, when the bids exceed the planned amount by a large margin, it is justified to get additional financing at favorable conditions. If appropriate, this decision should be explained in the statement of result, to avoid affecting SVTs' expectations for the following issuances.

28. One key objective for Chad is to make this mode of financing more regular. The first Chadian securities' issuances were held in an emergency context given the huge loss in budget revenue linked to the occurrence of two exogenous shocks. They show the possibility for Chad to have access, in a more transparent manner, to financing in the regional market at relatively low interest rates and with the significant advantage of no currency risk. In the period ahead, this mode of financing is encouraged and should be part of a more comprehensive borrowing strategy. The challenge is not necessarily to increase the amounts borrowed, but also to address some cash management problems. Chad should therefore improve the planning of issuances, taking into account the entire range of maturities available, and integrate these issuances and the planned repayments into a cash management plan.

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Agence UMOA Titres <http://www.umoatitres.org/en>

Annex I. CEMAC Treasury Bills Yearly Issuances

(CFAF Billion)

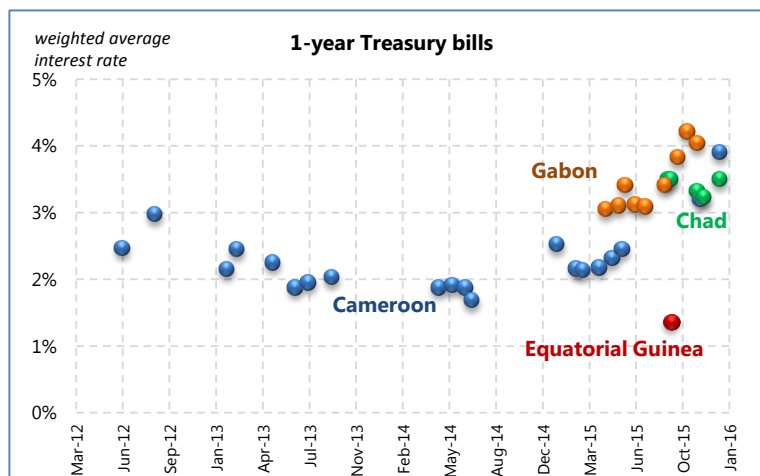
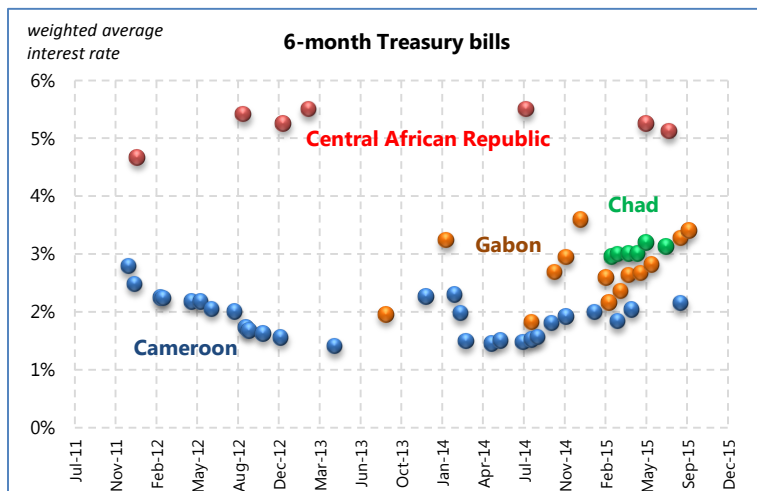
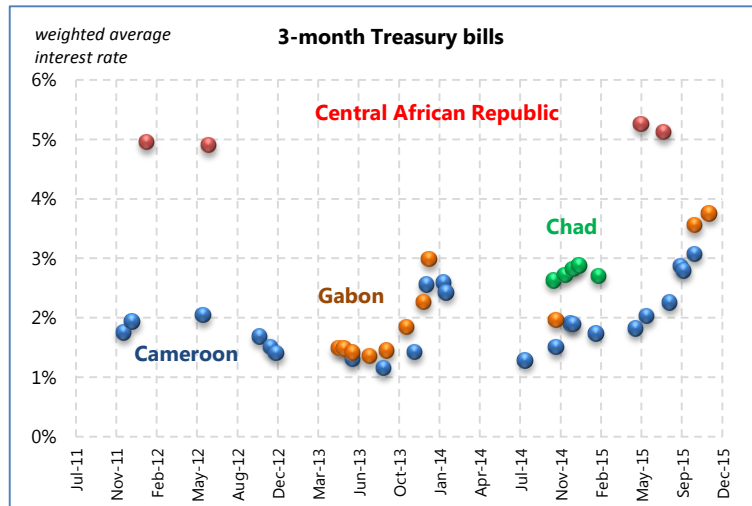
Gross	2011	2012	2013	2014	2015
Cameroon	50	100	119	145	133.7
Gabon	0	0	99	42.4	132
Central African Rep.	1.56	9.4	2.5	2.5	14.8
Chad	0	0	0	27.5	156
Equatorial Guinea	0	0	0	0	15
TOTAL	51.56	109.4	220.5	217.4	451.4

Due to mature	2011	2012	2013	2014	2015
Cameroon	0	90	80	149	140.5
Gabon	0	0	65	44	76.4
Central African Rep.	0	5.21	8.25	0	9.3
Chad	0	0	0	0	104.5
Equatorial Guinea	0	0	0	0	0
TOTAL	0	95.21	153.25	193	330.7

Net	2011	2012	2013	2014	2015
Cameroon	50	10	39	-4	-6.8
Gabon	0	0	34	-1.6	55.6
Central African Rep.	1.56	4.19	-5.75	2.5	5.5
Chad	0	0	0	27.5	51.5
Equatorial Guinea	0	0	0	0	15
TOTAL	51.56	14.19	67.25	24.4	120.7

Sources: BEAC; IMF staff.

Annex II. Interest Rates on CEMAC Treasury Bills Issuances



Source: IMF Staff, based on statements of result of all individual issuances published by the BEAC.

PUBLIC INVESTMENT EFFICIENCY IN CHAD¹

This chapter focuses on the efficiency of public investment, which can be defined as the relation between the value of public capital (input) and measures of infrastructure coverage and quality (output). This is a relevant issue for Chad, since public investment took off in the early 2000s thanks to the start of oil exports and the associated substantial increase in fiscal oil revenues and increased access to borrowing in foreign markets. Some indicators show beneficial impacts in terms of infrastructure in Chad, even if the infrastructure gap remains significant compared to other African low-income developing countries (LIDCs). In light of the lower oil revenues after the recent oil price shock, and the current high risk of debt distress, strengthening public investment management is even more critical in fostering the efficiency of public investment in Chad.

A. Introduction

1. Public investment is critical to support the delivery of key public services and catalyze economic growth and poverty reduction. For instance, public investment in social infrastructure is essential to improve the access to education and health services throughout the country, while investments in economic infrastructure (e.g., roads and electricity) should help expand integrate and expand economic sectors and favor the generation of private sector employment.

2. However, beyond its level, the efficiency of public investment is crucial. From a theoretical perspective, the arguments in favor of scaling up public investment in a country like Chad include the existence of relatively elevated rates of return due to lack of productive capital, a higher potential growth due to the removal of bottlenecks to development, and the complementarities between public and private capital. However, the economic and social impacts of public investment critically depend on its relative efficiency, which can be inferred through comparisons across countries of the value of public capital (input) and measures of infrastructure coverage and quality (output).

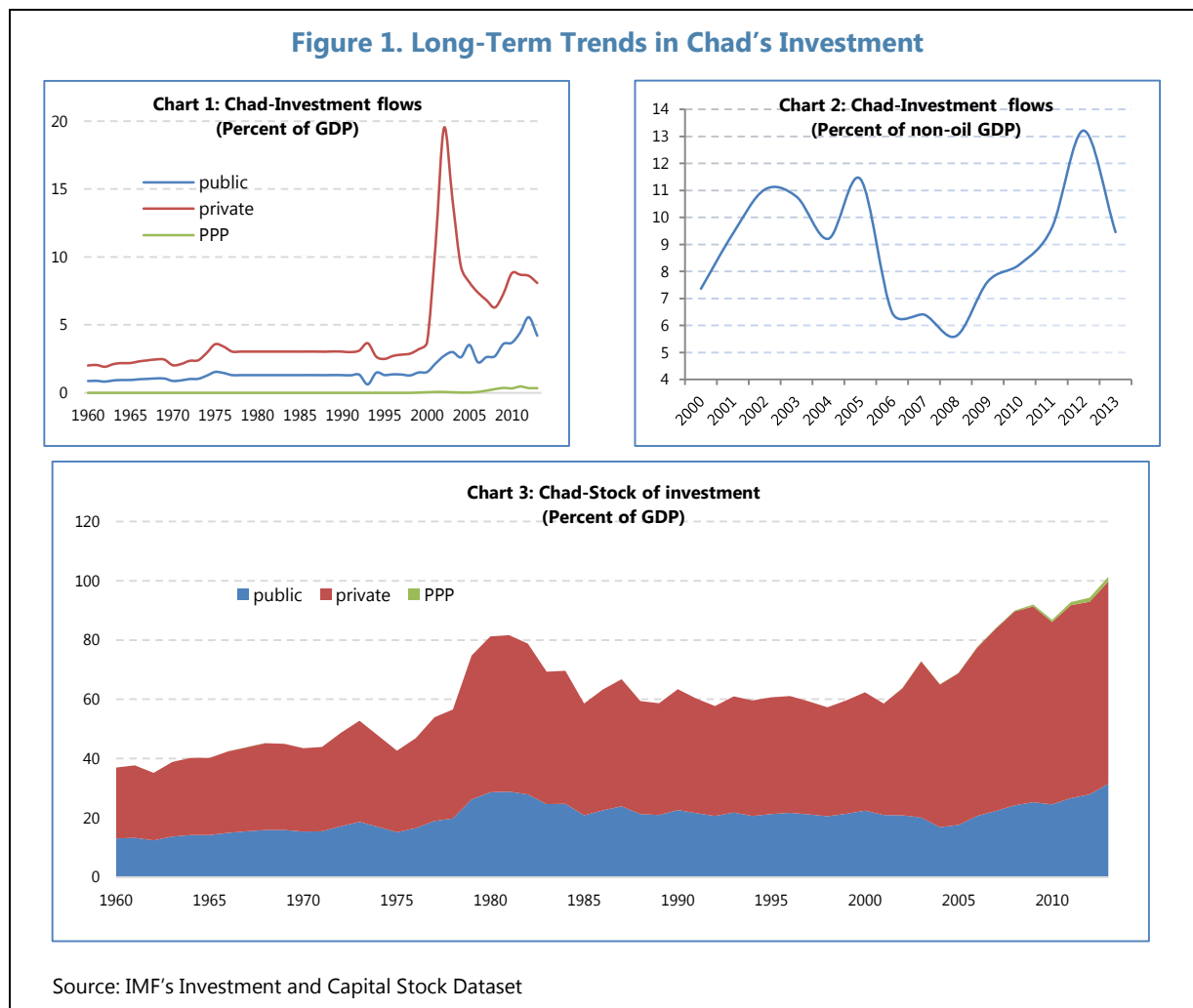
3. Improvements in public investment management (PIM) are key to enhance the efficiency and productivity of public investment. In Chad, the major source of improvement should stem from the strengthening of the institutions related to the funding, management, and monitoring of project implementation.

B. Trends in Chad's Public Investment and Impact on Infrastructure Gap

4. For decades, investment in Chad remained at very low levels (Fig. 1). Between 1960 and 2000, public investment flows never exceeded 1.5 percent of GDP, averaging only 1.2 percent per year. At the same time, private investment flows were also weak, at 2.8 percent of GDP per year on average. A long period of instability and conflicts between 1965 and the early 1990s prevented the

¹ Prepared by Gabriel Léost and Marwa Ibrahim (AFR). This chapter builds on the report on "Making Public Investment More Efficient" prepared by a staff team from the Fiscal Affairs Department and presented to the Executive Board on June 5, 2015. It also benefitted from inputs from JL Helis and JP Nguenang (both FAD).

take-off of investments, resulting in an capital stock over 60 percent of GDP in 2000 (only 22 percent of GDP for public investment), by far the lowest level among Sub-Saharan African (SSA) countries.



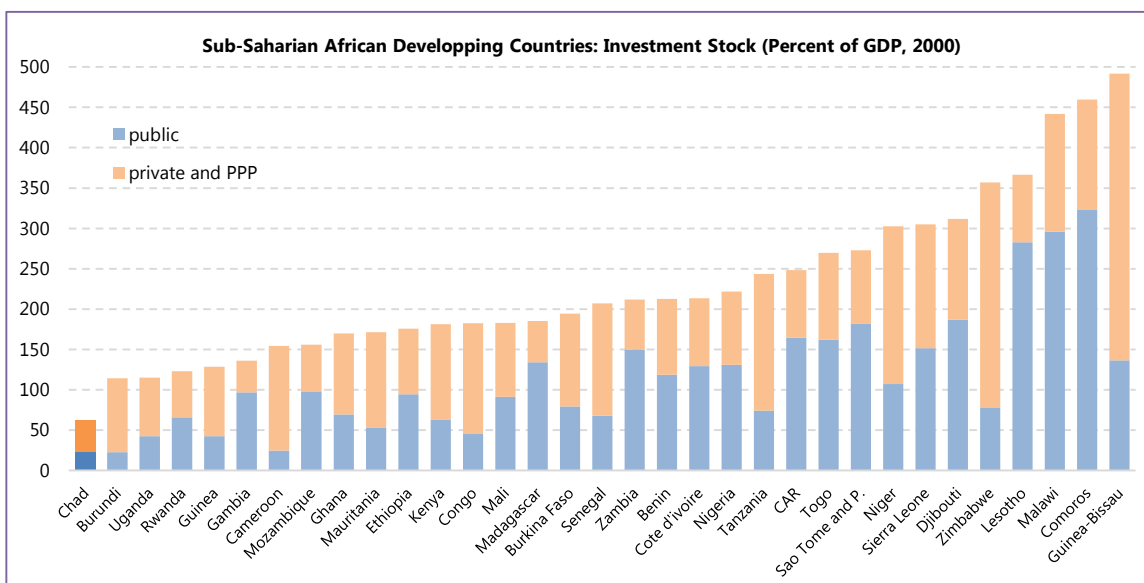
5. Investment in Chad took off in the early 2000s, in the wake of the development of the oil sector. The construction of a pipeline to export oil through Cameroon and the work needed to start production in the first oil fields triggered private investment flows, reaching 10.9 percent of GDP in 2001, 19.5 percent in 2002, and 14.2 percent in 2003. After the start of oil production by mid-2003, private investment flows, largely linked to the oil sector, remained at 8 percent of GDP per year on average, i.e., three times more than the annual average level before Chad's oil era. The oil sector generated over US\$10 billion in public revenues for Chad between 2000 and 2013. Consequently, public investment flows increased significantly and reached, on average, 9 percent of non-oil GDP between 2000 and 2013.

6. Despite significantly higher flows since 2001, the investment stock remains low in comparison with other African LIDCs (Fig. 2). Chad is part of a handful of countries in Africa that have seen a significant increase in their public investment stocks between 2005 and 2013. As a

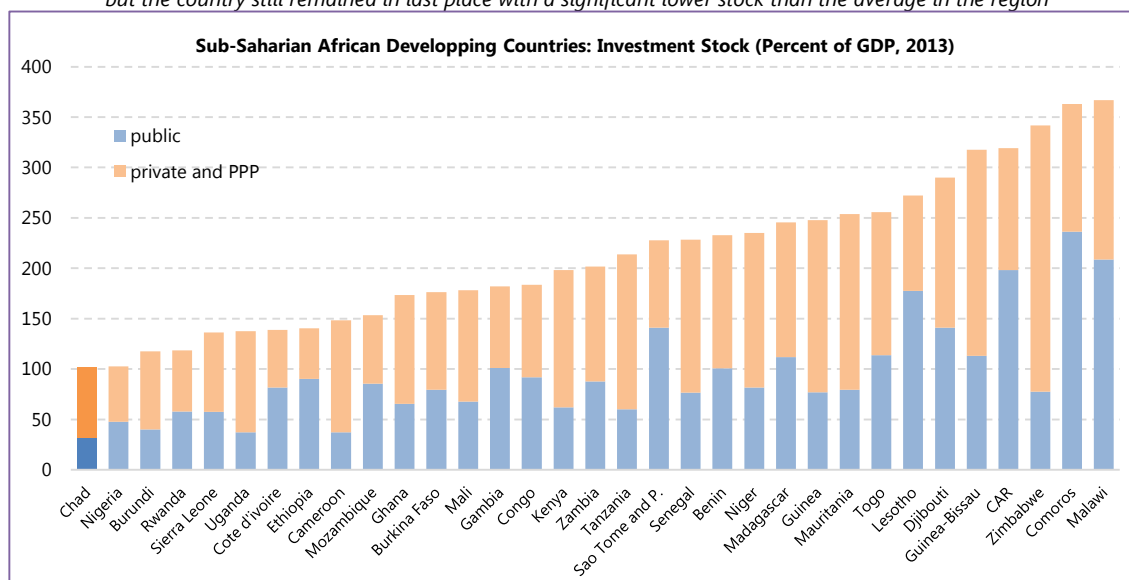
result, the country closed some of the gap in terms of investment levels, with a stock reaching 100 percent of GDP (of which 30 percent of GDP in public investment) in 2013. Despite this substantial increase in less than one decade, Chad remains the African country with the lowest capital stock measured in percent of GDP. That said, this increase would appear more significant if the ratio was calculated as a percentage of non-oil GDP.

Figure 2. Chad: Investment Stock in SSA LIDCs, in 2000 and 2013

In 2000, the stock of investment in Chad was almost three times lower than the average for Sub-Saharan African countries



By 2013, Chad had closed most of the gap with Sub-Saharan African countries, but the country still remained in last place with a significant lower stock than the average in the region



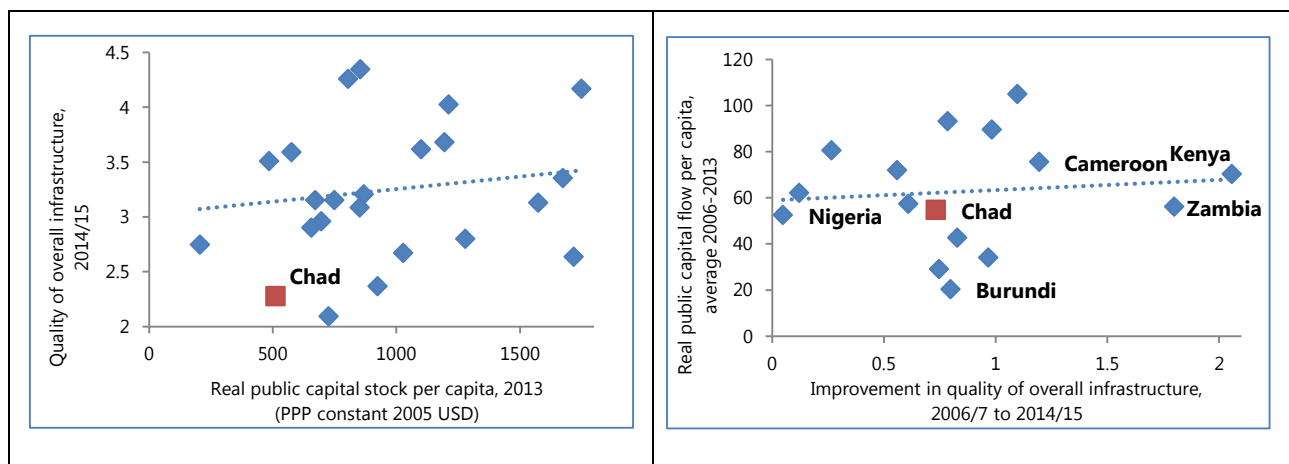
Source: IMF's Investment and Capital Stock Dataset

7. The infrastructure gap has decreased in recent years, but Chad still suffers many deficiencies in this area (Fig. 3 and 4). On the eve of the oil era, Chad's infrastructure was

exceptionally poor, even by the standards of other African LIDCs. Less than 10 percent of 6,200 kilometers of roads were paved in 2000, and access to power, electricity, telecommunications, water, and health services were highly underdeveloped. Significant progress has been made since then, as reflected by several existing indicators:

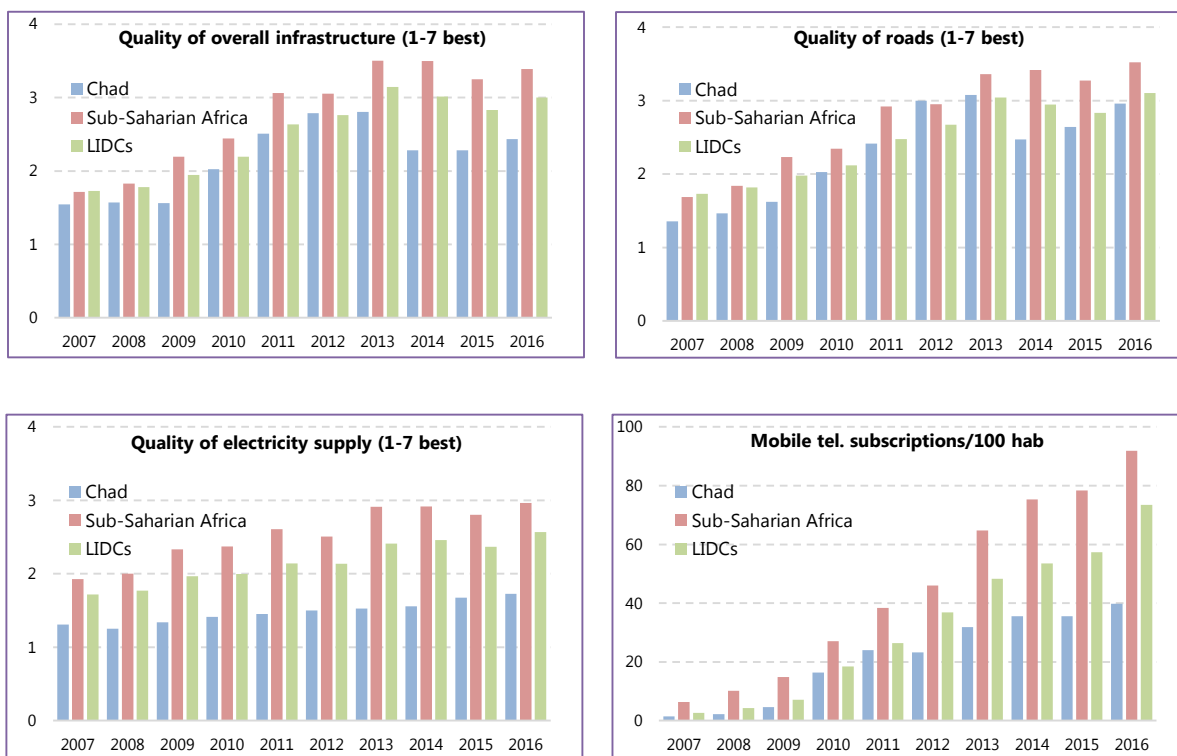
- The World Economic Forum’s Global Competitiveness Index (GCI) shows that the perception of the quality of overall infrastructure in Chad increased, on a scale of 1 to 7 (best) from 1.55 in 2007 to 2.43 in 2016. However, progress has been widespread amongst LIDCs, and the perception of the quality of infrastructure in Chad remains significantly lower than in Sub-Saharan African countries on average. The most significant improvement in Chad is on the quality of roads, with the sub-index having more than doubled between 2007 and 2016. By contrast, progress on the quality of electricity supply has been slow. Finally, on the access to telecommunications, while progress has been significant (for instance, mobile phones subscriptions per 100 habitants reached almost 40 in 2016, compared to only 1.4 in 2007), this level remains more than two times lower than the average for Sub-Saharan African countries.
- In the same vein, the infrastructure pillar of the Logistics Performance Index developed by the World Bank shows Chad’s overall ranking moving up from 141st in 2007 to 112th in 2014. This index is more favorable to Chad than the GCI, since it shows that Chad is now slightly above the average of Sub-Saharan African countries in terms of infrastructure, which can be explained by the focus on trade logistics’ infrastructure (like roads).

Figure 3. Chad: Public Investment and Quality of Infrastructure

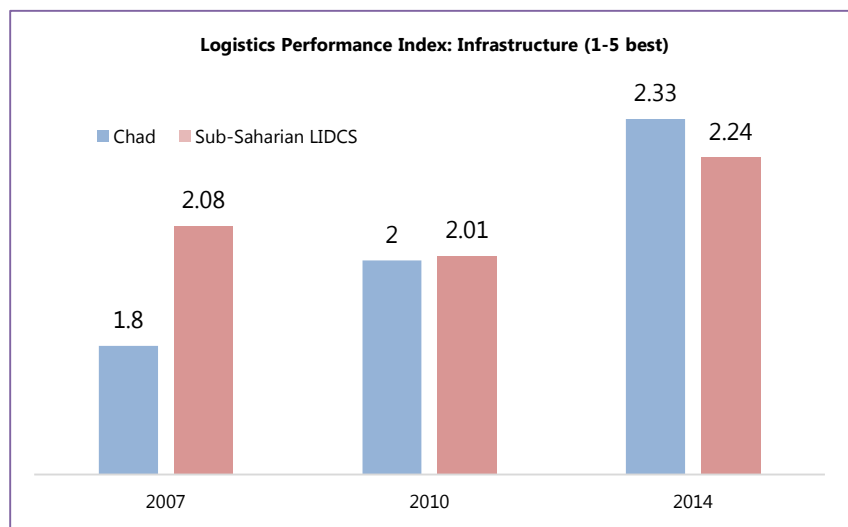


Sources: World Economic Forum’s Global Competitiveness Index; IMD staff calculations.

Figure 4. Chad: Perception of the Quality of Infrastructure



Source: World Economic Forum's Global Competitiveness Index



Source: World Bank's Logistics Performance Index (LPI)

C. Reinforcing the Efficiency of Public Investment Management

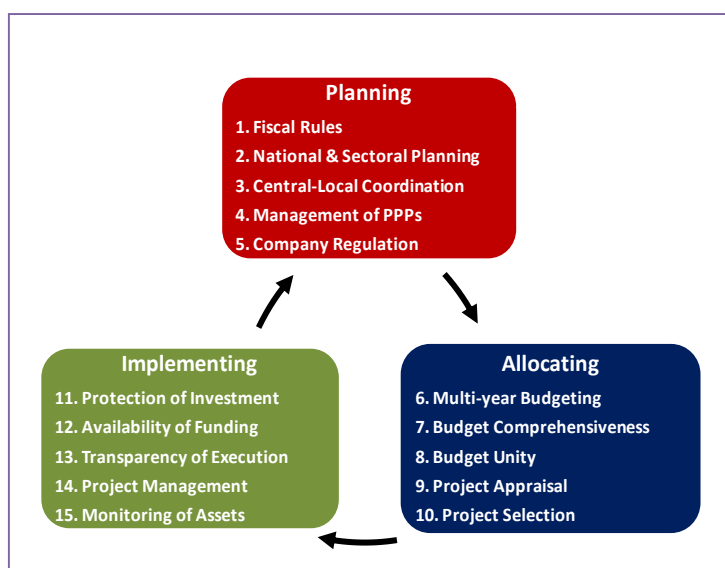
8. The economic and social impact of investment critically depends on its efficiency. The IMF report on “Making Public Investment More Efficient” developed a new Public Investment Management Assessment (PIMA) methodology that explores different approaches to measuring public investment efficiency. The study found that for LIDCs like Chad, around 40 percent of the potential benefits of public investment are on average lost due to inefficiencies in the public investment process.

9. The efficiency of public investment depends crucially on how it is managed. Countries with stronger public investment management institutions have more predictable, credible, efficient, and productive investments. According to the same IMF report, strengthening these institutional arrangements could close up to two-thirds of the efficiency gap highlighted above.

10. More transparent and well-governed institutions at key stages of the investment cycle are crucial to reinforce the investment efficiency:

- **Planning:** efficient investment planning requires institutions that ensure public investment is fiscally sustainable and effectively coordinated across sectors, levels of government, and between the public and private sectors.

- **Allocation:** allocation of capital spending to the most productive sectors and projects requires a comprehensive, unified, and medium-term perspective to capital budgeting, as well as objective criteria and competitive procedures for appraising and selecting particular investment projects.

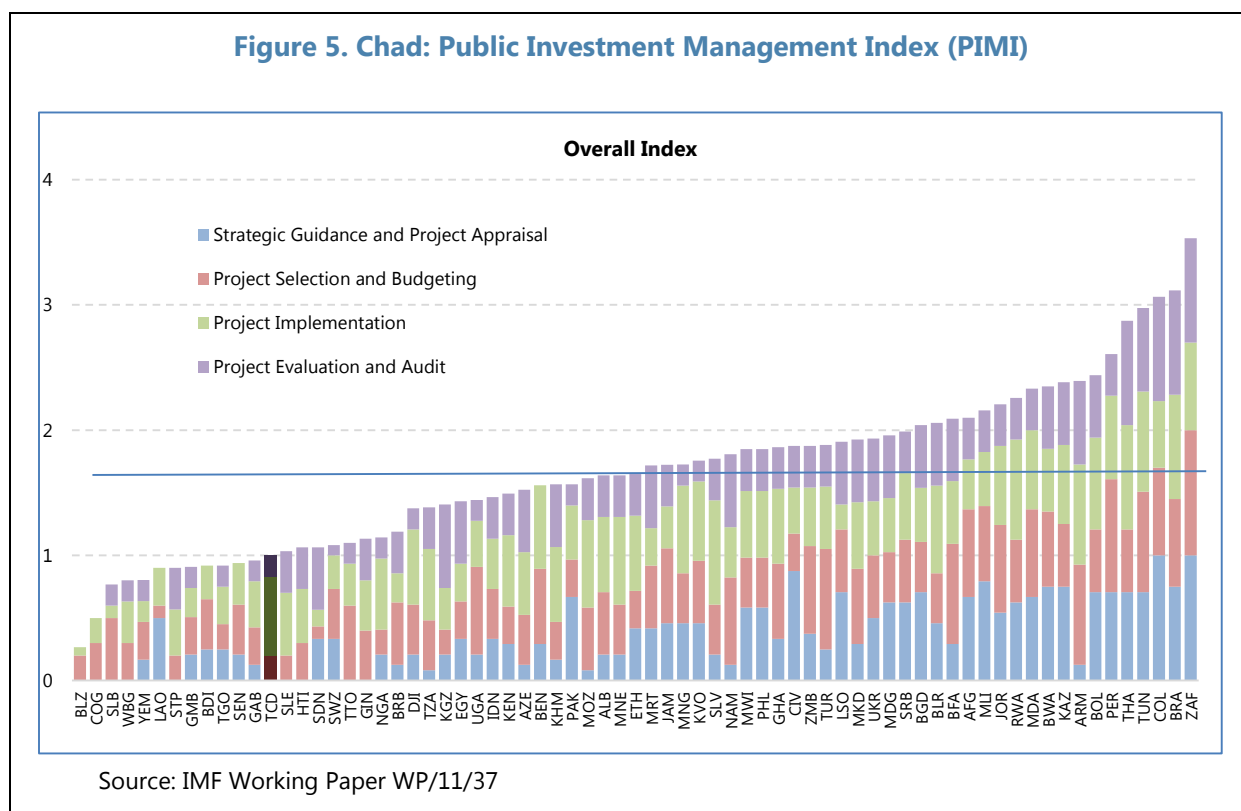


- **Implementation:** The timely and cost-effective implementation of public investment projects requires institutions that ensure projects are fully funded, transparently monitored, and effectively managed.

11. While the PIMA methodology has not yet been fully applied to Chad, general results for LIDCs suggest weaknesses in terms of public investment efficiency in Chad. For instance, the 2011 Public Investment Management Index (PIMI)² showed that Chad is among the worst

² Investing in public Investment: An index of Public Investment Efficiency, IMF WP/11/37 by Dabla-Norris, Brumby, Kyobe, Mills and Papageorgiou (February 2011).

performers among 71 countries (40 low-income and 31 middle-income countries), in particular regarding the strategic guidance and project appraisal, the project selection and budgeting, and the evaluation and audit of projects (Figure 5).



12. Like other LIDCs, Chad would benefit from strengthening institutions related to investment implementation. The transparency of budget execution, openness of the procurement process, and efficiency of cash management are critical to the stability and predictability of investment and to reducing opportunities for rent seeking. In addition, the ministry of Finance should focus on protecting investment expenditures by appropriating total project costs at the commencement of the project, preventing budgets from being “raided” to meet current pressures, and allowing some carryover of unspent appropriations to futures years. Finally, greater transparency and accountability regarding project management, monitoring, and evaluation is needed to strengthen incentives to deliver projects on time and on budget, and ensure value for money and integrity in the use of public resources.

Some specific issues and recommendations for Chad³

13. While medium-term investment priorities were identified and outlined in successive National Development Plans (NDPs), their consistency with budget allocations remains

³ Some of the recommendations presented in this section are based on the technical assistance report from Jean-Luc Helis and others (Dec. 2015) on Improving public finances’ management to prepare the program budgeting.

insufficient. The NDPs constitute the sole and unique reference framework for all development interventions in Chad, and their priorities in terms of investment expenditure are included in Public Investment Plans (PIPs) across the sectoral ministries. To date, however, the priorities defined in those three-year PIPs are not necessarily followed in the selection of investments by sectoral ministries, resulting in discrepancies between programming and implementation.

14. The discussion and presentation of investment budgets should be improved. The ministries have to submit project proposals for preliminary budget discussions to determine their spending envelope in the budget. However, currently this process results in the allocation of global credit lines by ministry in the budget law, without a detailed list of investment projects being funded and their specific allocations. This means that when the budget is implemented, it may include expenditure commitments linked to projects that were not originally contemplated in the budget formulation process, leading to risks of spending “over-commitments”.

15. While project implementation would be relatively satisfactory, the main drawbacks seem to be in planning and allocation, and in evaluation and audit phases. In most of the cases, investment projects are approved with limited preliminary studies to guarantee their technical quality. Costly investment decisions can therefore be made without a clear view on their consistency with macroeconomic and sectoral objectives set forth in the NDPs. Ex-post evaluations and audits of investment projects are also quite basic and superficial.

16. In addition, spending on transfers and goods and services, which are crucial to making investments function, has not kept up with overall investment spending. Based on a World Bank’s public expenditure review for the 2004-2009 period,⁴ expenditure on transfers and on goods and services rose by about 156 percent, while domestically financed investment spending rose by 270 percent over the same period. This mismatch leads to concerns on the ability of the government to meet the recurrent spending needs of the newly-created structures (especially schools and health facilities). In fact, field visits by WB team in October 2009 revealed that many of the newly constructed health and education structures stood empty, without an adequate budget to assure their operationalization. Those concerns come to the fore again in the context of the recent fiscal adjustment, as expenditure on goods and services were drastically reduced by 37 percent between 2014 and 2015.

17. Chad should advance towards the establishment of multiyear budgeting for investments. While the implementation of the Organic Law on Finance Laws (LOLF with the French acronym) will be gradual and the transition on program budgeting not planned before 2022, the authorities should improve the preparation and the presentation of the budget, in particular strengthen the current macroeconomic framework by establishing a medium-term macroeconomic framework, and by publishing a multi-year public investment program.

18. The expenditure chain for investments needs to be simplified. In accordance with the directives of CEMAC, Chad adopted the decree on general regulations on public accounting, which

⁴ World Bank Report No 57654-TD Republic of Chad Public Expenditure Review Update (December 2011)

describes four phases of the expenditure chain (commitment, validation, authorization, payment). However, the precise steps of this expenditure chain are not specified and are subject to interpretation by administrative officials. Furthermore, the expenditure process is heavy and complex. For some procurement by the ministry of infrastructure, no less than 15 steps between different services were identified by an IMF technical assistance mission. A handbook for all the expenditure chain's parties should formalize all the procedures, while reducing redundant controls and keeping only those with a real added value.

19. Spending commitments must be better controlled to avoid the accumulation of potential claims against the State. Issues in the investment budget's allocation (including the lack of details for ministries' spending envelopes) as well as in expenditure control can lead to the accumulation of potential claims against the State. In fact, there could be spending commitments, as attested by both the private sector and officials⁵ that do not enter into or are not approved within the official expenditure chain. The recognition of some of those claims could compete with investment projects included in the budget and/or lead to the accumulation of domestic arrears.

20. The Chadian government needs to assess whether it is necessary to play a role in all major infrastructure projects or only in strategic ones. There should be some space for private investment, but its participation will depend on the regulatory framework and more generally on the business environment. Chad faces significant challenges, having one of the most challenging business environments in SSA. Private sector participation can help to achieve higher project execution rates, improve innovation capacity, and transfer technical and managerial know-how.

21. The Chadian authorities should also improve public spending efficiency through greater regional coordination of infrastructure projects. A more concerted regional strategy, in particular among CEMAC countries, is needed for better prioritization, effective coordination, and stronger synergy of national investment programs. Such coordination would reduce infrastructure costs and overall financing needs, prevent duplication of large infrastructure projects, and support further economic integration.

⁵ Those commitments are generally mentioned under the term of "dette intérieure", which should not be confused with the officially recognized domestic debt.

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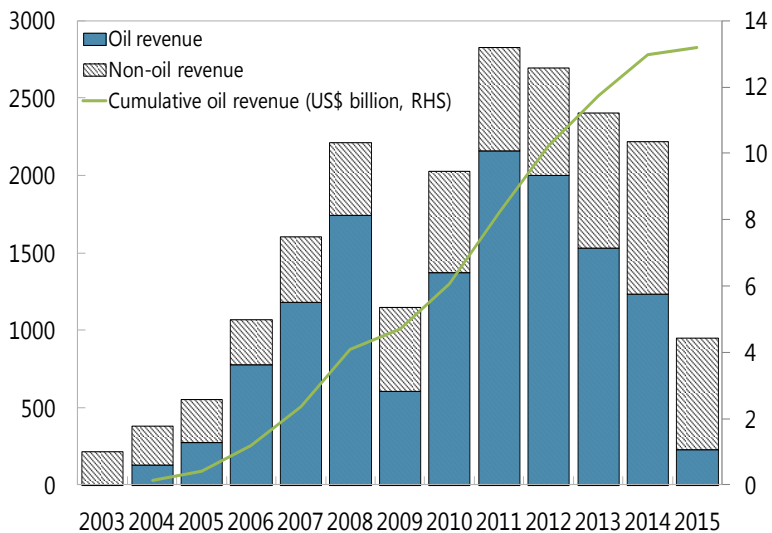
CHAD'S OIL SECTOR — INCREASING COMPLEXITY PLACING GREATER DEMANDS ON TRANSPARENCY AND INTEGRITY ARRANGEMENTS¹

A. Introduction

1. Chad developed its oil sector under uniquely difficult circumstances: extremely low levels of human and physical capital, civil strife, a virtual absence of basic infrastructure in the oil producing region, and landlocked. Oil was first discovered in Chad in the 1970s but civil war prevented exploration and exploitation. In 1988 the Chadian Government finally granted a 30-year concession to a multi-company consortium, of which Esso eventually took the lead and became the operator (University of Texas, 2003).
2. Construction began in 2000. Key infrastructure was a 1,070 km buried pipeline from the producing region, Chad's southern province of Doba, two thirds through Cameroon, to the Atlantic coast near the city of Kribi. For this pipeline the Doba Consortium had approached the World Bank, which ended up financing the Chadian and Cameroonian stakes in the pipeline, together with the European Investment Bank (EIB). The Doba reservoir was estimated to contain one billion barrels, to be extracted over 25 years. Oil production started in 2004; dictated by the characteristics of the reservoir, production peaked the year after, at 172,000 barrels per day, and then started on a steady decline. But thanks to new fields coming on stream Chad's overall oil production stabilized at 120,000 b/d in 2008 before rising to 145,000 b/d in 2015.
3. Just when Chad's oil era began, oil prices went on an upward trend. During 2000-03, the oil price was near US\$ 30 p/b, and Chad's budget was expected to benefit from the oil to the tune of US\$45 to 50 million per year (about a quarter of donor assistance). But as oil prices rose, oil revenues exceeded those expectations by a wide margin. With a brief interruption following the 2008 world financial crisis, prices kept climbing through 2011 with Doba oil prices reaching around \$100 p/b during 2011-14. As a result, Chad's oil revenue peaked in 2011 at US\$2 billion, making up 76 percent of government revenue. Then the bust set in, and as prices fell to US\$43 in 2015, revenues dropped to some US\$200 million in 2015, or 24 percent of government revenue. Still, over the period 2004-15, Chad—with a population of 10 million in 2004—collected cumulatively an impressive US\$13 billion in oil revenue (Figures 1 and 2).
4. The remainder of this paper will describe how Chad's oil sector became increasingly complex—with more producing companies and a new fiscal regime—and then discuss the transparency and integrity arrangements in place and make good-practice recommendations for their strengthening.

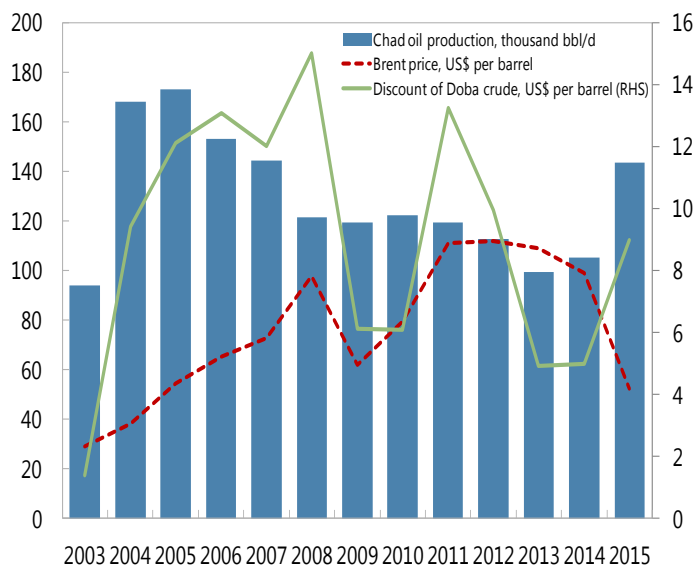
¹ Prepared by Anton Op de Beke and Samson Kwalingana.

Figure 1. Chad: Oil and Non-Oil Revenue, 2003–15
(Million U.S. dollars)



Sources: Chadian authorities; IMF Staff estimates.

Figure 2. Chad: Oil Profile, 2003–15



Sources: Chadian authorities; IMF Staff estimates.

B. Increasing Complexity of the Oil Sector

5. As part of its involvement, the World Bank helped Chad with a Petroleum Revenue Management System (PRMS) designed to ensure that Chad's oil revenue would benefit development and alleviate poverty.² The PRMS included safeguards, notably a mechanism for paying royalties into an offshore account and another for paying income tax into the central bank, plus the earmarking of revenue for investment spending. Moreover, the structure of the oil sector at the outset was rather simple: one consortium with two licenses, one set of oil fields, and one oil fiscal regime. Thanks to these safeguards and the simple structure of the sector, oil revenue collection was relatively transparent, and the integrity challenges were limited. Ten years later, that has radically changed: Chad's oil sector has become complex, and the need has arisen for stronger transparency and integrity arrangements.

6. Over the past decade Chad's oil sector developed rapidly, with more producers, a new fiscal regime and a number of institutional innovations:

- More producers appeared on the scene: besides the Doba Consortium there are now the China National Petroleum Company International (CNPCI), producing since 2011, and Glencore, (previously Griffith), producing since 2013. A dozen other companies hold exploration permits.
- Chad introduced a second fiscal regime: whereas the Consortium and the CNPCI continue to produce under the concessionary regime—also called “royalty/tax”—all licenses issued after the new Hydrocarbon Law of 2007 are of the production sharing contract (PSC) type.
- The creation in 2006 of a national oil company, the *Société d'Hydrocarbures de Tchad* or SHT, introduced a new key player with tasks and responsibilities to be coordinated with other government agencies.
- In 2012, the Government switched to revenue-in-kind (RIK). Marketing of government oil had been declared one of the SHT's principal tasks. To supply it with product, the Government asked the companies to pay royalties and taxes (under the CPP) in physical barrels of oil. In 2015, RIK accounted for two-thirds of oil revenue, its marketing a major challenge and risk factor.
- In 2008, at the Government's request, the Doba Consortium started paying quarterly income tax advances based on a concurrent estimate of what will be due. Previously they were based on the past year's declaration. Thanks to this change, the advances are more accurate—higher when prices rise, lower when they drop. But there is now uncertainty on how much will be received from quarter-to-quarter.

² For an analysis of the PRMS see Dabán and Lacoche, 2007, and also the World Bank, 2007. See further Nachega and Wiczorek, 2007, and for a civil society perspective, Gary and Reisch, 2004.

- The introduction of RIK opened the way to oil-collateralized borrowing in the form of prepayment agreements. In 2013, the Government borrowed US\$600 million for budget financing, and in 2014 the SHT borrowed—with a government guarantee—US\$1.45 billion for purchasing a 25 percent share in the Doba Consortium.
- In 2011, a refinery—the N'Djamena Refinery Company (NRC)—started operations. It is owned 60 percent by the CNPCI and 40 percent by the SHT, and supplied with crude produced by the CNPCI. The NRC brought new regulatory and management responsibilities for the Government.
- The Government has steadily increased its participation in the oil sector, with a potential for greater gains but also increased revenue volatility and risks to the budget. These participations are assigned to the SHT for management. The major acquisition occurred in 2014 with the purchase of the 25 percent in the Doba Consortium from Chevron. Also in 2014, the Government assumed 10 percent in the CNPCI's two producing fields, this as part of a settlement over environmental damages (on top of US\$600 million in cash compensation). In addition, the SHT holds 25 percent in the CNPCI's three not-yet-producing fields, and a 15 percent stake in Glencore (after having sold 10 percent in 2013).

7. All of these developments added complexity and, thus, for the Government, greater challenges administering and regulating the oil sector. In particular, accounting for past oil revenues is now more complicated as is projecting future revenues. The debt service on the oil collateralized borrowing is not only onerous but also hard to predict, since it is a function of oil prices and production. In general, the organization of a smooth flow of oil sector information throughout the Government has become a more pressing issue, and the Government's oversight and audit responsibilities have multiplied.

8. In 2014 a new PRMS was adopted³ which maintained two important transparency institutions of the 1999 original PRMS, and added two others:

- The oil revenue oversight body, the *College de Contrôle et de Surveillance des Recettes Pétrolières* or CCSRP, continues to produce annual reports. They cover the use of "direct" oil revenue (royalties plus dividends) for priority spending, and contain detailed information on production, exports, shipments, and prices not published elsewhere. The last report covers 2013.⁴

³ See *Loi No. 002/PR/2014 Portant Gestion des Revenues Pétrolières*, 27 Janvier 2014, at <http://itie-tchad.org/?p=347>

⁴ The report is published on the CCSRP website, <http://www.ccsrp-tchad.org/w1/index.php>, but also available on the site of Chad's EITI Secretariat, www.itie-tchad.org.

- Another feature carried over into the new PRMS is the offshore account with Citibank in London into which all direct revenues must be paid. It was originally an escrow account, designed to ensure the debt service on the WB and EIB pipeline loans. Those loans were repaid but the offshore account continues. It serves transparency because it is the only bank account into which companies can make royalty payments, a rule that has been extended to the proceeds of the sale of RIK. The alternative could be a multiplicity of accounts which would seriously hamper revenue administration. Besides, only the Treasury has access to this offshore account, another important safeguard. At the same time, the “indirect revenues” (taxes and customs duties) must be paid directly into the accounts of the Treasury.
- A 2010 innovation was the introduction of the *model* Production Sharing Contract.⁵ This serves to standardize key fiscal parameters across contracts and reduces the scope for negotiations to limited set of parameters. It is a commitment to transparency that facilitates accountability.
- Also in 2010, Chad joined the Extractive Industries Transparency Initiative. Chad has produced annual EITI reports covering 2007-13, and was declared EITI compliant in 2014. To remain compliant, Chad will have to produce the 2014 report before the end of 2016 and this report should meet the standards of the EITI.⁶

C. Two Oil Fiscal Regimes

9. Chad’s revised Hydrocarbons Law adopted in 2007 added to the concession or tax/royalty regime a second fiscal regime, the Production Sharing Contract (PSC). In practice, all licenses issued since 2007 are of the PSC type. However, holders of previously issued licenses have availed themselves of their fiscal stability clauses and opted to remain with the concessionary regime.⁷ Thus the Doba Consortium and also the first phase of the CNPCI production continue as concessions. In 2010, Chad issued a model PSC contract to complement the Hydrocarbons Law.

10. In principle the concessionary and the PSC or contractual regimes can be designed to be equivalent in terms of government take and control (Daniel, 2010). The concessionary regime prevails in industrial countries, and is better suited at integrating the oil companies in the general tax system. But developing country governments tend to prefer the contractual regime, which they believe gives them greater control over the natural resource and the companies. In Chad the two regimes generate largely the same revenue flows, the main difference being that under a PSC the Government is entitled to a share of production instead of income tax (Box 1).

⁵ See Ordonnance No. 001/PR/2010 Portant approbation du contrat type de partage de production, at <http://itie-tchad.org/?p=351>, and Annexes au contrat de partage de production, at <http://itie-tchad.org/?p=257>.

⁶ The reports can be found on the Chad EITI website, <http://www.itie-tchad.org/>, or the EITI’s international website, www.eiti.org. Besides the standard reconciliation of payment and revenue information—see later—the 2013 report contains a wealth of information on Chad’s oil sector, of which this paper has made ample use.

⁷ For a primer on oil contracts see Open Oil, 2012.

Box 1. Chad-Concessionary vs. Contractual Oil Fiscal Regime

The two prevailing types of oil fiscal regimes are: the concession (or tax/royalty) regime and the production sharing contract (PSC). Under the concession, the government cedes control of the oil in return for a royalty payment plus corporate income tax. Under the PSC the government contracts with a company to produce the oil in return for a share of the physical production. The two can be structured to be equivalent in terms of tax take and government control. The concessionary regime is popular among industrial countries, the PSC among developing countries. In practice, regimes are often hybrids.

In Chad the two regimes generate the following revenue flows:

For Concessions and PSCs

- Signature bonus (US\$ 40 million, o/w US\$10 million deductible).
- Production bonus (US\$ 2 million, upon issuance of exploitation license).
- Production royalty (12.5-16.5% of production at well head).
- Statistical fee (1% of exports).
- Government participation (max. 25%, carried interest), gives rise to payments to SHT.
- Surface fees.
- Contribution to staff training (US\$ 250,000 p/a in exploration, US\$ 500,000 p/a in exploitation).
- Contribution to audit costs (US\$ 200,000 p/a in exploration, US\$ 400,000 p/a in exploitation).

For PSCs

- Tax oil (40-60% share for government of total profit oil, depending on R-factor).⁸
- Profit oil calculated as total production minus royalty minus cost oil (with 70% cost limit).

For Concessions

- Corporate income tax (42.5-65% of net profits, depending on field and R-factor).

11. In a concessionary regime the government cedes to a company the ownership rights over a natural resource for a specific period of time. For that right the company pays a royalty, which is essentially a user fee, and which is fixed in relation to production. Royalties are popular because they guarantee the government an early and continuous revenue stream regardless of the profitability of the project, fluctuating in value only with price and volume of production. The flip side is that royalties are regressive and may motivate companies to stop production prematurely on marginal fields. In addition, the company pays a tax on its net profits, usually at a higher rate than the standard corporate income tax, and more or less progressive. In Chad, the income tax is somewhat progressive because the rate ranges from 42.5 to 65 percent depending on the profitability of the project as measured by the R-factor.

⁸ The R-factor is the ratio of a company's gross revenues over its gross costs for a particular project. When the ration reaches one, the company's cumulative revenues equal its cumulative costs. In order to make the tax rate progressive, it is tied to the R-factor rises. Both the corporate income tax rate in a concessionary regime and the government's share in profit oil or tax oil in a contractual system tend to go up with the R-factor.

12. In contrast, under a PSC, the government retains the full rights over the natural resource. It appoints a company as a contractor for operations to produce the resource. For that, the company is rewarded with a share of the oil, after having been reimbursed for its expenses. Typical for a PSC is the accounting in barrels, ultimately converted into money at an agreed price per barrel. First, the so called “cost oil” is taken out of total production (after royalties), that is, the number of barrels equivalent to the costs incurred over the period. What remains after cost oil is the “profit oil.” This is shared between the government and the company, according to the “profit oil split.” The government share is called “tax oil” since it is equivalent to a tax on profits. In Chad the split in favor of the Government ranges from 40 to 60 percent depending on the R factor. However, the cost oil deduction is subject to the “cost oil limit” (70 percent in Chad). This limit acts like a royalty in that it always sets aside at least 30 percent of turnover in profit oil, of which the government gets 40 percent, regardless of profitability (but costs that cannot be deducted are carried forward).

13. Other payments by the companies are the same for both regimes. Notably companies must make lump sum bonus payments at signature of the license and at the start of production, which can be substantial.⁹ They also owe a one percent statistical fee on exports, plus a fee depending on the size of their exploration and exploitation zones. Another significant benefit to the Government is the maximum 25 percent stake it is entitled to. This is a benefit because this participation is risk free: the Government can wait with exercising the option to participate until oil is found and being produced. If it decides to participate, the Government is entitled to a part of the profit oil reserved for shareholders, the so called equity profit oil. It also shares in the costs but on lenient terms. Specifically, in the case of Chad,¹⁰ it must reimburse its share of the exploration costs, but without interest. It must also pay its share of the development, exploitation and abandonment costs, but only from the moment production starts. Moreover, the other partner(s) will advance these costs, at an interest, and reimburse themselves from the cost oil and equity profit oil accruing to the Government (a so called “carried equity participation” with partial carry). In Chad, these stakes have been assigned to the SHT which therefore receives any equity profit oil as income.

14. When the government owns all subsoil resources—as is true in most countries including in Chad—the overarching objective of any petroleum (and mining) fiscal regime is to maximize the government’s so called “tax take”,¹¹ while allowing a sufficient risk-adjusted margin to the companies to pursue their operations (IMF, 2010). This is easier to achieve if the petroleum fiscal regime is progressive, meaning the tax take increases with the profitability of the project. Chad’s 2007 Petroleum Code and the subsequent shift to PSCs were motivated by a desire to raise the tax

⁹ In 2011 Griffiths paid the Chadian Government signature bonuses worth US\$93 million, and in 2012 United Hydrocarbon Chad paid a bonus of US\$86 million

(see EITI reports on Chad covering 2011 and 2012 at <http://itie-tchad.org/>).

¹⁰ These are the modalities for government participation described in the published PSCs (see par. 36).

¹¹ The technical term is the Average Effective Tax Rate (AETR) which is the proportion of the present value of the income of a project that is taken in tax.

take and render the regime more progressive. The only way to evaluate the tax take associated with a contract is to model the contract (see later discussion). This was done by Gab-Leyba and Laporte (2015) who concluded that Chad's concessionary regime is regressive and its PSC regime progressive. However, only when the Brent oil price goes over US\$57 per barrel does the tax take under the PSC start to exceed the one under the concessionary regime.¹²

D. Four Oil Companies

15. As of 2016, Chad has three producing oil companies. One is a consortium of companies, the other two operate for their own account. As of 2013, eight other companies were in the process of exploring (EITI, 2016).

The Doba Consortium led by Esso¹³

16. The oldest (since 2004) and largest producer (about 70 K bbl/d in 2015) is the Doba Consortium led by Esso. It operates under its 1988 Convention the blocks Komé, Miandoum and Bolobo, and under its 2004 Convention the blocks Nya, Moudouli, Maikeri and Timbré. Esso owns 40 percent, the Malaysian company Petronas Carigali 35 percent and, since 2014, Chad's national oil company, the SHT, 25 percent (previously Chevron Petroleum Chad). The main change going from the 1988 to the 2004 Convention is the increase in the royalty rate, from 12.5 to 14.25 percent, and the decrease in the corporate income tax rate, from a fixed 60 percent¹⁴ to a range of 42.5 to 65 percent depending on the field and R-factor. Esso is the "operator" and, as such, in charge of the production. It recovers its costs through so called "cash calls" on the consortium partners, asking them to contribute, proportional to their equity share, in the operating and development costs.

The China National Petroleum Corporation International¹⁵

17. The second largest producer (48 K bbl/d in 2015) is the China National Petroleum Corporation International (CNPCI), which operates block H, in particular the fields Ronier and Mimosa. It purchased the licenses from Cliveden and Encana. In 2011 the CNPCI started its Phase 1, supplying the refinery NRC, of which it owns 60 percent, with crude, gradually raising production to the refinery's maximum throughput capacity of 14,000 barrels per day in 2015. The CNPCI deliveries are not subject to royalty; instead, the NRC delivers the equivalent in refined product for free to the army and the electricity company. The price is set in a long-term agreement. In 2014, the CNPCI started production under its Phase 2.1 which is subject to a concessionary regime, with a royalty rate of 13.5 percent and an income tax rate of 40-50 percent. The SHT holds a 10 percent stake in Phase 2.1., which the government is in the process of selling. Production on the fields that make up Phase

¹² Both regimes have a regressive component, the royalty, and a progressive one, the income tax rate or profit oil split varying with the R-factor.

¹³ See <http://corporate.exxonmobil.com/en/company/worldwide-operations/locations/chad>.

¹⁴ When the Brent price drops below a certain inflation adjusted floor, the rate is reduced to 55 percent.

¹⁵ See http://www.cnpc.com.cn/en/Chad/country_index.shtml.

2.2 has yet to start. It is covered by a PSC with a cost oil limit of 70 percent, a profit oil split of 40 to 60 percent depending on the R-factor, and a royalty of 14.25 percent. The SHT has a 25 percent stake in this phase.

Glencore (ex Caracal, ex Griffith, ex Petrochad Ltd) ¹⁶

18. The most recent (since 2013) and smallest producer is Glencore (21 K bbl/pd in 2015) which produces on blocs DOI, DOB, DOH, Borogop and Chari East Doséo. In April 2014, Glencore purchased the licenses held by Caracal, previously known as Griffiths Energy and Petrochad, for US\$1.35 billion. The SHT holds a 15 percent share (having sold 10 percent of Caracal in 2013). The Glencore production company is owned by Glencore Xtrata Plc but is operationally separate from Glencore's trading arm. The main parameters for its PSC are the same as for the CNPCI Phase 2.2: a cost oil limit of 70 percent, a profit oil split of 40-60 percent, and a 14.25 percent royalty. Glencore's expansion plans were severely affected by the drop in oil prices, and in 2015 it wrote off US\$790 million of its initial investment.

The National Oil Company SHT ¹⁷

19. Created in 2006, the *Société des Hydrocarbures du Tchad* (SHT) plays a growing role in Chad's oil sector. It is a public enterprise, 100 percent government owned, and under the supervision of the Ministry of Petroleum. Its governance is set out in the 2006 law of its establishment, a 2007 decree describing its statutes, and a 2011 management contract with the Government, covering in particular its marketing of government oil.¹⁸ The SHT has a broad mandate permitting it to engage in the whole oil value chain: prospecting, exploration, development, production, and transport. Its activities can also include refining, and the storage and distribution of refined products. However, the 2011 Contract, stipulates that the SHT is not a regulator, and that only the Government has the right to issue licenses. Also, the Government receives all payments from companies other than the RIK, explicitly assigned to the SHT. The resources of the SHT consist of a 2 percent commission on the sale of oil, plus the net income from its oil assets, plus interest income, loans, and state subsidies. The SHT is subject to the oil fiscal regime for its production activities, and to the general income tax for its marketing. It is not subject to any dividend rule, and the Statutes give its General Assembly great latitude to re-invest any net income.

20. In practice, so far, the SHT concentrates on managing the government's oil assets and marketing the government's and its own oil. Its largest asset is the 25 percent in the Doba Consortium, known as Badoit, purchased in 2014 for US\$1.3 billion from Chevron. It entitles the SHT

¹⁶ For Glencore reports on its payments to governments, see

<http://www.glencore.com/investors/reports-and-results/reports/>.

¹⁷ See <http://www.shtchad.net/>

¹⁸ La Loi No. 27/PR/2006 portant Creation de la S.H.T., 23 Aout 2006; le Décret No. 527/PR/PM/PM/2007 Fixant les Status de la S.H.T., 12 Juillet 2007; le Contrat entre La Republique du Tchad et la S.H.T. portant sur la gestion par la SHT des actifs et participations de l'Etat dans le domaine de hydrocarbures et la commercialisation des quantités d'hydrocarbures revenant à l'Etat dans les Contrats Pétroliers, 15 Février 2011.

to 25 percent of production (after royalties). From the proceeds it must cover the associated costs (see Box 2).¹⁹ In addition to the Badoit oil, the SHT sells the government's RIK, altogether 36 K b/d in 2015, or one quarter of Chad's total production. All SHT sales currently are to Glencore, under a monopsony marketing contract that is an integral part of the prepayment agreement. SHT also has shareholdings in a number of other enterprises, notably the refinery, NRC, of which it owns 40 percent and the CNPCI 60 percent.²⁰ The SHT does not publish a report on its activities, nor does it publish financial statements; its website is under construction.

Box 2. The Badoit Project Purchase

In June 2014, the Chadian government became a partner in the Doba Consortium after buying Chevron's 25 percent stake, known as the Badoit Project. The price was US\$1.3 billion: US\$1.23 billion for Badoit and the rest for Chevron's shares in the two pipeline companies, TOTCO and COTCO. The price had been agreed in 2013. The transaction was financed with a \$1.45 billion oil prepayment from the oil trader Glencore. The prepayment agreement between Glencore and the SHT was guaranteed by the Government and to be repaid over 4 years. The prepayment is serviced from the proceeds of oil cargoes sold by SHT to Glencore. A sales agreement sets out how many cargoes the SHT will sell to Glencore, at a discount to Brent to be agreed.

Through this purchase, the Government stood to gain the full 100 percent of any profits on Badoit instead of only the 60 percent tax take. But as owner it also agreed to share any losses that might arise. In 2014, with the Doba price at US \$90 p/b, projections showed the purchase price could be recovered over four years solely from the Badoit equity oil, leaving still a US\$500 million positive cash flow for the Government. The subsequent sharp drop in oil prices changed this dramatically.

When oil prices dropped later in 2014 and in 2015, the project's profitability was thrown in jeopardy, with its net proceeds no longer covering debt service. The Government approached Glencore for a rescheduling of the prepayment. Included in the discussions was the balance on the US\$ 600 million 3-year prepayment Glencore had advanced in 2013 for budget financing. In December 2015, the rescheduling resulted in a new US\$1.45 billion prepayment agreement. It lowered the interest rate, saving the Government an estimated US\$150 million, and extended the effective repayment period to 2022 at the latest depending on oil prices.

But the rescheduling also expanded the RIK available for debt service. The 2013 Glencore prepayment was to be repaid solely from royalties, and the 2014 one solely from Badoit equity oil. For repaying the new 2015 prepayment the Government's royalty as well as equity oil can be called on. From the purchase price of the cargoes, Glencore first retains the Badoit cash calls and the pipeline fees. The remainder is used for debt service, to the tune of 100 percent for "equity deliveries" and 70 percent for "royalty deliveries" (50 percent until July 2016). This debt service is subject to quarterly caps. What is left after debt service is paid by Glencore into the Government's off-shore account in London.

During 2015, Glencore purchased from the SHT 14 cargoes containing a total of 13.2 million barrels, equity and royalty deliveries combined. The gross proceeds were US\$528 million (CFA 312 billion), of which an estimated US\$233 million from Badoit equity oil. The average Doba price resulting from the sales was US\$39.9 p/b or a discount relative to Brent (US\$52.4) of US\$12.5 p/b. Glencore retained US\$ 183 million (CFA 108 billion) in costs—incl. US\$ 113 million in cash calls for Badoit, and US\$65.0 million for transportation (US\$4.9 p/b)—resulting in net proceeds of US\$ 345 million. Of those it applied US\$158 million (46 percent) to debt service—US\$99 million in interest and US\$59 million in principal. The remaining US\$187 million (CFA 110 billion) were transferred to the Government.

¹⁹ Importantly, Badoit is not a "carried interest" participation as described in par. 13. The joint venture partners are under no obligation to make advances to help the Government pay its cash calls.

²⁰ Other shareholdings include Tchad-Oil, where SHT holds 45 percent, and Tchad Handling Services, 55 percent, and la Société Tchadienne de Traitement des Déchets et d'Assainissement, SOTRADA, where SHT holds 45 percent and the company Bocom 55 percent (EITI, 2016 A).

E. Oil Sector Transparency Arrangements

21. Many natural resource rich countries achieve development and poverty outcomes that are disappointing given their wealth. This phenomenon is often referred to as the “resource curse,” and to counter it transparency is generally considered crucial (IMF, 2007 A). The general case for transparency in fiscal policy is that it allows for a better informed debate, resulting in better quality decisions, a better appreciation of the risks, and more policy credibility.²¹ At the international level several initiatives promote transparency in extractive industries, such as the IMF’s Guide on Resource Revenue Transparency, the EITI, and the Natural Resource Charter.²²

Chad’s 2013 EITI Report

22. The EITI is a global transparency standard for extractive industries (EI) in which Chad participates (Box 3). Annual country reports reconcile payments from EI companies with revenue information from governments. Chad’s 2013 EITI report, issued in January 2016, is available on the internet.²³ It covers the hydrocarbon²⁴ as well as the mining sector, even though the latter is miniscule (CFA 1.9 million in government revenue). The report’s principal conclusion is the absence of any significant discrepancies. In other words, all company payments were identified as having been officially received by the government. However, not all of it was received in the budget. Also, not part of the EITI mandate, and therefore not covered by report, is the question whether the companies are paying what they should according to the contracts, laws and regulations. For that the Government has to organize audits, a subject discussed later in the context of Integrity Arrangements. Nor does the EITI determine whether a country’s EI fiscal regime is competitive. As discussed later, under Transparency Arrangements, this can be done by modeling the fiscal regime and comparing it internationally.

²¹ See IMF website at <http://www.imf.org/external/np/exr/facts/fiscal.htm>.

²² For the IMF Guide see <http://www.imf.org/external/np/fad/trans/guide.htm> . For the Natural Resource Charter, a product of the Natural Resource Governance Institute, see <http://resourcegovernance.org/approach/natural-resource-charter>.

²³ See the www.eiti.org and Chad’s national EITI website at <http://itie-tchad.org/>

²⁴ Hydrocarbons include oil, gas and coal. Chad only produces oil; the associated gas is not yet commercialized.

Box 3. The Extractive Industries Transparency Initiative EITI

The EITI is a multi-stakeholder initiative combining governments, companies and civil society organizations, and holding up a global standard for transparency in the extractive industries. Over 50 countries are member, of which 19 in Sub-Saharan Africa. Its governance structure consists of: bi-annual Global Conferences, a multi-stakeholder Board, a renowned Chair Person, and a Permanent International Secretariat; and, at the country level, of a national Multi-Stakeholder Group (MSG), a National Coordinator, and a National Secretariat.

The core of the annual, national EITI reports consists of a reconciliation of EI company information on payments with government information on receipts. The work is carried out by an Independent Administrator, hired by the national EITI MSG, who is subject to international standards on auditing. This reconciliation produces hard, reliable data on EI revenues, and will generally uncover any revenues kept off budget, notably bonuses and other one-time payments.

The EITI has articulated a set of standards. A Validation Process determines whether a country meets them and can be considered “compliant.” In EITI reports certain information is “mandatory”, other information “expected” or “optional.” EITI reports are a valuable source of information on a country’s EI sectors. Chad’s 2013 EITI report contains: a description of the oil fiscal regime, including definitions of each revenue flow; a description of players in the oil sector, including information on all permits issued;²⁵ detailed information on payments by company and revenues by collecting agency; and a summary of the oil sector’s contribution to the budget.

23. Chad’s EITI report covers 28 payment flows (see Table 2), comprised of 6 in-kind flows and 21 cash flows, plus one residual cash flow (defined as any pertinent payment/revenue exceeding \$100,000).²⁶ In total 20 companies were identified as active in the petroleum sector: 17 upstream, plus 3 downstream (TOTCO, COTCO, and the NRC). Out of the 17 upstream companies, 13 submitted data; the omitted companies were judged immaterial. The SHT plays two roles: it collects revenue, namely the RIK, and it makes payments, namely to other government agencies. These other agencies are the Treasury (95 percent of all revenue), Customs, and the Ministry of Petroleum. To assure the veracity of their data, EITI encourages companies to ask their external auditor to approve their submissions: out of the 13 reporting companies, 12 did so.²⁷

24. According to the summary EITI table, Chad’s oil revenue in 2013 was FCFA 803 billion (see column State reporting), which amounted to 68 percent of total revenue and 17 percent of non-oil GDP. Corporate income tax (flow 13) accounted for 70 percent of oil revenue, and royalties for the remainder.²⁸ The latter consist mainly of in-kind royalties collected by the SHT (flows 1, 4 and 6) and transferred to the State (flow 2). The difference between the barrels the SHT collected and paid—respectively 3,886 and 3,757 thousand—is explained by an end-year accumulation too small for marketing in 2013.²⁹ The proceeds from the marketing are shown in the bottom part of the table: one third was used for loan repayments to Glencore (flow 9) and the remainder went into the offshore account for the Treasury (flow 8). The simultaneous reporting of volumes and proceeds

²⁵ See Annex 1 of the 2013 EITI report. An update for 2015 can be found in the Gab-Leyba (2015).

²⁶ Annex 2 of the 2013 EITI report contains a detailed description of all the payment flows.

²⁷ The missing company was Chevron which had already left Chad when the 2013 EITI report was drafted.

²⁸ The 2013 EITI report contains a concise description of the overall contribution of the EI sector to the budget.

²⁹ EITI data, including on in-kind payments, are compiled on a “cash basis,” both from companies and governments, not on an accruals basis.

permits calculation of the price obtained by the SHT for the RIK. Since proceeds totaled to FCFA 186 billion in 2013, the average price per barrel was US\$100.4, so that given an average Brent price of US\$ 108.9 p/b, the discount comes to US\$ 8.5 p/b.

25. The 2013 EITI report reveals a one-time revenue for the SHT. It lists under “other significant payments” (flow 28) a revenue of CFA 41.5 billion (US\$84 million). As the report explains, these were the net proceeds of the sale by the SHT of a 10 percent stake in the Caracal concession to Glencore (which reported to EITI the corresponding payment). It appears the SHT received US\$150 million from Glencore for its 10 percent share in the Badila and Mangara fields. From that it paid US\$60 million in carried-interest debt, and US\$6 million to the Treasury as registration fees. The remaining US\$84 million was used by the SHT to fund activities approved by its Board. Since the EITI’s definition of State includes the SHT, this transaction did not give rise to an EITI payment-revenue discrepancy, even though the funds were not received in the budget.³⁰

26. Finally, the 2013 EITI report ends with five recommendations to Chad’s EITI High National Committee, in the interest of furthering transparency. A key recommendation is for Chad to create a publicly accessible, authoritative cadaster of all existing oil (and mining) licenses. The EITI requires that this cadaster contain certain minimum information on the licenses and the license holders. Another recommendation is for the Ministry of Petroleum and the SHT to keep better track of the oil belonging to the Government, and to consolidate their supervision of, and control over, the utilization of these resources.³¹

³⁰ However, it does raise questions about the nature of the SHT’s quasi-fiscal expenditures, which should also be reported on by the EITI report. See Requirement 6.2 in EITI (2016).

³¹ This would entail explaining the oil-collateralized borrowing. See Requirements 2.6 and 4.3 in EITI (2016).

Table 1. Chad: EITI Report 2013 – Oil Sector ^{1/ 2/}

	Companies (a)	SHT collector (b)	SHT payor (c)	State (d)	Discrepancy (a-b)+(c-d)
	('000 barrels)				
1 Royalty on production (Allocation)	3,809	3,809			-
2 Royalty on production (Marketing Treasury)			3,757	3,757	-
3 Royalty on production (Marketing Loan Glenclore)			-	-	-
4 Profit oil State (Allocation)	63	63			-
5 Profit oil (Marketing Treasury)			-	-	-
6 Profit oil (Marketing Loan Glenclore)	14	14			-
Total in-kind oil revenues	3,886	3,886	3,757	3,757	
	('000 FCFA)				
7 Royalty on production (paid in cash)	2,224,170			2,199,619	24,551
8 Royalty on production (cash counterpart Treasury)			119,209,691	119,223,786	(14,095)
9 Royalty on production (cash counterpart Glenclore)			67,047,894	67,080,784	(32,890)
10 Profit oil State (cash counterpart Treasury)	-		-	-	-
11 Signature bonus	-		-	-	-
12 Surface royalty	451,538		-	493,431	(41,893)
13 Corporate income tax	564,667,037		-	563,141,912	1,525,125
14 Statistical royalty on gross exports	13,704,267		-	14,254,066	(535,799)
15 Personal income tax (IRPP)	16,529,091		64,609	17,955,615	(1,361,915)
16 Lump sum tax by employers	-		-	-	-
17 Tax for training and professional development	-		-	25,518	(25,518)
18 Contribution to development staff and current expenditures Min. of Petrol	1,463,971		-	1,008,439	455,532
19 Fiscal assessments and fiscal penalties	14,060	-	-	-	14,060
20 Penalties for non-execution of exploration and development programs	-		-	-	-
21 Dividends paid to the State	-		-	-	-
22 Dividends paid to SHT	-	-			-
23 Statistical fee on imports	1,359,371			4,199,975	(2,840,604)
24 Tax on capital gains of ceded assets	-		-	-	-
25 TOTCO premium	-		-	-	-
26 Customs duties at import	1,291,838		-	2,177,728	(885,890)
27 Withholding tax at source for subcontractors	4,206,427		-	2,543,732	1,662,695
28 Other significant payments	49,925,758	41,486,760	642,217	8,999,647	81,568
Total cash oil revenues	655,837,528	41,486,760	186,964,411	803,290,252	
<i>Memorandum</i>					
Total oil revenues as percent of:					
Nominal GDP				12.6	
Non-oil Nominal GDP				17.2	
Total revenues				67.7	

Source: Republic of Chad-EITI Report 2013, pages 5 and 7

1/ Flows declared by 13 upstream companies. Cash basis. Reporting in actual currency used. Average annual exchange rate 493.9 FCFA/US\$.
2/ Shaded areas do not apply to particular collector or payor. For other cells, if no number then zero was reported.

Contract Modeling—A Powerful Transparency Tool

27. A potentially very powerful transparency tool for governments is the modeling of oil contracts.³² EI companies use it extensively to evaluate their projects. Governments, too, can make good use of modeling, particularly to assess the fiscal performance of projects. They would also help civil society understand the contracts once published. A model combines in mathematical form the parameters that together make up the oil fiscal regime—e.g. tax rates, profit oil splits, and amortization schedules—with project specific information—costs and production—with economic assumptions—e.g. prices, inflation, interest and discount rates—and with financing assumptions. Companies would typically be interested in profitability indicators, and governments in measures of “government take”.³³ The most stable component of a model is the fiscal regime; all other variables are subject to great uncertainty, and, therefore, model results have to be taken as indicative.

28. In different forms, oil fiscal models can meet different government needs. They can be used over the long, medium and short term, and for individual projects or the whole sector. A long-term projection could forecast the revenues of a single project over its projected life, or forecast in the aggregate the revenues from all existing projects over a certain period. A single project forecast can be used to evaluate the fiscal take of a project proposed by a company. Or the Government can use it to evaluate—based on a hypothetical project—changes to the fiscal regime it is considering, for instance by comparing with regimes in other countries. A life-cycle model will show what type of revenues (e.g. royalty and income tax) will accrue at what stage of the project, useful information for managing popular expectations. A long-term forecast can usefully inform a government’s strategic economic planning. Medium-term revenue forecasts are most useful for budget preparation; they should be detailed and updated regularly. Finally, short-term forecasting, on a monthly or quarterly basis, is essential for informing the government’s cash management and spending programming.

29. Models can also be used retrospectively. For instance, a government may want to compare how a particular project has fared relative to what the company expected at the time it submitted its feasibility study.³⁴ This would shed light on how much better or worse companies did than their own projections on account of unforeseen circumstances. And, finally, a potentially very lucrative application is for a resource revenue administration to calculate precisely how much revenue should

³² The same is true for the modeling of mining contracts which is a very similar exercise.

³³ An interesting application to Chad was carried out by a nongovernmental organization dedicated to spreading information about the exploitation of natural resources in developing countries, OpenOil. Using a model it estimated the value of the 10 percent in the Mangara oil field Glencore purchased in 2013 from the SHT at US\$172 million, close to the US\$150 million the SHT obtained. See par. 25 and West, 2015 .

³⁴ Feasibility studies submitted as part of a license application contain valuable information. Because of their relevance to investors, countries known for their EI sectors like Australia and Canada require of their companies that they be published.

have been received from each ongoing project over the past period—given actual production, costs, prices, etc. A comparison of the results with actual collections would help focus the audit efforts.

30. The IMF has produced and published a simple life-cycle model for analyzing oil and mining projects. Its methodology is called Fiscal Analysis of Resource Industries, and hence the model is called the FARI model. It discounts all cash flows throughout the four distinct life cycles of a project: exploration, development, production, and closure. In 2016, the Fund publicly released this FARI model, with a description of its methodology and an Excel template, to promote the wider use of modeling.³⁵ Besides governments, the target audience includes members of the public who take an interest in evaluating natural resource projects. Fund staff uses the FARI model for advising on resource fiscal regimes and for providing technical assistance to governments in modeling.³⁶

31. There is great potential for developing fiscal modeling in Chad. Currently the Study and Forecasting Directorate of Chad's Ministry of Finance uses a rudimentary model for making short to medium-term revenue forecasts. This capacity could be significantly enhanced.³⁷ The forecasting model should be able to produce more detailed reports, properly reflect both the concessionary and PSC fiscal regimes, and allow risk assessments or at least scenarios. Accurate forecasts of oil revenues are even more important when those revenues are under stress. Cash management in Chad is extremely difficult under the current circumstances, and the Treasury should be optimally informed on how much revenue will arrive and when. For a model to remain relevant and accurate, the staff maintaining it should be informed immediately of any changes to the fiscal regime. Also, any government commitments which may affect oil revenue, such as oil-collateralized debts, should be integrated in the model. Finally, the model's historic data and assumptions should be constantly updated, requiring a free flow of information within the administration.

Oil Sector Information Flows

32. When oil prices were at their peak in 2011-12, oil revenues contributed three quarters of total government revenues in Chad. Even if prices settle well below that level, the budgetary importance of oil revenue remains enormous. Good management of this resource requires the cooperation of many government departments and agencies, all with different responsibilities. A free flow of information throughout the government is indispensable to facilitate this cooperation. The three principal actors are the Ministry of Petroleum (MoP), the SHT, and the Ministry of Finance (MoF). The MoP has the closest contacts with the oil companies. It is in charge of contract negotiations, the monitoring of all upstream and downstream activities, and the promotion of the sector. The SHT participates on the government's behalf in the equity of all oil companies, benefits from oil prepayments guaranteed by the Government, engages in quasi-fiscal spending from its net income, and collects and sells the Government's oil. The MoF is responsible for revenue streams

³⁵ For a description and template spreadsheets, see <http://www.imf.org/external/np/fad/fari/>

³⁶ An example of the use of the FARI model by IMF staff can be found in a published IMF technical assistance report for Mali which evaluates the evolution of the mining fiscal regime in that country. See IMF, 2016 (also in French).

³⁷ An extensive IMF technical assistance effort in 2010 developed a spreadsheet-based oil revenue forecasting model for Chad, with annual and monthly sections, which, however, was never rendered operational.

derived from taxation (but not necessarily the implementation of the PSCs), debts contracted or guaranteed by the government, and the forecasting and reporting of all government oil revenue in the context of budget preparation and execution.

33. The Government recognizes the problematic nature of the flow of oil sector information, not only vis-à-vis the public but also within the administration. Over the years it has taken several initiatives to remedy the situation, including recently in the context of its program supported by the IMF from its Extended Credit Facility (ECF). The initial PRMS recognized the importance of providing the MoF with the information to play its role of overseeing all fiscal aspects of the oil sector. It therefore created the Office for Monitoring Oil Revenues (*Bureau de Suivi des Recettes Pétrolières*) in the MoF. Unfortunately, it was never truly operational, and in 2014 it was replaced by a Unit for Collecting and Centralizing Revenues from the Extractive Sector (*Cellule de Collecte et de Centralization des Recettes du Secteur Extractif*) in the Treasury department of the MoF. This unit was created at the recommendation of the 2012 EITI report, and proved very useful in collecting information for the 2013 EITI report.

34. A signal of how serious the Government judged the situation was its decision in 2015 to create an Inter-Ministerial Committee in Charge of Monitoring Petroleum Revenues (*Comité inter-ministeriel chargé du suivi des recettes pétrolières*). As a key reform, this Committee became a structural benchmark under the ECF-supported program for June 2015. Composed of representatives of the MoP, the MoF, the SHT, the *Collège*, and the EITI, the Committee was tasked with consolidating and conveying all information related to oil revenue. At its first meeting, in July 2015, it set an ambitious agenda for its Technical Committee (*Comité Technique*): identifying all oil revenue flows, following up the various ongoing oil sector litigations, getting a good grasp of the second Glencore loan and its accounting, exploiting the available company audit reports, and preparing proposals for a new petroleum revenue management system. At the same time, the Government decided to publish more detailed oil sector information. In the first instance that would be included in the quarterly budget execution reports to be published on the MoF website (structural benchmark for September 2015). Following that, the Inter-Ministerial Committee would start the regular publication of oil sector information such as production volumes, shipments, Doba discount, individual revenue flows, and the SHT financial flows, for instance to Glencore and Esso (structural benchmark for June 2016). However, progress in this area has been uneven. The Inter-ministerial Committee rarely meets, and the last budget execution report with oil sector information covers the first semester of 2015.³⁸ A latest plan is for the MoP to form a “data room” where all oil sector information will be centralized and can be consulted by anyone in the Government with a need.

35. As noted in the section on modeling, to remain up-to-date a model, especially one for short-term or medium-term forecasting, must be fed continuously with new information. A prime source are the companies’ work plans and annual budgets, both the provisional and definitive ones. Equally critical are the companies’ monthly reports. For long-term forecasts it is important to have

³⁸ See http://finances.gouv.td/images/DGB/REBGE_S1_2015.pdf

company reports on remaining reserves, and the investments and operating costs required to produce them. Currently companies in Chad do not produce such reports. The revenue forecasters should also receive the companies' quarterly tax submissions, including details of the calculations of the fiscal flows, and the deductions for amortization and debt. Currently tax submissions in Chad do not contain this detail. From the pipeline companies, the forecasters need information to project the transport costs. Oil revenues fluctuate with oil prices but also—sometimes even more wildly—with costs. Fortunately, unlike prices, these costs can often be anticipated, with the help of good company information, in particular their investment program and amortization payments. Much of this information is sent routinely by the companies to the MoP; some information arrives uniquely at the SHT. Therefore, a constant and timely flow of information from these two institutions to the MoF is of the utmost importance.

Publication of Contracts

36. Public information in Chad on the oil sector is scarce. The most comprehensive source of information presently are the EITI reports. The MoP could usefully publish an annual report on developments in exploration, production, and investments, but also refining and marketing, as well as the legal framework. The SHT could publish information on its production, investment and marketing activities. A big gap in transparency is that Chad does not systematically publish its oil contracts. Nonetheless, the Esso contracts are available on the EITI website.³⁹ Furthermore, thanks to regulatory actions abroad, five PSCs signed between 2011 and 2013 have come into the public domain.⁴⁰ The fiscal terms across these five contracts are nearly identical, but there are differences in other provisions, including the size of signing and production bonuses (West, 2015, page 6).

37. Publication of contracts is considered good transparency practice for oil producing countries.⁴¹ The fiscal transparency principle at play is that contracts between the government and companies, whether public or private, must be publicly accessible for there to be accountability. This principle is recognized in Chad's draft Transparency Code which is about to be transmitted to the National Assembly for adoption. This Code is a transposition of the 2011 CEMAC *Directive regarding a Code on Transparency and Good Governance in Public Finances*.⁴² Following closely the CEMAC directive, Chad's draft code states that public access is particularly important for natural resource contracts, and that access pertains as much to the process of attribution of the contracts as to their

³⁹ For the 1988 and 2004 conventions with Esso, see <http://itie-tchad.org/?p=341> and <http://itie-tchad.org/?p=343>.

⁴⁰ See <http://repository.openoil.net/wiki/Chad>.

⁴¹ See, for instance, the IMF's 2007 *Guide on Resource Revenue Transparency* at <http://www.imf.org/external/np/pp/2007/eng/101907g.pdf>, the *Natural Resource Charter* at <http://resourcegovernance.org/approach/natural-resource-charter> and the *EITI Standard 2016* at <https://eiti.org/>.

⁴² See Section I.5 of

<http://droit-afrique.com/upload/doc/cemac/CEMAC-Directive-2011-06-transparence-finances-publiques.pdf>.

content. Publication of individual contracts will complement the 2010 model PSC (*contrat type*), also a good transparency practice.⁴³ This model contract comprehensively informs prospective investors of Chad's oil fiscal regime, discouraging negotiations over special deals. Chad would do well to follow the example of other countries and publish on a website all existing concessions and contracts, as well as the model PSC, plus the feasibility studies submitted with the license applications. The site could also be the place to publish the cadaster of oil licenses recommended by the EITI.

38. Finally, companies, too, stand to benefit from more contract transparency. If their contracts were public it would establish very clearly in the public eye what their rights and obligations are. It would help them with their public image and give them a chance to defend themselves publicly against allegations of contract violation.⁴⁴ The irony is that companies usually have no difficulty obtaining copies of contracts since there is an active informal market, confidentiality clauses notwithstanding; it is only the public which is in the dark (Rosenblum and Maples, 2009).

F. Oil Sector Integrity Arrangements

The Need for Audits

39. Rules and regulations need to be enforced with controls to ensure their integrity. In the absence of controls, incentives will inevitably drive corporate and personal behavior towards maximizing gains at the expense of the public interest. The oil fiscal regime is no exception. As Chad's petroleum sector has increased in complexity, the challenge of assuring the integrity of oil revenue flows has also increased. In developing countries, and compared to other revenues, oil revenues pose a high risk of malpractice (IMF, 2007 A). On the one hand, the transactions are large and technically complex, so the temptations for abuse are strong. On the other hand, the expertise necessary to counter such temptations is usually scarce, and even the political will to address these risks is not always evident. In building their capacities in this area, governments will want to emphasize data quality, internal controls, and independent external audits.

40. The principal tool for ensuring integrity is the audit process. This is a formal process for verifying financial and other data against documentary evidence, according to standards concerning accuracy and independence, and resulting in a report. With respect to the oil companies, the government has the legal and contractual rights to carry out audits on a routine basis; in addition, it can request special audits. These audit rights are valuable. How the government chooses to use them has a direct bearing on its success in mobilizing revenue given the fiscal regime.

41. Key for guarding over the integrity of oil revenues are the audits of the oil company tax declarations. For a revenue administration this is one of the most challenging functions. Even under

⁴³ See footnote 5.

⁴⁴ For instance, in their September 16, 2008 Protocol with the government the Doba Consortium partners insisted that the amendments to the 1988 and 2004 Conventions deriving from this Protocol be published in the Official Gazette. In the end, the amendments were not issued.

the best of circumstances there will be tax manipulation at the margin, and with oil even marginal errors can involve large losses to the Treasury (Calder, 2014). Given limited resources, a risk assessment should guide what to audit. In the case of oil companies, the revenue at stake is so large that their tax declarations should be audited annually, even if only selectively.

Multiple Types of Audits

42. For a comprehensive integrity system, multiple types of audits are required. Physical audits cover the volume and quality of production. Oil companies should be subject to clearly defined obligations to measure and record physical production, and government agencies should oversee their performance with respect to those obligations. If there is production valuation based on benchmark prices—as anticipated in the SHT 2011 contract—this process must be audited. So called cost audits are critical for ascertaining the accuracy of the cost information provided by the companies: excessive costs lead to understatement of profits. Doing this well requires technical expertise, but also access to sets of comparator data with which to challenge costs of specific equipment and services submitted by the tax payer. If costs are abnormally high, and if the transaction took place between related parties—very common in the oil industry—this points to abusive transfer pricing, a way for international companies to shift profits to lower-taxed jurisdictions (Calder, 2014, page 70 and following). Once production, prices and costs have been verified, the tax audit can proceed with verifying that all pertinent tax laws and regulations, and specific contract provisions, have been complied with in making the tax declaration.

Audit Responsibilities

43. The introduction in Chad of the PSC fiscal regime raises the question of the institutional responsibilities for auditing the oil companies. The MoF through the Directorate General of Taxes (*Directorate Général des Impôts-DGI*) has responsibility for licenses subject to the concessionary regime (held by ESSO and the CNPC) because they involve corporate income tax. But licenses under the PSC regime (such as those held by Glencore and also the CNPC) are excluded from the corporate income tax. Thus, the auditing task would seem to fall to the MoP. The SHT may also play a role: its 2011 contract leaves open the possibility of being delegated such tasks. Given the similarities between tax oil and corporate income tax, the case could be made to assign the tax oil auditing also to the MoF. Generally, the integrated administration of oil revenues by the tax department has many advantages over a fragmented approach (Calder, 2014, page 26). On the other hand, the technical expertise of the MoP will be indispensable in conducting the physical, price, and cost audits.

44. Even oil companies that are still in the exploration or development phases should be audited. They are incurring substantial costs which will be deducted for tax oil or income tax calculations as soon as oil production starts. At that time, it may be too late to properly audit them since audit rights expire, and so do companies' record-keeping obligations. According to Chad's PSCs, the Government has five years after the end of a company's fiscal year to launch an audit of that year's accounts. If it fails to do so, the accounts will be deemed "accurate and definitive." Any pertinent findings must be brought to the attention of the company, after which a time-bound

correspondence ensues. This should result in a clear conclusion that the company owes a tax adjustment. If not, the accounts are again deemed “accurate and definitive.” In case of a dispute which cannot be resolved amicably, the parties can turn to mandatory arbitration in front of the International Chamber of Commerce in Paris.

45. In the oil industry, audits are very common and not at all interpreted as a lack of trust. Typically, an oil company undergoes an internal commercial audit, followed by an independent external audit. In the case of Chad, ESSO, as operator of the Doba Consortium, is also audited by its consortium partners who want to make sure costs are not excessive since that would cut into their profits. And finally the company’s physical operations and tax declarations are subject to audit by the country’s regulatory and tax authorities. The fact that ESSO is audited by its partners audits should give some comfort to Chad’s fiscal authorities in the context of their audit strategy.⁴⁵

46. Outsourcing of tax audits may be useful when capacity constraints prevent the full and effective utilization of all audit rights.⁴⁶ Developing country revenue administrations find it hard to train and retain the necessary staff. Audit firms with an international reputation can be a good match for the specialized staff of the oil companies.⁴⁷ They may even have experience with the same company in other countries. Moreover, they have access to the comparator data needed for the cost audit part. With appropriate terms of reference, outsourcing can also assist with capacity development. The Chadian authorities are presently using the services of an international company to audit their oil companies and the refinery.

SHT Audit

47. Proper auditing of the SHT is paramount. The SHT is now a major player, with some US\$2,750 million (FCFA 1,462 billion) in assets at end-2014.⁴⁸ As an oil company the SHT is subject to the provisions of the Hydrocarbons Law regarding the production of financial statements.⁴⁹ In addition, its Statutes oblige it to produce annual financial statements, within six months after the end of the year, and in line with internationally accepted accounting principles (Art. 33). Since the SHT is branching out to various core and non-core activities, its financial statements should be compiled on a consolidated basis. According to its Statutes (Art. 28), the SHT must submit its

⁴⁵ For that reason, some countries only allow consortia, and with a minimum number of partners (e.g. Lebanon).

⁴⁶ See Calder (2014) and Lundgren, Thomas and York (2013), especially Box 6.3 on page 58.

⁴⁷ Angola has entirely outsourced its oil company auditing. Tanzania did at one point outsource the auditing of its mines but then reverted to in-house audits.

⁴⁸ According to the SHT’s Fiscal and Statistical Declarations, its assets end-2014 included US\$1,042 million in land and US\$1,179 million in financial participations, and its liabilities US\$937 million in investment subsidies and US\$1,427 million in financial debts.

⁴⁹ According to Art. 82 of the 2007 *Loi d’Hydrocarbures*, oil companies must deposit a complete set of financial statements to the Ministry of Finance within three months of the end of their operating year. These should conform to the accounting system of the *Organisation pour l’Harmonisation en Afrique du Droit des Affaires* (OHADA).

financial statements to an internal auditor approved by the *Communauté Economique et Monétaire de l'Afrique Centrale* (CEMAC), and the Government may nominate an external auditor. Finally, the newly created Accounting Court (*Cour des Comptes*) has a responsibility for the proper auditing of public enterprises. Best practice would be for the SHT financial statements to be subjected to an independent external audit in accordance with International Standards on Auditing and for the statements to be published together with the opinion of the auditor on their truthfulness.⁵⁰

48. As noted, the SHT is responsible for the marketing of the government's oil. Given the high stakes and risks, this operation should be regularly audited. Currently the government receives two-thirds of its oil revenue in kind, some 13 million barrels in 2015. According to its Contract, the SHT must send the MoP an explanatory note (*Note de calcul*) immediately after each shipment. And every month it must send a detailed report to the MoP and the MoF justifying the prices and other terms and conditions of the sale. According to the SHT Contract the Government has the right to appoint an expert to evaluate the SHT's marketing performance, and to take back this mandate from the SHT if it believes SHT prices are unfavorable.

49. Pricing Doba crude is not an easy task, however. With total production of less than 200 thousand barrels per day, the market for Doba is shallow, and none of the parties publishes prices.⁵¹ Usually the Doba price is quoted at a discount to Brent, which is a popular benchmark. Whereas the Brent price helps judge the trend in Doba prices, there can still be a lot of volatility in the discount. In gauging the discount obtained by the SHT, the Government could be guided by the other oil companies. Those who are subject to income tax need to reveal the price at which they calculate their turn-over, and those subject to a PSC the price at which they convert their (US dollar) costs into barrels of cost oil. The Government could complement this with information from specialized firms which estimate crude prices based on their quality characteristics and refinery needs (Tordo and Bacon, 2005).

Audit of the Revenue Administration

50. The system of integrity assurances should be completed with an audit of the revenue administration itself. Obviously such an audit should not re-audit the oil companies' tax returns but should involve an examination of the revenue administration's audit systems and include a selective review of its audit papers. In the Chadian context, the task of auditing the government auditors could be assigned to the Government Accounting Court (*Cour des Comptes*), possibly with the help of outside expertise. Topics to cover could include the distribution of responsibilities and accountability over different agencies, and the audit strategy being pursued.

⁵⁰ See Natural Resource Governance Institute, 2016, specifically at

<http://resourcegovernance.org/approach/natural-resource-charter/precept-6-nationally-owned-resource-companies#>

⁵¹ The industry publication Platts started assessing the price of the Doba grade only in August 2015. Since then it observed a steady increase of the discount to Brent, to US\$10 beginning of December, followed by a decline to US\$6.50 in May 2016.

Accounting for Utilization of Audit Rights

51. Expert audits are costly but in the case of oil companies may produce significant additional revenues. At least, that is typically the case initially. Over time, as audits become a regular feature, they are less likely to result in major corrections to the tax assessments. But that should be taken as proof that they are having their disciplining effect. Chad's PSCs oblige companies to pay the government to organize tax audits, and the amounts are generous. Already during the exploration phase, the companies must pay at a rate of US\$200,000 per year (inflation indexed, plus travel and per diems for four staff), continuing during exploitation at US\$400,000 per year.

52. Audit rights are hugely valuable, and public accountability on their utilization is therefore desirable. Whether the audit fees are paid by companies or the Government, these are public funds and they should be spent effectively on the mobilization of oil revenue. Moreover, since audit rights represent a unique legal opportunity to probe the oil companies, the Government should be very conscientious in using them. Public accountability on the utilization of government audit rights could be in the form of a regular report indicating which licenses or projects give rise to audit rights, and what type of audit rights these are, their expiration, the government agency assigned those rights, how the rights have been exercised, and what the main conclusions of the audits were. In addition to oil licenses, the report could cover the agencies (for instance, SHT, NRC) or activities (for instance, production or marketing of oil) the Government wants to see audited on a regular basis.

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