Understanding Government Oil Revenues and Oil Sales in the Republic of Congo through Financial Modelling

RESOURCES for DEVELOPMENT CONSULTING

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Context

- EITI Congo and the International Secretariat initiated this study to analyze and better understand past and future state revenues from the oil sector.
- This study aims to encourage greater transparency and strengthen domestic revenue mobilization by developing financial models to explain the Congolese tax regime, understand historical payments made to the state, and to anticipate potential government revenue. state over the next few years.
- The financial models on which this analysis is based were provided to EITI Congo as tools to be used in the national context.
- To do this, the analysis of the interactions between production volumes, the sale price of oil and the stipulations contained in Congolese Production Sharing Contracts (PSCs) is essential, especially to be able to forecast potential RC revenues in the next years.

EITI Congo Data

- Republic of Congo is at the forefront in public disclosures related to oil revenues
  - All production sharing contracts and amendments are published in the official journal
  - Production volumes have been published for each license since 2013
  - Project costs have been published for each license since 2016
  - Data for individual oil sales including seller, buyer and realized sale price since 2016
- While extensive data has been published for many years, there has not been enough analysis of that data

Resources for Development Consulting (R4D)

- R4D was selected as the firm to undertake the work following a public tender
- Founded in 2013, R4D works to assist governments to secure a fair share of oil, gas and mining revenues
- To level the playing field, we draw on world-class industry experts with decades of experience
- In order to avoid any potential conflict of interest, on principle, we never work for private resource companies
- Multi-person team led by Don Hubert and Thomas Mitro

Terms of Reference

1. What is the Congolese fiscal regime and how does it compare with other petroleum producing countries?
2. Why has the government received the revenues that it has and what revenues can the government expect based on financial modelling?
3. How do Congolese petroleum costs compare with other countries and are there weaknesses in the procedures for auditing these costs?
4. Are there differences in the realized oil sale price depending on sellers and buyers and what is the system for establishing the fiscal price?

Caveats

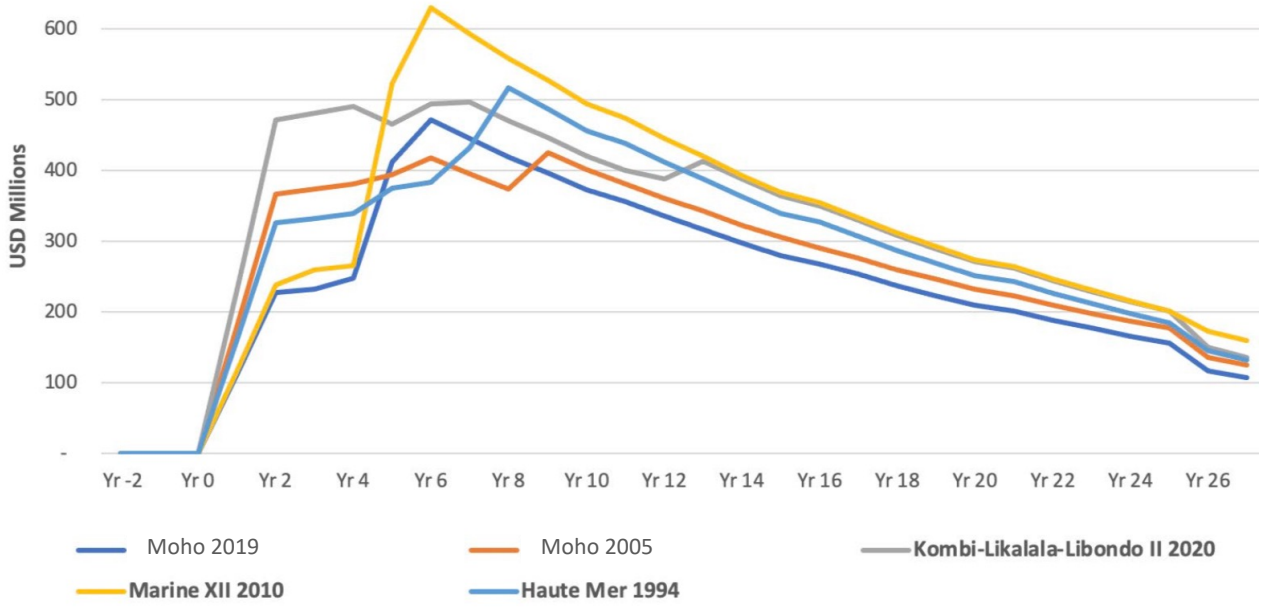
- Very broad scope of work. Could have been four separate consultancies
- Important limitations on data for financial modelling, assessment of costs and oil sales analysis. Additional data available to government agencies would be needed to generate more reliable findings
- In most cases, therefore, the findings should be taken as indicative rather than definitive and may demonstrate the need for follow-on analysis

The Congolese Fiscal Regime

- Congo has used PSCs since the mid-1990s, but unlike many other countries has not used a “model contract”
- Traditional production sharing system based on cost oil to the contractor with remaining production (profit oil) split between contractor and government
- The Congolese PSC adds a “high price” as the trigger for the payment of super-profit oil and a potential cap on the value of the cost stop
- There is extraordinary variation between different PSCs (negotiated case-by-case) and an unusual level of complexity, particularly for Moho Bilondo and Marine XII
- Fiscal benchmarking against hypothetical oil projects was undertaken to compare the terms in Congolese PSCs and contracts in peer countries according to common government and company metrics

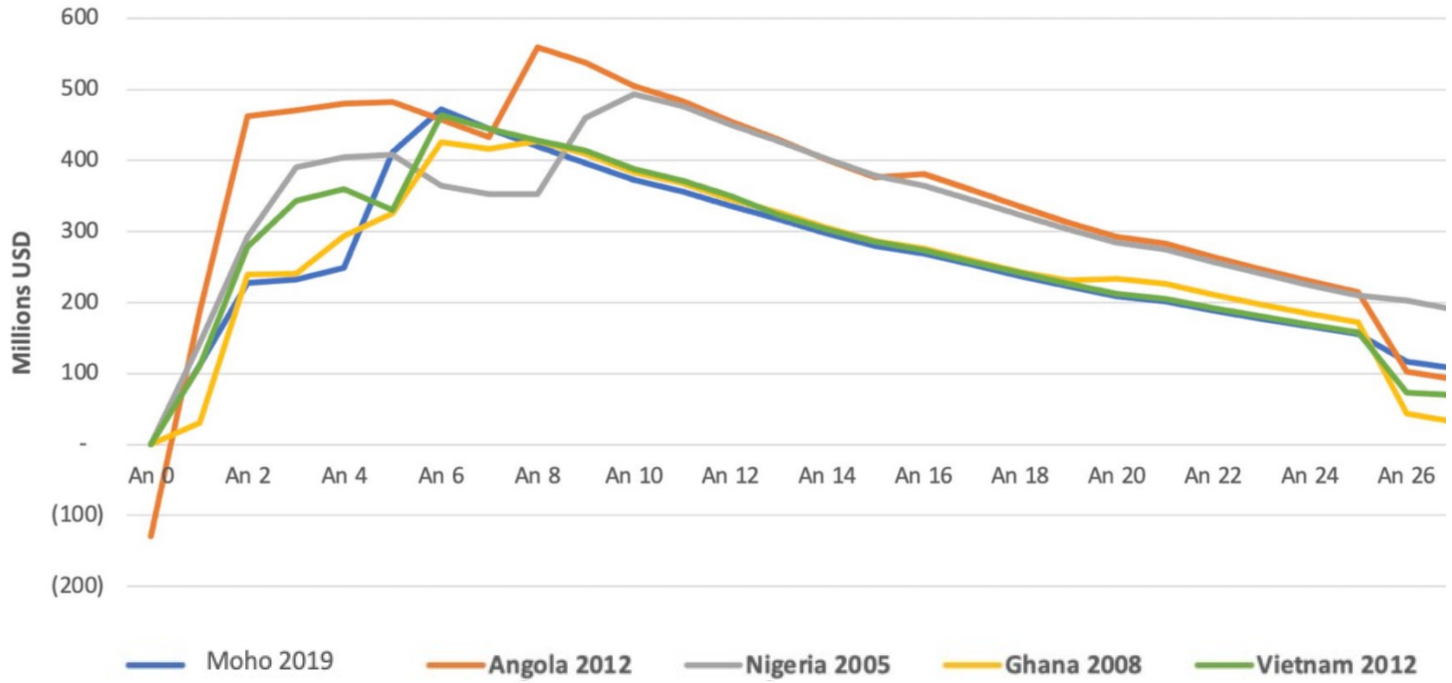
National Benchmarking

- Differences in the high price and provisions designed to minimize its impact result in very different outcomes for the government
- Among the five sets of fiscal terms analyzed, government take is expected to be lowest for current Moho Bilondo terms
- Government revenues are expected to come later in the project life-cycle for both Moho Bilondo and Marine XII
- Super profit oil generates limited progressivity only around the threshold of the high price



International Benchmarking

- Congolese terms (Moho Bilondo) compared with four peer countries: Angola, Ghana, Nigeria and Vietnam
- On government take and timing Congo is like Ghana, with terms more generous to the contractors than Angola, Nigeria and Vietnam
- The terms in Angola, Ghana and Nigeria, generate more progressivity.



Benchmarking Conclusions

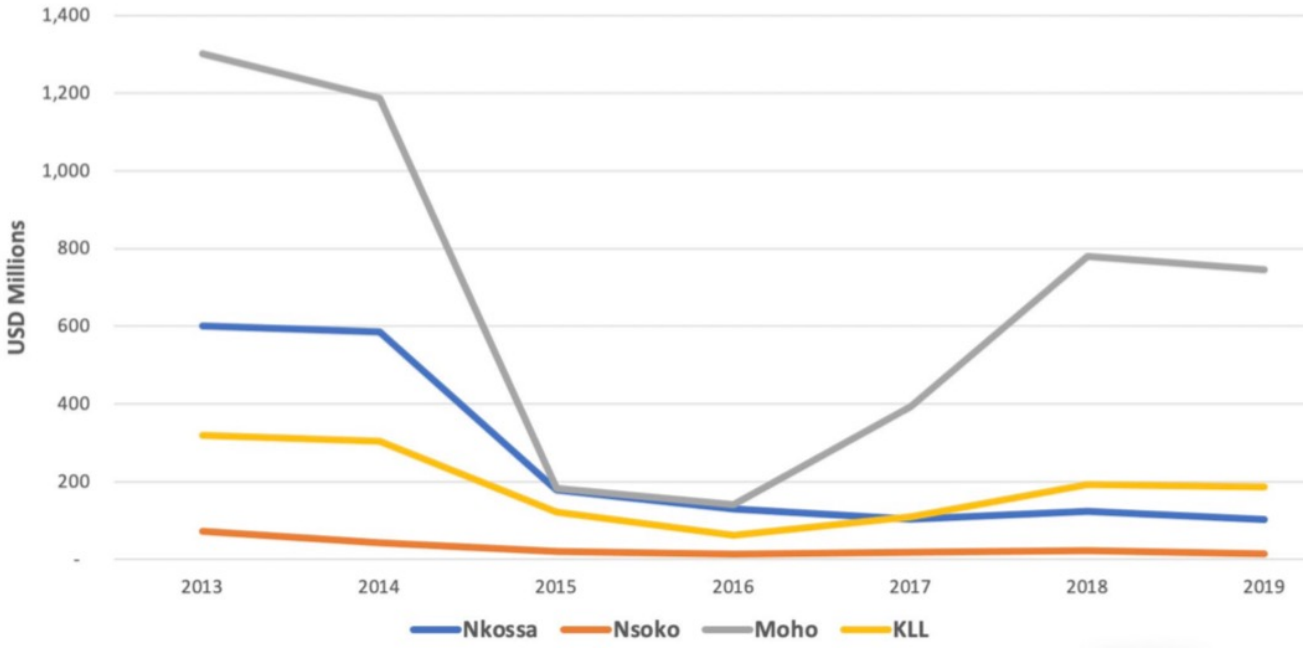
- No single set of terms is ideal. A fiscal regime should:
  - Be sustainable with a reasonable return for the contractor
  - Generate a predictable minimum share for government
  - Allow government to capture more of growing economic rent
  - Be easy to administer and monitor
- Consistent findings of both benchmarking studies:
  - Variation in terms and amendments increase complexity
  - The impact of the high price has required renegotiations
  - Simpler fiscal regimes in other countries perform better
  - Profit-sensitive production sharing is effective
  - Other countries depend more on the taxation of net income

Backcasting and Forecasting

- Financial models developed for four licenses (Nkossa, Nsoko, Moho Bilondo and KLL) with data from EITI reports and National Secretariat
- Models are tools to analyze the complex interactions between production, price, costs and the interplay between fiscal instruments
- Objective was to explain historical payments from 2013 and to forecast potential future revenues through 2025
- Challenges to reconcile historic payments and modelling results, and limits on modelling select years excluding historic investments; but modelling explains why government received the revenue it did
- Modelling is essential for forecasting future revenues, with sensitivity analysis used to counter uncertainties

Understanding Past Payments: 2013–2019

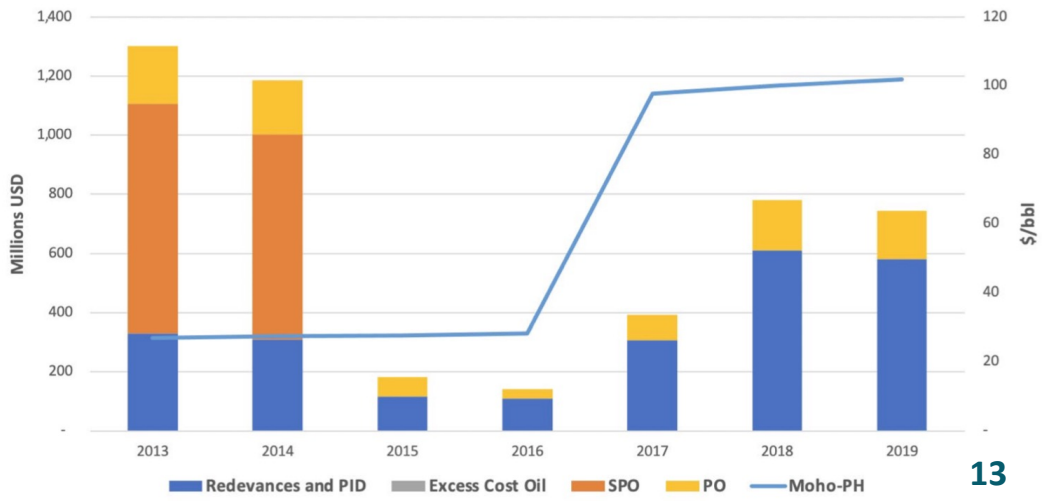
- Combined government revenues fell from $2.1 billion (2013), to $350 million (2016) and up to $1 billion (2019)
- Oil price fell from $100 to $40 but then recovered to more than $60
- Combined oil production doubled by 2019 to nearly 200 kbbl/d
- Increased production offset the decline in oil price
- Combined project revenue was $1 billion higher in 2019 than 2013



Why did the State share decline?

- Decline in government revenues not because of project revenues but because the State share fell from 60% (2013) to 30% (2019)
- Largely caused by increases in the high price, particularly in Moho and Nkossa

1. Increase in the high price removed limits on the effective cost stop increasing oil allocated to cost recovery: less than 20% of project revenue went to costs in 2013 but nearly 70% from 2016 onwards
2. Increase in the high price meant that almost no super profit oil was paid (Moho SPO in 2013 was $1.5 billion, but with the increase in the high price to $90 no SPO was paid in 2018–19

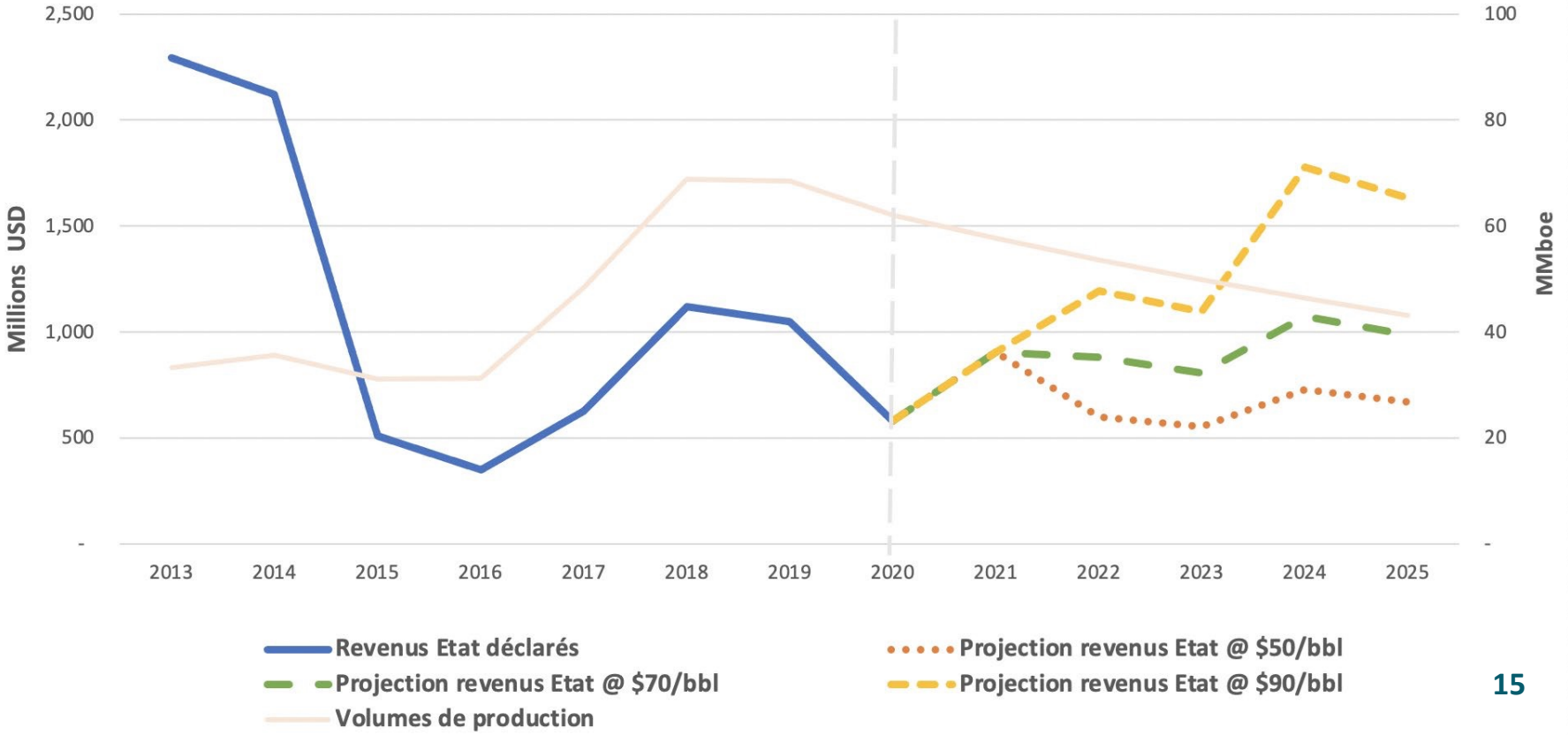


A Revenue Forecast for Four Licenses

- Forecast covering four licenses (Nkossa, Nsoko, Moho Bilondo and KLL) that accounted for 62% of Congolese production in 2020
- Revenue forecasts are generated from future estimates for production, project costs and oil price
- Base case assumes 7% annual decline in production as no new investments are forecast
- Operating costs are extrapolated from the past, but will not impact government revenues as licenses will remain at the cost stop
- Oil price is the main driver for government revenues: actuals used for 2021, base case $70 per barrel with sensitivities at $50 and $90

Government Revenues through 2025

- Historic revenues through 2020, forecast from 2021 through 2025
- Base case revenues rising to just over $1 billion in 2024 based on crossing of production threshold for Moho Bilondo
- High case could generate more than $1.5 billion, but revenues not expected to return to the levels seen in 2013 and 2014

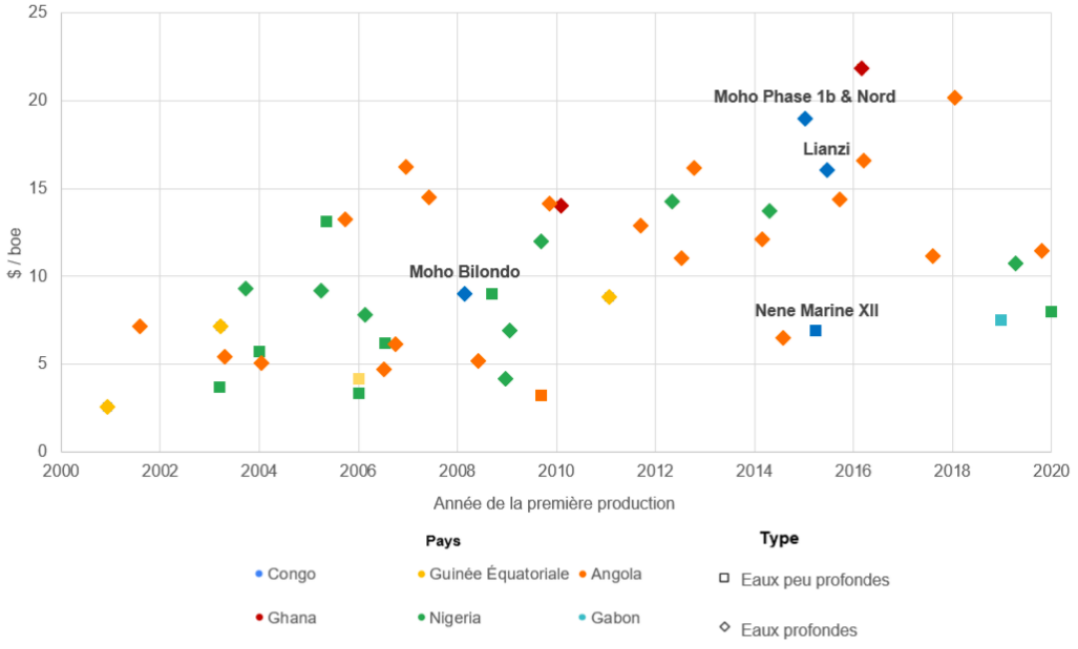


Petroleum Costs – Benchmarking and Auditing

- Higher costs means a greater share of lifecycle production will be allocated as contractor cost oil
- High costs can be due to geology, location and the wider oil market, but they can also be overstated
- Since 2016, Congo EITI has published several classifications of annual project costs for each individual license
- This cost data provided the basis for benchmarking development and operating costs compared with other projects in the region
- Analysis was also conducted on the auditing of petroleum costs with particular attention given to the cost provisions in the PSCs

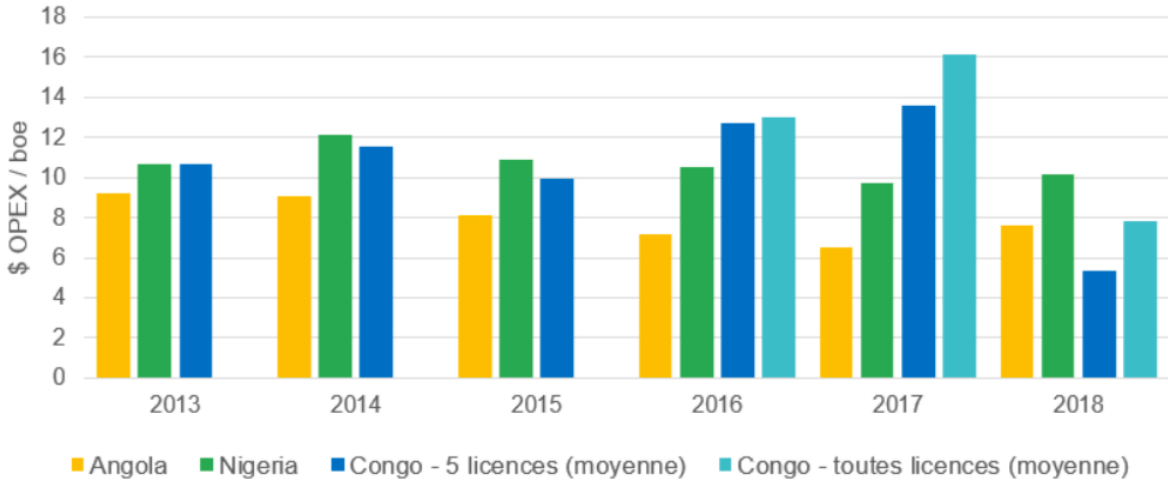
Development Cost Benchmarking

- Development costs can be compared across projects using metrics such as development cost per barrel of reserves
- Reliability depends on high quality data and on comparing independent developments with similar water depth, reserve size
- Four Congolese developments (Moho, Moho Phase 1 bis and Nord, Lianzi and Néné Marine) were compared with 44 offshore projects in west and central Africa
- While the findings are not conclusive, it appears that some Congolese projects, particularly Moho Phase 1 bis and Nord, are among the most expensive in the region



Operating Cost Benchmarking

- Based on EITI data, operating costs per barrel for Congolese projects were compared with country averages for Angola and Nigeria published by Rystad
- Due to inconsistent definition in EITI reports of what are termed “other costs”, we analyzed only those costs labelled as operating costs, which likely understates the actual costs
- The data available suggests that Congolese costs were similar to the regional average in 2013–15, higher in 2016–17 and lower in 2018
- Among the operators in Congo, EITI data indicates that Eni had the highest costs per barrel, Perenco the lowest and TEPC in between



Cost Provisions in the PSC Accounting Procedures

- Controlling costs begins with the contractual provisions as set out in the PSCs and particularly in the Accounting Procedure Annex
- These provisions determine what costs are recoverable, how those costs should be reported, and the government's right to audit
- As with the fiscal terms, there is an unusual degree of variation in accounting provisions across the different PSCs
- Even in the most recent PSCs, key provisions in areas with potential for significant loss in government revenue are insufficiently robust
- We did not have access to the documents necessary for evaluating cost audit reports or the broader cost auditing process
- Controlling costs is easier before the money is spent, through careful review of development plans and annual budgets

Cost Control and Government Revenues

- The impact of cost control in Congo will be modest in comparison to other countries because:
  1. the fiscal regime is relatively insensitive to costs due to the role of the “before cost” super profit oil allocation
  2. the licenses under review are expected to remain at the cost stop meaning revenue benefits delayed past 2025
  3. cost control would have been most effective before large-scale investment in Moho Bilondo and Marine XII

- While the revenue benefits of cost control for the government will be deferred, cost reductions would be of immediate benefit in reducing SNPC’s share of costs.

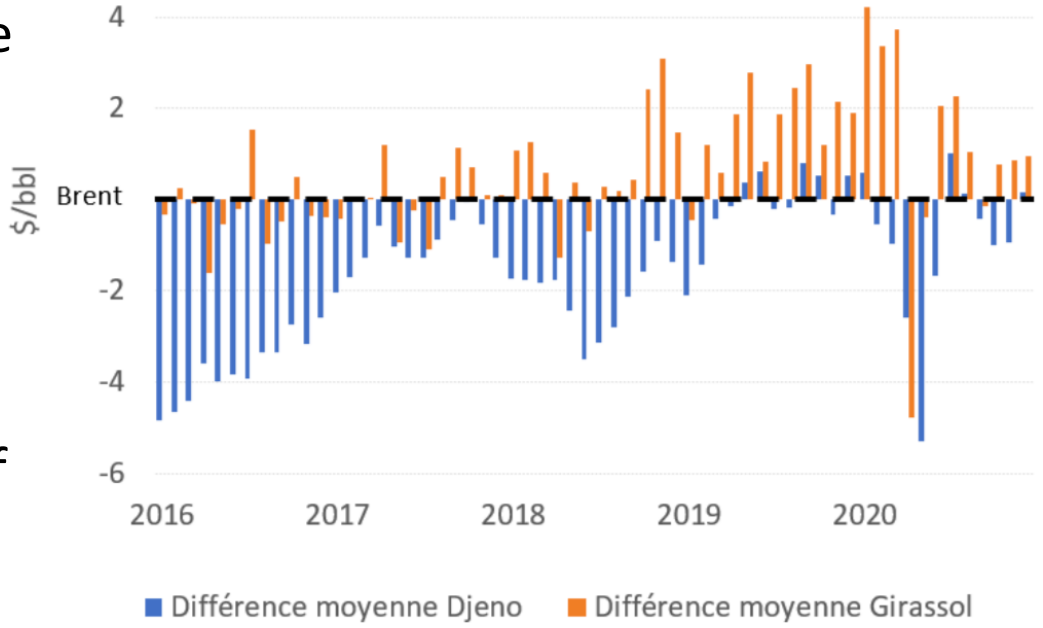
Overview of Oil Sale

- EITI Congo disclosed oil sale data including details on blend, seller, buyer, and realized sale price for 2016–18. Additional data was provided for 2019–20
- Djeno and Nkossa make up around 90% of total sales with the largest sellers being TEPC for Djeno and Eni for Nkossa
- From 2016–20 there were 400 shipments by private oil companies and 114 by SNPC
- Some shipments by Eni, TEPC and Perenco are undertaken jointly with other companies, Chevron always lifts solo
- TEPC, Eni, Chevron and Hemla all sold to affiliates representing 66% of all Djeno sales and more than 80% of all Nkossa sales

Analysis of Realized Sale Price

- Realized sale prices are based on an average Brent price less a differential
- Over this period Nkossa sold at near parity with Brent while Djeno sold at a discount that has narrowed in recent years
- Comparisons with regional crudes suggest that Djeno and Nkossa sell below regional crudes with similar quality and shipping costs

- Chart shows monthly average differentials to Brent for Djeno and Girassol blend from Angola
- Further analysis is warranted on differentials to Brent and potentially to other crudes of similar quality



Establishment of the Fiscal Price

- The fiscal price is used to calculate the number of barrels allocated for cost oil with a lower fiscal price resulting in more barrels
- Valuation normally depends on the type of transactions with independent benchmarks used if most trades are with affiliates
- The Hydrocarbon Code and some PSCs indicate that the fiscal price should be based on trades between independent buyers and sellers
- In practice, the fiscal price is based on the weighted average realized price for all private sales, even though nearly 90% of Djeno sales, and 99% of Nkossa sales are to affiliated companies
- Comparing average realized sale price with the monthly fiscal price, it appears that Eni's reported sale price more commonly pushes the fiscal price upwards while TEPC's reported sale price pushes it down
- Procedures should be strengthened to ensure that all sales reflect arms length market prices

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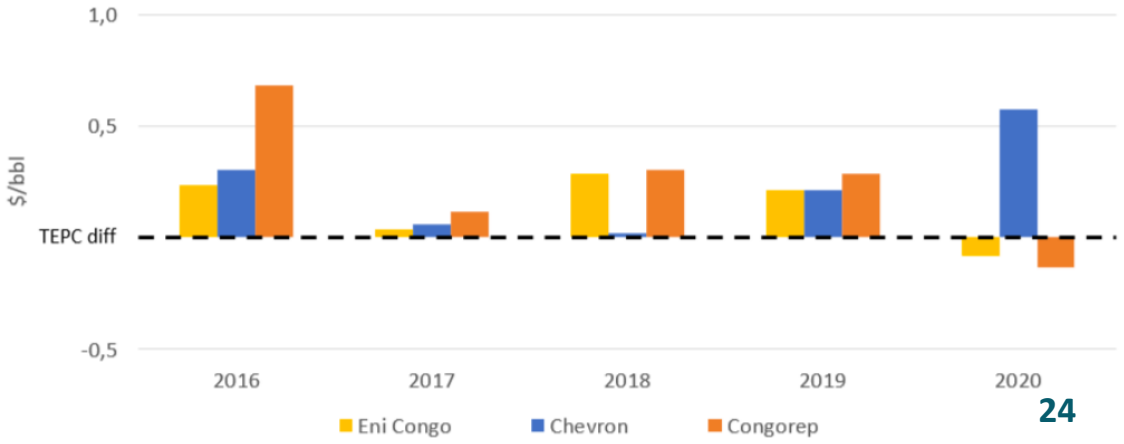

International Sale of the State's Entitlement

SNPC Sales

- SNPC is mandated to sell the state's oil entitlement and transfer the proceeds, less a 1.6% commission, to the Treasury
- EITI data suggests SNPC's average realized sale price on 85 million barrels of state oil was around $0.50 below the monthly fiscal price

Tableau 34 : Prix de vente réalisé par SNPC Mandat pour le Djeno par rapport au prix fixé – 2016-20

Djeno 2016-2020	2016	2017	2018	2019	2020	Total
Remises	-3,42	-1,63	-1,84	-1,21	-3,26	**-1,92**
Primes	1,79	2,15	3,91	1,07	3,04	**2,43**
Combinées	-0,99	-0,92	0,04	-0,37	-0,93	**-0,56**
volumes (MMbbl)	*12,06*	*13,30*	*20,79*	*21,84*	*17,27*	*85,27*

Managing Price Volatility

- Oil price volatility leads to damaging boom and bust cycles, highlighting the value of revenue smoothing options
- Some countries, like Mexico, hedge their oil sales to cover budget expectations, but it can be politically risky if oil prices spike and bad for transparency as hedging requires confidentiality
- An alternative approach to revenue smoothing is the creation of a stabilization fund, though success depends on the application of savings rules and the quality of national and fund governance

High-Level Conclusions

- Valuable insights can be generated from EITI Congo data. Financial modelling can contribute to greater transparency and domestic resource mobilization. Models should be updated over time and possibly extended to other licenses.
- The Congolese fiscal regime is complex with wide variation in terms across different PSCs. The central feature of the regime – the high price – has not improved performance or durability
- There are several areas including cost benchmarking, procedures for monitoring and auditing costs, oil sale differentials and affiliated party trades where follow-up is warranted
- The reliability of the findings would be improved with greater consistency in reporting time series data. The report provides recommendations on data disclosures including consistency of cost classifications with the PSC. Consideration should be given to expanding disclosures at the license level for allocations per fiscal instrument for both contractor and government

About Resources for Development Consulting and the Project Team

Resources for Development Consulting (R4D – www.res4dev.com) is an economic and policy research firm founded in 2011 with the mandate to assist governments and communities in securing a fair share of mineral and petroleum wealth. We assist in the design of fiscal regimes, the negotiation and renegotiation of contracts, the forecasting of future government revenues, and the monitoring and auditing of production, sales, and project costs to secure government revenues in practice. To provide our clients with exceptional value, R4D engages world-class industry experts. However, to avoid any risk of a conflict of interest, we never work for oil, gas, or mining companies. We provide capacity building services designed to enable representatives of governments and communities to play an active and effective role in defending their revenue interests.

Don Hubert (PhD) – Project Lead: Don Hubert is the founder and president of R4D. He is a specialist in the economic analysis of mining and oil and gas projects with an emphasis on maximizing the revenues that flow to governments and to communities. He has reviewed hundreds of extractive sector contracts and conducted detailed economic analyses of dozens of petroleum and mining projects in more than twenty countries. Hubert is the author of *Many Ways to Lose a Billion: How Governments Fail to Secure a Fair Share of Natural Resource Wealth*. Previously, he was a member of the executive group in the Canadian Department of Foreign Affairs and an Associate Professor of Public and International Affairs at the University of Ottawa. He holds a PhD from the University of Cambridge, UK.

Thomas Mitro - Technical Director: Thomas Mitro has been a senior associate with R4D since 2019. He has more than 40 years' experience in petroleum financial, commercial, and government-related activities. For the last 15 years he has been an advisor and trainer to governments and national oil companies in Africa and Asia. He has provided support to government officials in Tanzania, Nigeria, Mozambique, and Myanmar on fiscal and commercial aspects of petroleum developments. Previously, he worked for 30 years for Gulf Oil and Chevron in senior management positions in Nigeria, Angola, Papua New Guinea, the UK and Australia. When working in Angola he was also responsible for Chevron's Republic of Congo finance activities. He was a Co-Founder of the Graduate Certificate in Global Energy, Development and Sustainability at the University of Houston. He holds a BS in business administration and an MA in economics from Duquesne University in Pittsburgh, USA.