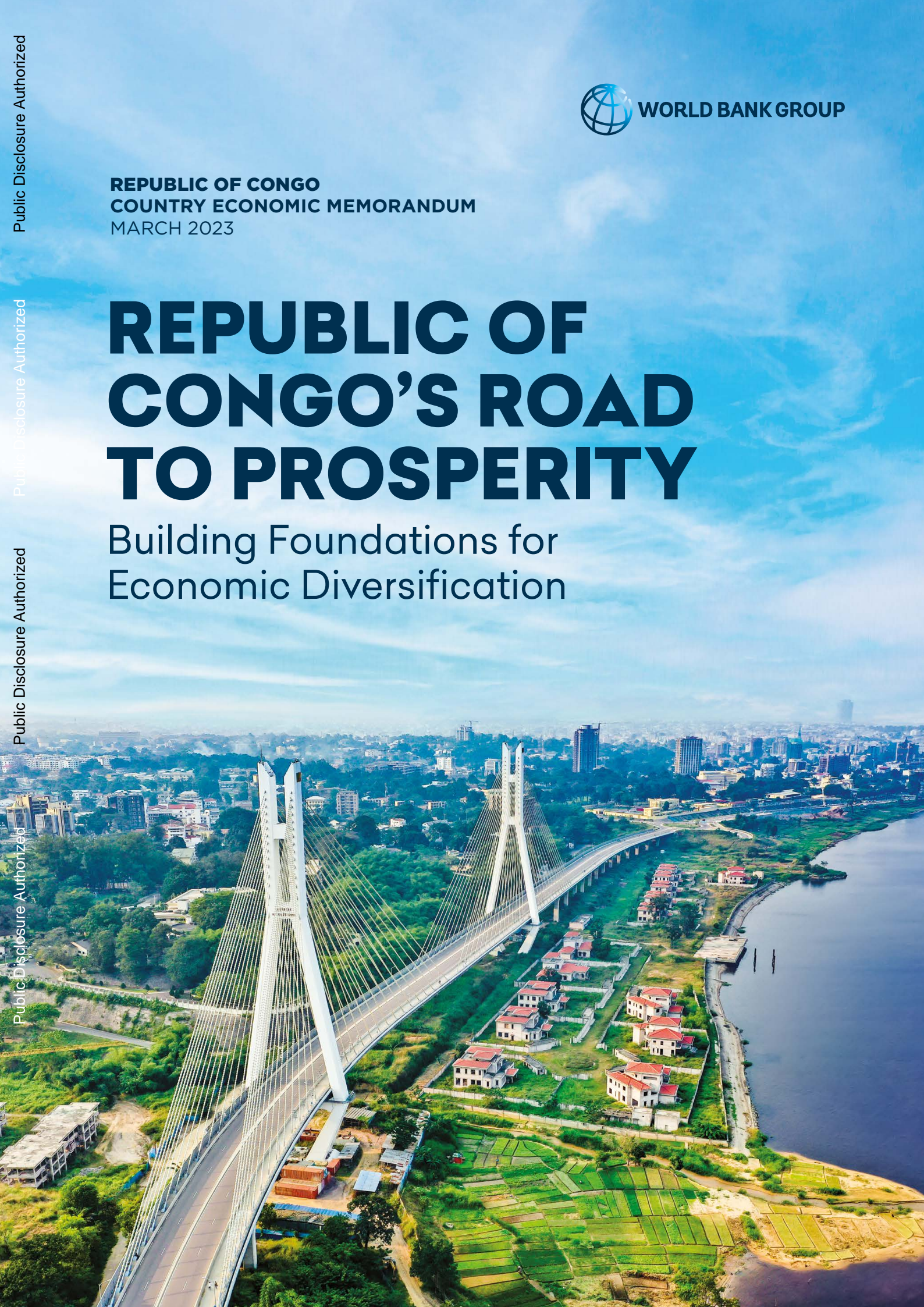


REPUBLIC OF CONGO
COUNTRY ECONOMIC MEMORANDUM
MARCH 2023

REPUBLIC OF CONGO'S ROAD TO PROSPERITY

Building Foundations for
Economic Diversification



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Acknowledgements

The Republic of Congo Country Economic Memorandum (CEM) was prepared between January and June 2022 by a team led by Vincent Tsoungui Belinga (Senior Economist) and Jose Luis Diaz Sanchez (Senior Economist) under the overall guidance of Abdoulaye Seck (Country Director), Korotoumou Ouattara (Resident Representative), Francisco Carneiro (Practice Manager), Raju Singh (Lead Economist), and Clelia Rontoyanni (Program leader). Other members of the team include: Samia Melhem (Lead Digital Development Specialist), Alberto Portugal (Senior Economist), Olivier Hartmann (Senior Private Sector Specialist), Daniel Camos Daurella (Senior Energy Specialist), Steven Clarke (Energy Specialist), Besart Avdiu (Economist), Marilyne Youbi (Economist), Joana Monteiro Da Mota (Extended Term Consultant), Paul Viet-Minh Nguyen (Digital Development Specialist), Mamadou Tanou Balde (Consultant), Dukken Gaphi Ossouna (Consultant) Delgermaa Enkhtsoigt (Consultant), Laurent Andiazabal (Consultant), Adam Winship (Consultant), Goncalo Coelho (Consultant), Amevi Rocard Kouwoaye (Consultant) and Yuri Horowitz (Consultant). The team also benefited from guidance and feedback from Henri Fortin (Lead Financial Management Specialist), Georgiana Pop (Senior Economist, Global Lead for Competition Policy), Heriniaina Mikaela Andrianasy (Senior Public Sector Specialist), Karim Ouled Belayachi (Senior Private Sector Specialist) and Cesar Borja Galan Santos (Consultant).

The team is grateful for the support from the following: Pinar Baydar (Operation Analyst), Irene Sitienei (Program Assistant), and Josiane Maloueki Louzolo (Program Assistant). The team would like to thank Erika Jorgensen (Consultant) for her editorial support.

The team is thankful to the peer reviewers Souleymane Coulibaly (Program Leader), Tim Kelly (Lead Digital Development Specialist), Claire Honore Hollweg (Senior Economist) and Guilherme De Aguiar Falco (Economist) for their contributions.

The team is especially grateful for the collaboration with Congolese authorities in the preparation of this report and for sharing the data. Preliminary results were discussed with several stakeholders in Congo (government counterparts, private sector actors, development partners, academia) through virtual meetings.

Report design, layout & graphics:

Kane Chong

Cover image source:

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Ministry of Land Management, Infrastructure and Road Maintenance, Republic of Congo.

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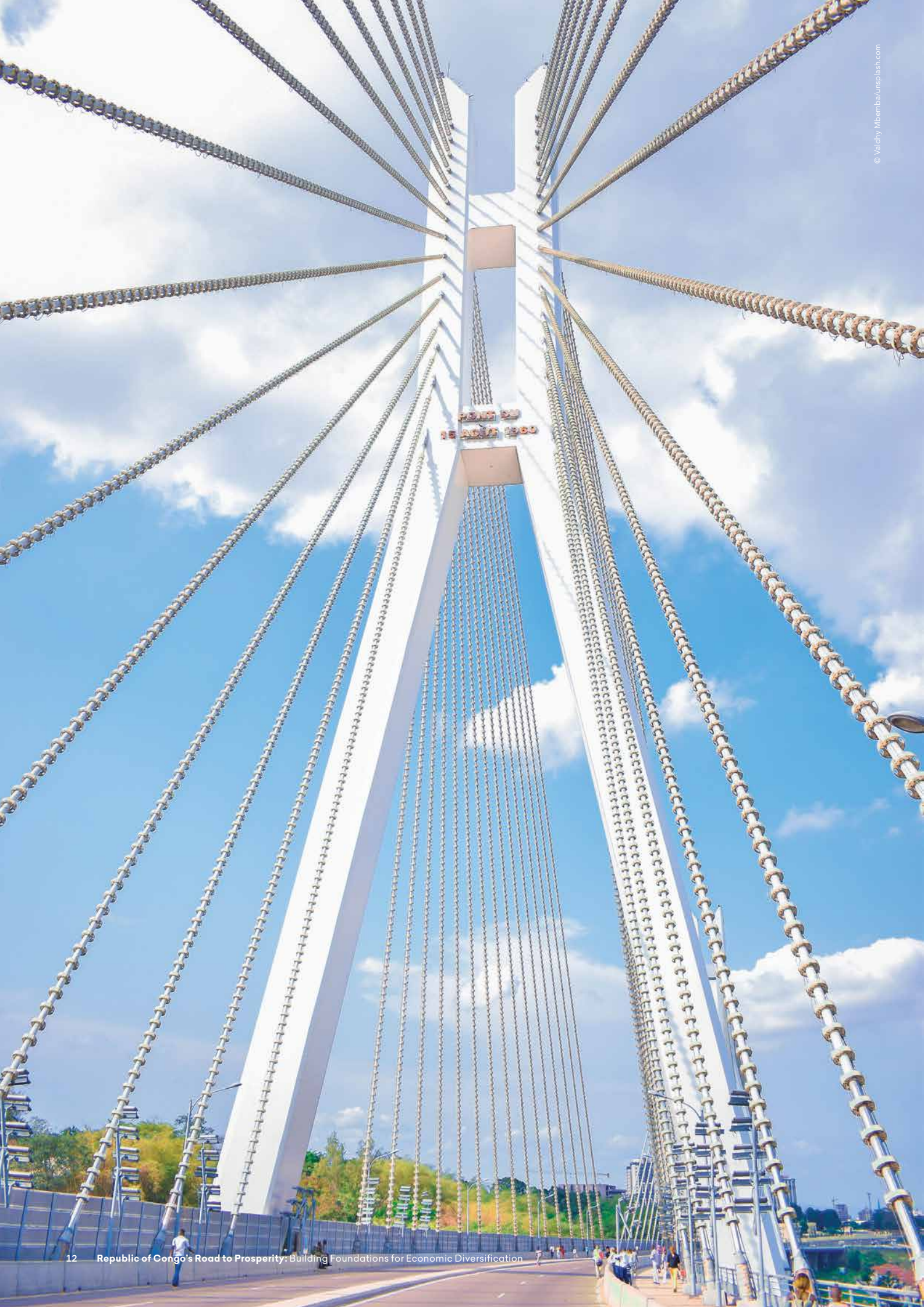
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Abbreviations and Acronyms

AfCFTA	African Continental Free Trade Area	GVCs	Global value chains
ARPCE	Regulatory Agency for Posts and Electronic Communication (<i>Agence de Régulation des Postes et des Communication Electroniques</i>)	HCI	Human Capital Index
ARSEL	Regulatory Agency for the Electricity Sector (<i>Agence de Regulation du Secteur de l'Electricité</i>)	DI	Import declaration (<i>déclaration d'importation</i>)
ASYCUDA	Automated System for Customs Data	IPP	Independent power producer
BEAC	Bank of Central African States (<i>Banque des Etats de l'Afrique Centrale</i>)	ICT	Information and communications technologies
BTI	Bertelsmann Transformation Index	INS	National Institute for Statistics (<i>Institut National de la Statistique</i>)
CCC	Community Competition Council (<i>Conseil Communautaire de la Concurrence</i>)	IT	Information technology
CEC	Congo Power Plant (<i>Centrale Électrique du Congo</i>)	ITU	International Telecommunication Union
CEM	Country Economic Memorandum	LPI	Logistics performance index
CEMAC	Central African Economic and Monetary Community	MPTEN	Ministry of Posts, Telecommunications and Digital Economy (<i>Ministère des Postes, des Télécommunications et de l'Economie Numérique</i>)
CET	Common external tariff	MTL	Ministry of Tourism and Leisure (<i>Ministère du Tourisme et des Loisirs</i>)
CFAF	African Financial Community Franc (<i>Communauté Financière Africaine Franc</i>)	NTA	National tourism authority
CNC	National Audit Office (<i>Commissariat National aux Comptes</i>)	NTBs	Non-tariff barriers
CNEEPIP	National Center for the Study and Evaluation of Public Investment Projects (<i>Centre National d'étude et d'Évaluation des Projets d'Investissement Public</i>)	NTMs	Non-tariff measures
CORAF	Congo Refinery (<i>Congolaise de Raffinage</i>)	NNNP	Nouabalé-Ndoki National Park
CPIA	Country Policy and Institutional Assessment	OHADA	Organization for the Harmonization of Business Law in Africa
CST	Supreme Tourism Council (<i>Conseil Suprême du Tourisme</i>)	ONPT	National Office of Posts and Telecommunications (<i>Office National des Postes et Télécommunications</i>)
cu. m.	standard cubic meters [of natural gas]	OPEX	Operational Expenditures
DRC	Democratic Republic of Congo	OPIT	Office for the Promotion of the Tourism Industry (<i>Office de Promotion de L'industrie Touristique</i>)
DMO	Destination management organization	P2G	Person-to-Government
DLP	Digital Literacy Program	PND	National Development Plan (<i>Plan National de Développement</i>)
eCTN	Electronic Cargo Tracking Note	PAs	Protected Areas
EITI	Extractive Industries Transparency Initiative	PNDS	National Health Development Plan (<i>Plan National de Développement Sanitaire</i>)
FAL	Convention on Facilitation of International Maritime Traffic	PPP	Public-private partnership
FDA	French Development Agency (<i>Agence française de développement</i>)	SOEs	State-owned enterprises
FASUCE	Electronic Communications Universal Access and Service Fund (<i>Fonds pour l'Accès et le Service Universels des Communications Électroniques</i>)	SMEs	Small and medium enterprises
FAL	Convention on Facilitation of International Maritime Traffic	SNPC	National Oil Company (<i>Société Nationale des Pétroles du Congo</i>)
FAT	Firm adoption of technology	SSA	Sub-Saharan Africa
DGPP	General Directorate of Public Portfolio (<i>Direction Générale du Portefeuille Public</i>)	STEM	Science, technology, engineering and math
G2G	Government-to-Government	TEUs	Twenty Equivalent Units
G2P	Government-to-People	TFA	Trade facilitation agreement
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	TRAINS	Trade Analysis and Information System
GSMA	Global System for Mobile Telecommunications	UNCTAD	United Nations Conference on Trade and Development
GUOT	One-Stop Shop for Cross-Border Operations (<i>Guichet Unique des Operations Transfrontalières</i>)	UNDP	United Nations Development Program
GUT	One-Stop-Shop for Tourism (<i>Guichet Unique du Tourisme</i>)	UNESCO	United Nations Educational, Scientific and Cultural Organization
		USAID	United States Agency for International Development
		US\$	United States of America dollars
		USA	United States of America
		VFR	Visiting friends and relatives
		WDI	World Development Indicators



Executive Summary

Overview

Congo is at a critical juncture in its development history

The Republic of Congo's seven-year recession has led to a dramatic drop in income per capita and put the country at risk of falling back into low-income status. Following a period of conflict in the 1990s, Congo* managed to secure significant income per capita gains during the early 2000s. However, economic activity in the country (historically dependent on the oil sector) has been shrinking since 2015 when the last commodity supercycle (circa 2002-2014) ended. The COVID-19 crisis was another setback for Congo's recovery from the ending of the last oil boom, prolonging the economic recession. While the significant growth in per capita Gross National Income (GNI) during the oil boom era helped Congo reach lower-middle income status in 2005 and near upper middle income status in 2014, the end of the oil boom led to a drop in GNI per capita by more than half between 2014 and 2020, reversing the country's long-term progress in poverty reduction. Despite the adoption of a "resilience plan" to mitigate the impact of the war on Ukraine on Congo, poverty could be further exacerbated as a result of the effects of rising food prices on the most vulnerable.

Congo has made little progress in reducing the dominant role of the oil sector in the economy and diversifying its productive base to industries with a higher labor content. In the past decade, the oil sector has accounted for around 40 percent of GDP, 80 percent of total exports, and 60 percent of domestic revenues. The industry employs only a small fraction of the labor force. Not surprisingly, the hydrocarbon sector, through its direct and indirect impact on the economy, has been driving economic growth in Congo, but the dependence on the oil sector has also translated into high volatility of growth, which undermines private investment and, thereby, long-term economic growth prospects.

The current development model is unlikely to deliver sustainable economic growth and productive jobs going forward. Congo's current economic model—dependent on the oil sector—is unlikely to continue to deliver even the volatile economic growth of the past, challenged by the current uncertain global context, projected depletion of Congo's oil reserves, and the global transition to a low carbon economy. In addition to the unsustainability of overall growth, Congo's oil-based economy has provided few opportunities for job creation due to the low labor content of the hydrocarbon industry. Indeed, the great majority of the Congolese population cannot find a job in the formal economy, with about three quarters of the Congolese workforce (including most youth) employed in the informal sector, either self-employed or in low productivity jobs.

Congo's current economic model—dependent on the oil sector—is unlikely to continue to deliver even the volatile economic growth of the past, challenged by the current uncertain global context, projected depletion of Congo's oil reserves, and the global transition to a low carbon economy.

Attaining sustainable development in Congo will require diversified national assets, focusing on stronger institutions, vigorous human and physical capital, and more balanced exploitation of natural capital. The World Bank flagship report "Diversified development: making the most of natural resources in

* Throughout this report, all mentions of "Congo" refer to the Republic of Congo, whereas the Democratic Republic of Congo will be referred to as "the Democratic Republic of Congo" or "DRC".

Eurasia” (World Bank, 2014) suggests that diversified exports and less concentrated economic structures are not sufficient for countries to develop. Instead, countries should focus more on diversifying their national asset portfolios—that is, to ensure a better balance between natural capital (natural resources), produced capital (human and physical), and economic institutions (or intangible assets). Natural capital has historically been Congo’s largest asset and source of wealth, while other forms of assets have not been growing. Moreover, despite abundant natural resource wealth, both in renewables (forests, agricultural land) and non-renewables (natural gas, mining), the exploitation of natural resources in Congo has been focused mostly on oil, while other natural assets remain largely unexploited. Since Congo’s oil production is expected to decline in the medium term due to the depletion of recoverable oil and reduced demand over the long-term from the global transition to a low-carbon economy, there is an urgency to diversify Congo’s assets.

Sustainable development will require dramatic action to diversify assets

Oil revenue is critical for government finances, but collection falls short. Despite the importance of oil revenues in total revenue collection, the capacity of the government to collect revenues from oil is low, dampened by weak governance and institutional capacity. Congo collects fewer revenues per dollar exported compared to most peers. The country’s relatively inadequate performance in collecting revenue from the oil sector suggests shortcomings in the negotiation of oil production deals and, most importantly, insufficient enforcement of its Hydrocarbon Code.

The drawdown of Congo’s oil resources has not translated to sufficient accumulation of human and physical capital.

Underinvestment in human capital limits the productivity of the workforce. Health and education expenditures in Congo are relatively low compared to peers and often below budget targets. As a result, Congo’s score in the human capital index lags those of peer countries and has registered very limited progress since 2010. The low quality of education, reflected in a learning gap of 3.6 years for Congolese students, limits workers’ productivity growth and, thereby, the country’s ability to take full advantage of its labor force. High private and public investment spending over recent years has contributed to a steady accumulation of physical capital in Congo, but investment has been volatile and driven by developments in the oil sector. Consequently, Congo’s coverage of basic infrastructure remains insufficient. Moreover, low public investment efficiency has limited the economic and social benefits of public spending. Fostering human capital development and enhancing the quantity and quality of strategic infrastructure would enable productivity gains, supporting diversification efforts.

Fostering human capital development and enhancing the quantity and quality of strategic infrastructure would enable productivity gains, supporting diversification efforts.

The decades-long exploitation of natural resources has not been accompanied by the establishment of strong institutions in Congo, which are essential to support the capacity of the government to transform natural resources into physical and human capital assets.

The World Bank’s Country Policy and Institutional Assessment (CPIA) provides a snapshot of the country’s quality of institutions. In 2020, Congo’s overall score was lower than the Sub-Saharan Africa average and had deteriorated compared to 2015. This reflects, in part, weaker economic management, which resulted in debt distress and lack of fiscal space. Pro-cyclical fiscal policies, tightly linked to oil price fluctuations, have amplified economic cycles in Congo and impacted long-term growth. Further, structural policies for the business regulatory environment have been generally weak and getting worse compared to peers. As a result, Congo’s business environment is not conducive to private sector investment. The quality of policies and institutions to boost health, education, and social protection has remained mostly unchanged since the mid-2000s, with a need to strengthen service delivery and increase the coverage of social protection. Finally, despite recent progress in transparency and the fight against corruption, Congo’s performance in public sector governance remains low.

The government is taking steps for a transition to a more sustainable economic development model

Since the presidential elections of March 2021, reform momentum has accelerated. Following his election in March 2021, the President appointed a new government with a strong mandate to undertake reforms to turn around the country's economy. Congo's reform impetus is also driven by the country's leadership of the Central African Economic and Monetary Community (CEMAC) Program of Economic and Financial Reforms (PREF-CEMAC II, 2021-25). In August 2021, the Heads of State of the CEMAC endorsed a declaration committing the member states to a strong program of 'second generation' reforms to restore the region's macroeconomic sustainability, support a strong and diversified recovery from the crisis, develop the region's connectivity infrastructure, and accelerate human capital development. Congo's reform commitment is anchored by the new three-year IMF program approved in January 2022 and the ongoing Development Policy Financing program with the World Bank. Significant participation of government counterparts from several ministries in workshops for the preparation of this report is another sign of the government's commitment to a new economic model.

The Congolese government's new National Development Plan (*Plan National de Développement, PND*) lays out steps for a more diversified and inclusive growth model.

To reverse flagging GDP growth and translate its vision for a new development model, Congo adopted early this year a new PND for 2022-26. The PND aims to build a strong, resilient, and diversified economy for sustainable and inclusive development. It is articulated around six strategic areas: the development of agriculture and agroforestry, industry, tourism, digital economy, real estate, and special economic zones. It also identifies peace and political stability, governance, the business environment, and environmental protection as four cross-cutting areas that will support successful economic development. The PND offers a good opportunity to transform Congo's economy and boost inclusive and sustainable development

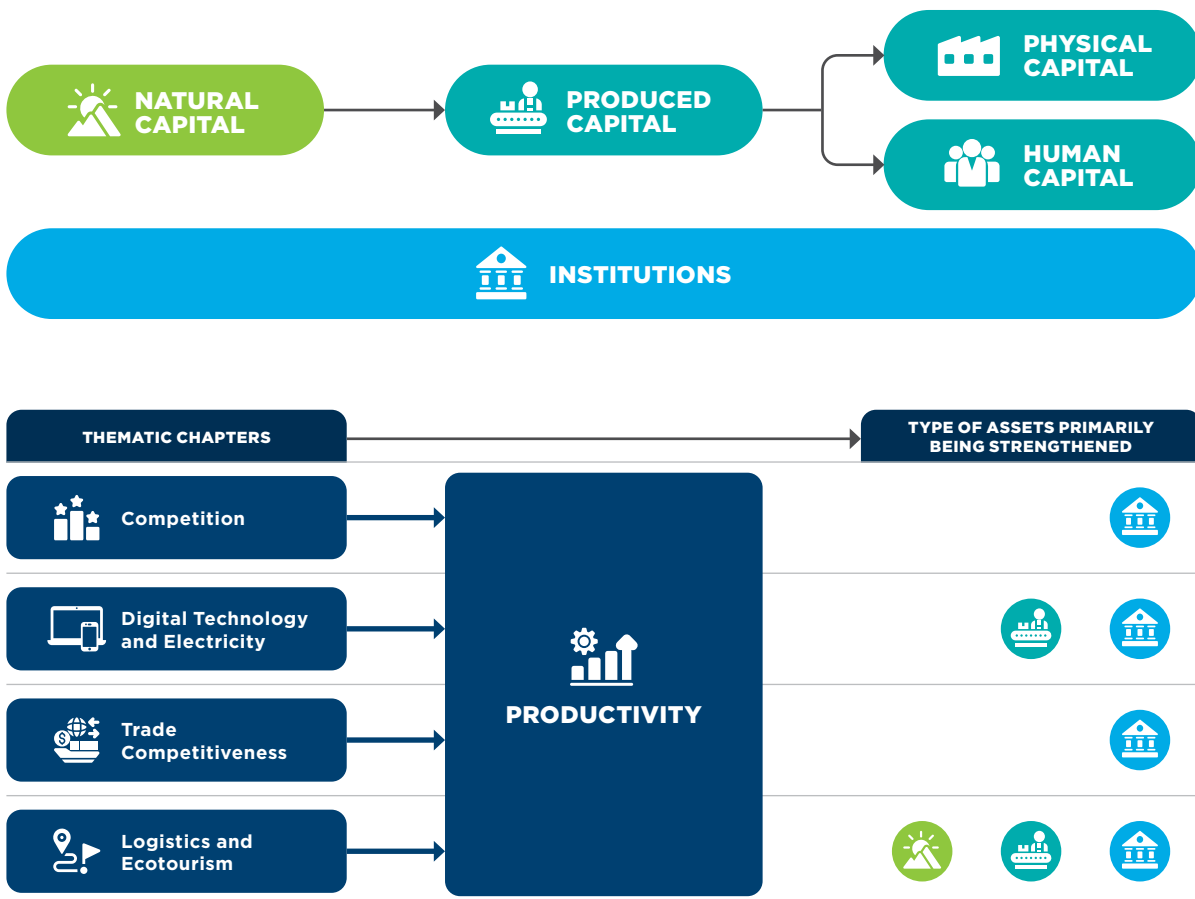
The Congolese government's new National Development Plan aims to build a strong, resilient, and diversified economy for sustainable and inclusive development.



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This Country Economic Memorandum (CEM) contributes to the Government’s diversification agenda by identifying and advocating key policies and reforms to build the foundations for more “diversified development” in Congo that will support long-term economic growth and prospects for a better life for the Congolese people. The report comprises six chapters. The first chapter discusses Congo’s economic developments during the last 15 years and analyzes in detail the factors that prevented the country from diversifying its assets. Since rising labor productivity is required to boost the growth of Congo’s income per capita, the second chapter analyzes labor productivity using firm level data, a first attempt in Congo. Because removing barriers to competition enhances productivity, the third chapter undertakes a diagnostic of competition practices, including the role of state-owned enterprises (SOEs), and provides a detailed analysis of the electricity and telecommunication competition environments. The fourth chapter explores the extent to which digital transformation and access to reliable electricity services can spur productivity and economic growth. As greater trade integration is a driver of structural transformation, the fifth chapter discusses trade patterns and explores the opportunities for Congo to diversify its exports. The sixth chapter looks over two key trade-related topics, logistics and ecotourism, that have the potential to contribute significantly to export and economic diversification in Congo. The chart below (Figure ES 1) portrays the linkages between each of the four thematic chapters and the different types of assets in the diversified development framework, and their contributions to productivity growth.

FIGURE ES1
Analytical outline of the CEM



Note: The “Diversified Development” framework suggests that countries should focus on diversifying their national asset portfolios to ensure a better balance between natural resources, produced capital, and economic institutions (enabler of such diversification). The color and icon of each small circle indicates which type of asset is primarily being strengthened in each thematic chapter.

Key findings

1 Congo needs to reverse declining labor productivity

Congo faces low and declining labor productivity compared to peers, thereby limiting economic growth and preventing convergence with comparator economies. An average worker in Congo needs to work 2.6 times longer to produce the same output as one working in an aspirational peer country and 2.2 times as long compared to structural peers.** Across sectors, labor productivity levels in Congo generally lag those in peers, even in the industrial sector, which is Congo's most productive sector. Congo's productivity levels in agriculture and services are the lowest across all comparison groups of countries. At the sub-sector level, there is significant variation, ranging from the extractives sector with over CFAF 20 million per worker to other industrial subsectors (finance, utilities, transport) around CFAF 8 million per worker to service subsectors at CFAF 2 to 3 million per worker. A particular cause for concern is the very low productivity of manufacturing, with value added per worker below CFAF 2 million. Regional disparities in labor productivity, excluding extractives, are very large, with the most productive region (Cuvette) registering more than four times the value added per worker of the least productive region (Likouala). As expected, larger, formal, foreign, and older firms tend to have higher labor productivity. In recent years, labor productivity growth has been volatile and increasingly negative, mirroring volatile and declining GDP growth. From 2014, a consistent downward trend can be observed, and by 2019, value added per worker was falling at a rate of nine percent per year in services and 2.6 percent in industry. These negative trends have recently been exacerbated by the impact of COVID-19.

Misallocation of labor partially represents a drag on productivity growth in Congo. Although more productive firms pay higher wages in Congo, they tend to employ fewer people on average. This trend is seen especially in the service sector and reflects a misallocation of labor as most workers should be employed by more productive firms. Indeed, recent data shows that employment growth has not always been in the most productive sectors or in those with the highest productivity growth, thereby dragging down Congo's aggregate productivity. SOEs tend to drag down aggregate productivity while employing more people and providing higher wages, which exacerbates misallocation. On the positive side, older firms tend to be consistently larger and more productive, indicating a relative efficiency of exit and dynamic market forces over time, as well as positive learning effects.

2 Leveling the playing field, reducing market distortions, and implementing an economy-wide competition policy are essential to enhance competition

According to perception-based indicators, domestic competition in Congo lags behind peers. The Bertelsmann Transformation Index ranks Congo below peer countries on its economic transformation towards a market economy, especially on institutional rules for market participation, competition policy, foreign trade liberalization, and protection for private enterprise. According to the Economist Intelligence Unit, businesses perceive risks related to cronyism, discrimination against foreign companies, and unfair competitive practices to a greater extent than in comparator countries. Lack of competition is evident in the electricity and telecommunications sectors, mostly related to the dominance of SOEs.

** Throughout this report, Congo's regional peers are Angola, Cameroon, Ghana, and Nigeria; its structural peers are Azerbaijan, Iraq, Mauritania, and Timor-Leste; and its aspirational peers are Indonesia, Malaysia, and Vietnam. Depending on data availability, sub-sets or alternate comparators are sometimes used.

Congolese SOEs do not consistently compete on an even playing field with private-sector firms. The absence of a clear separation between commercial and non-commercial activities of SOEs allows them to cross-subsidize commercial activities in markets where they face private competition. Also, Congolese SOEs are not systematically and transparently audited. Legal treatment of SOEs differs in practice even though Congolese commercial law formally treats SOEs identically to private sector firms. For instance, there is evidence of SOEs failing to pay taxes without repercussions. Finally, SOEs often receive advantages in the form of sovereign debt guarantees and budget subsidies, which are not always available to the private sector and are granted irrespective of the SOE's efficiency. In some cases, transfers and subsidies have been substantial (e.g., to energy-related SOEs during the last few years).

Congo does not presently have a comprehensive National Competition Law or a National Competition Authority, although it has taken tentative steps in that direction. In 1994, Congo enacted a law on competition, which prohibits anticompetitive agreements but addresses neither merger control nor abuse of market dominance. This law does not appear to have been systematically applied to regulate competition and does not allow for sufficient penalties to discourage the most serious anticompetitive practices. The most promising steps in competition regulation have occurred at the regional level through CEMAC, with a comprehensive regional law with significant penalties and its own enforcement agency. However, draft laws in this area are being prepared.

Past efforts to liberalize the electricity sector and allow the entry of private-sector participants have not yet fully yielded the expected results. The few reforms taken to open up the electricity market to private sector participation have not been fully satisfactory, and there is currently no purely private sector actor competing independently in the market.*** The regulatory environment of the electricity sector does not encourage private sector participation. For instance, under the Electricity Code, private sector firms cannot enter the electricity market without obtaining delegation contracts (equivalent to concessions) with the government. Also, the market power of the electricity utility (*Énergie Electrique du Congo, E²C*), a state-owned monopoly in electricity transmission, likely discourages any competition in the production and distribution of electricity in the absence of vertical separation between these two sub-sectors. Retail tariffs are set at levels that appear to be far below the cost of production, further dissuading any potential entrant. Finally, the extent and nature of government subsidies to the electricity market are not transparent, deterring the entry of potentially more efficient private-sector participants.

Despite recent progress, the market in mobile telecommunications remains highly concentrated, leading to high prices. The liberalization of the telecommunications sector was successful in attracting private-sector entrants, but over the last decade, key telecommunications markets have been reduced to duopolies. The liberalization of the mobile telecommunications market allowed for the rapid growth of mobile telephony. Growth in mobile internet, however, seems to have faltered, and prices in that market remain relatively high compared to peer markets. Anticompetitive outcomes persist because: the regulatory structure, while appropriate, has not been fully applied; the sector lacks mobile number portability that could put downward pressure on prices; and the regulator's price setting authority is overly broad.

3 Congo needs to accelerate digital transformation to enhance productivity growth

While the Government of Congo has been committed to advancing digital transformation, the information and communications technologies (ICT) sector is not yet at its full potential. Driven by the five-year Digital Economy Strategy, "Vision Congo Digital 2025," many reforms and projects have been launched to reinforce digital infrastructure, strengthen the legal environment, and improve coverage. As a result, the ICT sector is relatively well developed and contributes positively to Congo's economic growth. The arrival of mobile

*** One of the key players in production is the Congo Power Plant (*Centrale Électrique du Congo, CEC*) which is an independent company jointly owned by the State (80 percent) and ENI Congo (20 percent).

money has also revolutionized the sector and greatly increased financial inclusion. Despite the recent progress registered in the deployment of digital infrastructure, limited complementary policy actions have been taken so far to accelerate the adoption of digital technologies and increase digital skills in the country.

Inadequate ICT infrastructure and high internet service prices are slowing down the adoption of digital technology and the development of digital skills. While the geographical reach of mobile broadband networks has significantly increased in recent years, uptake of mobile high-speed internet services remains hampered by high prices. Availability of ICT infrastructure and equipment is also a recurring problem in Congo's education system, with most primary and secondary schools constrained by the lack of ICT equipment and the high cost of internet services. This has resulted in a large digital literacy gap, slowing down digital adoption, with only 11 percent of the population of Congo using computers. Digital skills courses are not included in the formal education system, with the supply of advanced and specialized digital skills training covered by the private sector, concentrated in Brazzaville and Pointe-Noire.

Low digital skills and the slow adoption of digital technologies constrain the productivity of Congo's firms. Congo's labor market suffers from a mismatch between the digital skills acquired through formal education and those sought by employers and firms, which often results in unfilled vacancies in the ICT sector. From a small sample of firms surveyed for this report, most have adopted key technologies (mobile phones, computers, smartphones, and the internet), but small firms lag in technology adoption. The adoption of ICT in business is still low, except for standard software for back-office tasks. Marketing is still conducted primarily face-to-face, while sales are predominantly conducted at the establishment's premises or by phone. Lack of financing is identified by firms as the main obstacle to adopting and using new digital technologies. However, given the small sample, these findings cannot be generalized. Congo's digital entrepreneurship ecosystem remains nascent, and while investment in tech-based startups is on the rise, there is limited support for these firms beyond an incubation stage.

4 Congo needs to invest more to improve access to reliable electricity services to enhance productivity

The lack of reliable electricity services undermines firms' productivity. As in other African countries, firms in Congo face challenges related to electricity service, with only half the population having access to electricity. Electricity connections in Congo take longer than in peers and are costly both in urban and rural areas. The quality of service is also unreliable, with power outages occurring near daily, forcing firms to resort to self-generation. Self-generation is estimated to cost almost three times more than current tariff rates, eroding firms' profits.

Despite past attempts at reform, the power sector remains constrained by limited coordination and oversight, discouraging private investment. Planning within the sector has been uncoordinated. For instance, a Generation and Transmission Master Plan was prepared in 2016 but was never fully implemented. Recent reforms aiming at the unbundling of the sector and participation of the private sector have not been successful. These reforms have included the creation of a sector regulator. However, the regulator is still subordinated to the Ministry of Energy, likely impacting its ability to act in an impartial and objective manner.

The sector is financially unviable, preventing re-investment that could improve the quality of service for firms. The national electricity company is heavily indebted, burdened by a high-cost structure due to high salaries as well as high technical losses and low collection of bills. As a result of the limited financial flows within the sector, there is little re-investment into its infrastructure to increase the number of connections or towards operations and maintenance, which in turn results in poor quality of service.

5 Congo needs to take advantage of the opportunities offered by the African Continental Free Trade Area (AfCFTA) to enhance trade competitiveness and gradually transition to participation in more sophisticated global value chains (GVCs)

Congo's trade openness is high, but its exports are highly concentrated. Congo's exports are highly concentrated in minerals, but, in addition, the number of products the country exports is lower than most comparators. Congo's survival rate in export markets is below those of most of its peers, which limits export growth and diversification. Congolese exports of services have been volatile and dominated by commercial and business services. Congo participates in GVCs mostly as an exporter of commodities.

High tariffs and non-tariff measures are hindering trade development. Congo applies the CEMAC common external tariff on imports from outside the CEMAC region, which on average is high. Further, Congo's applied most-favored-nation tariff is on average lower than in CEMAC and African peers but higher than non-African peer countries. Implementation of a free trade area within CEMAC has been challenging. For instance, determining the origin for duty-free treatment under the application of rules of origin has been problematic. Beyond tariffs, a range of non-tariff measures and procedural obstacles to trade are reported for Congo and add to trade costs. Transparency of import and export regulations and procedures is lacking in Congo; detailed official information on non-tariff measures is not readily available.

The implementation of the AfCFTA presents a significant opportunity for Congo to increase and diversify its exports. The AfCFTA will provide opportunities to help African countries such as Congo to increase and diversify exports, accelerate growth, and attract foreign direct investment. It will give Congo more opportunities to trade with neighboring or regional countries. It has the potential to lift 30 million people out of extreme poverty in the region, but achieving its full potential will depend on putting in place significant policy reforms and trade facilitation measures.

6 Tackling logistics bottlenecks is an urgent priority for trade facilitation

Logistics in Congo are facing widespread challenges, including lack of sufficient infrastructure and complexity. Although Congo's logistics performance has recently improved, it is weaker than in most comparator countries, with the worst performance in logistics infrastructure. Despite automation, logistics processes and trade procedures remain complex. Several institutions are involved in trade procedures, and most have implemented information technology (IT) systems to manage their documentation processes. Despite automation, users still report significant difficulties in obtaining different licenses and clearances.

Trade costs are high across the board: freight rates, port costs, land transport, and documentation. Freight rates to and from Congo have been impacted by the global rise in shipping prices and congestion at the container terminal. Port-related costs and land transport costs are high. Compared to West Africa, container handling costs at the port and long-distance road transport costs in Congo are more expensive. In addition, the documentation costs in Congo are far higher than elsewhere in Africa.

7 Development of Congo's tourism sector demands broad improvements to deliver on ecotourism's promise

There is enormous potential for ecotourism in Congo, but several bottlenecks in the sector have resulted in a decline in tourist arrivals in recent years. The government's PND identifies over 20 tourism sites or zones for tourism development, of which four have the strongest potential for ecotourism. Tourism demand, however, remains low, and it has been declining since peaking in 2013, with most tourists consisting of business travelers and friends and family visits. Many bottlenecks are stopping the development of the sector from the demand side, including weak brand identity and a general lack of awareness of Congo as a tourism destination.

Tourism supply is characterized by difficult and expensive access and a dearth of skilled staff. Congo's primary ecotourism destinations include the nation's Protected Areas, the Congo River and other waterways, the wild coast and beaches, and nature sites not designated as protected areas such as waterfalls and other natural landscapes. Access to tourism destinations in Congo both by air and land is difficult and expensive. Moreover, customs and police staff lack an understanding of the benefits of tourism and often harass tourists. Finally, the sector lacks adequate educational programs and training to supply qualified human resources to staff hotels, protected areas, tour operators, restaurants, and other tourism services.

Tourism governance, essential to protect Congo's natural heritage and enable the growth of ecotourism, has been unstable, understaffed, and outdated. The national tourism authority has been plagued by instability, having undergone 24 restructurings since its creation in 1963. Congo's tourism authority also suffers from insufficient financial and human resources to manage and coordinate the sector. The legislation and regulations governing the tourism sector are outdated and do not reflect current national priorities.



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Policy options

Building the foundations for more diversified development will require the implementation of numerous policy options in the short and medium term, most focused on building Congo’s intangible capital—its economic institutions. Congo has committed itself to a more diversified and inclusive growth model under its new PND, and the key findings of this report identify the many challenges facing the government in achieving this goal. A set of policy options to address these challenges over the short to medium term are discussed in detail in each chapter and summarized in the table below (Table ES1). The analysis and the policy recommendations are structured around the major challenge to Congo’s long-term prosperity—diversifying its national asset portfolio. Some areas of policy are almost entirely focused on strengthening Congo’s institutions: removing barriers to competition, accelerating digital transformation, enhancing trade competitiveness and diversification, and improving logistics. Some also aim to expand key aspects of Congo’s physical capital: improving electricity supply, transport and ICT infrastructure for trade competitiveness, and ecotourism development. A few areas of human capital (skills and labor market flexibility) are also the target of some policy recommendations, in the areas of digital transformation, trade competitiveness, and ecotourism. Natural capital, Congo’s most important source of wealth to date, warrants attention to foster a shift away from oil towards other largely unexploited natural assets, in particular, safeguarding natural heritage assets for ecotourism. Together, these policy options, which are equally distributed between short and medium term priorities, can help ensure a better balance between natural capital (natural resources), produced capital (human and physical), and economic institutions (or intangible assets).

The analysis and the policy recommendations are structured around the major challenge to Congo’s long-term prosperity – diversifying its national asset portfolio.

TABLE ES1

Summary of policy options

1	Removing barriers to competition by curbing SOE market power, by encouraging private sector participation in electricity and telecommunications, and by modernizing competition laws	PRIORITY
	<ul style="list-style-type: none"> • Modernize the competition legislative and institutional framework by amending Competition Law 6-94 to strengthen control of mergers and market power and by supporting a national competition authority. 	SHORT-TERM
	<ul style="list-style-type: none"> • Restrict creation of new SOEs, review the scope of existing SOEs, implement competitive neutrality principles to eliminate preferential treatment and promote transparency by requiring audits. 	MEDIUM-TERM
	<ul style="list-style-type: none"> • Promote pro-competitive regulation in the electricity sector to support regular tariff review and transparency of subsidies and in the telecommunications sector to support transparent third-party access and the ability to set minimum consumer tariffs. 	MEDIUM-TERM

2

Accelerating digital transformation by spurring private sector participation, providing regulatory and legal support, and building skills



• Enhance the availability of affordable broadband access by fostering competition in the fiber optic wholesale market and the international submarine cable market, encouraging infrastructure sharing, and adopting implementing decrees to the new public-private partnership law.

PRIORITY

SHORT TO MEDIUM-TERM

• Increase use of digital financial services through new regulations for payment infrastructure and user protection and by digitalizing government payments.

SHORT TO MEDIUM-TERM

• Improve digital skills supply through integration into the formal education system, collaboration with and support from the private sector, skills gap analysis to design training programs, and sustainable financing through partnerships.

SHORT TO MEDIUM-TERM

• Improve the enabling environment for digital technology adoption and for high growth technology-enabled businesses through implementation of the startup act, tax relief and credit guarantees, harmonization to regional regulation, digitalization of key public services, and targeted training programs.

SHORT TO MEDIUM-TERM

3

Improving the supply of reliable electricity by restoring profitability, invigorating regulation, and investing in transmission and distribution



• Strengthen the legal and regulatory framework by reinforcing the capacity and independence of the regulatory body, ARSEL, and clarifying the framework for independent generation through IPPs and mini-grids.

PRIORITY

SHORT-TERM

• Improve the financial viability of the sector to allow for reinvestment and improved quality of service by allowing power distribution company to charge cost recovery tariffs, install meters, and cut off customers for non-payment while protecting the most vulnerable customers.

SHORT TO MEDIUM-TERM

• Improve reliability through investment in transmission and distribution infrastructure financed by development partners and the private sector and through rural initiatives such as mini-grids and solar home systems.

MEDIUM-TERM

4

Enhancing trade competitiveness and diversification by cutting tariffs, reviewing non-tariff measures, concluding AfCFTA negotiations, and strengthening local markets



• Further reduce tariffs and enhance regulatory transparency including simplifying rules of origin.

PRIORITY

SHORT-TERM

• Collect and publish detailed data on non-tariff measures and improve accuracy of customs data including through joint border control posts.

SHORT-TERM

• Conclude remaining negotiations in the AfCFTA on issues such as rules of origin and ensure a swift implementation of the agreement, supporting greater GVC participation.

SHORT TO MEDIUM-TERM

• Mitigate negative impacts of trade by improving the business environment, investing in transport and ICT hard and soft infrastructure, and speeding up labor market adjustment through training, relocation support, and social protection.

MEDIUM-TERM

5

Improving the efficiency of the logistics system by scrutinizing public-private partnership contracts and adopting unified IT for maritime trade



- Reviewing public-private partnership contracts for trade procedures to determine if contract conditions can be revised to reduce costs.

PRIORITY

SHORT-TERM

- Move to a unified IT system in support of establishment of a Maritime Single Window as required under the FAL Convention (Convention on Facilitation of International Maritime Traffic).

MEDIUM-TERM

6

Supporting ecotourism development by regulating and funding to protect natural assets, by strengthening government agencies, and by expanding transport infrastructure and marketing



- Safeguard natural heritage assets: implement programs to reduce illegal hunting, fund and support wildlife protection authorities, limit industrial commercial forestry, and engage with local communities to reduce human-wildlife conflict.

PRIORITY

SHORT-TERM

- Improve tourism governance from the Ministry of Tourism and Leisure (*Ministere du Tourisme et des Loisirs*) through improved leadership, sufficient resources, better coordination with the private sector and donors, and deeper knowledge of the sector.

SHORT TO MEDIUM-TERM

- Strengthen infrastructure and marketing via better international air linkages, improved road access, and collaboration with the private sector for better skills and building a brand identity.

SHORT TO MEDIUM-TERM



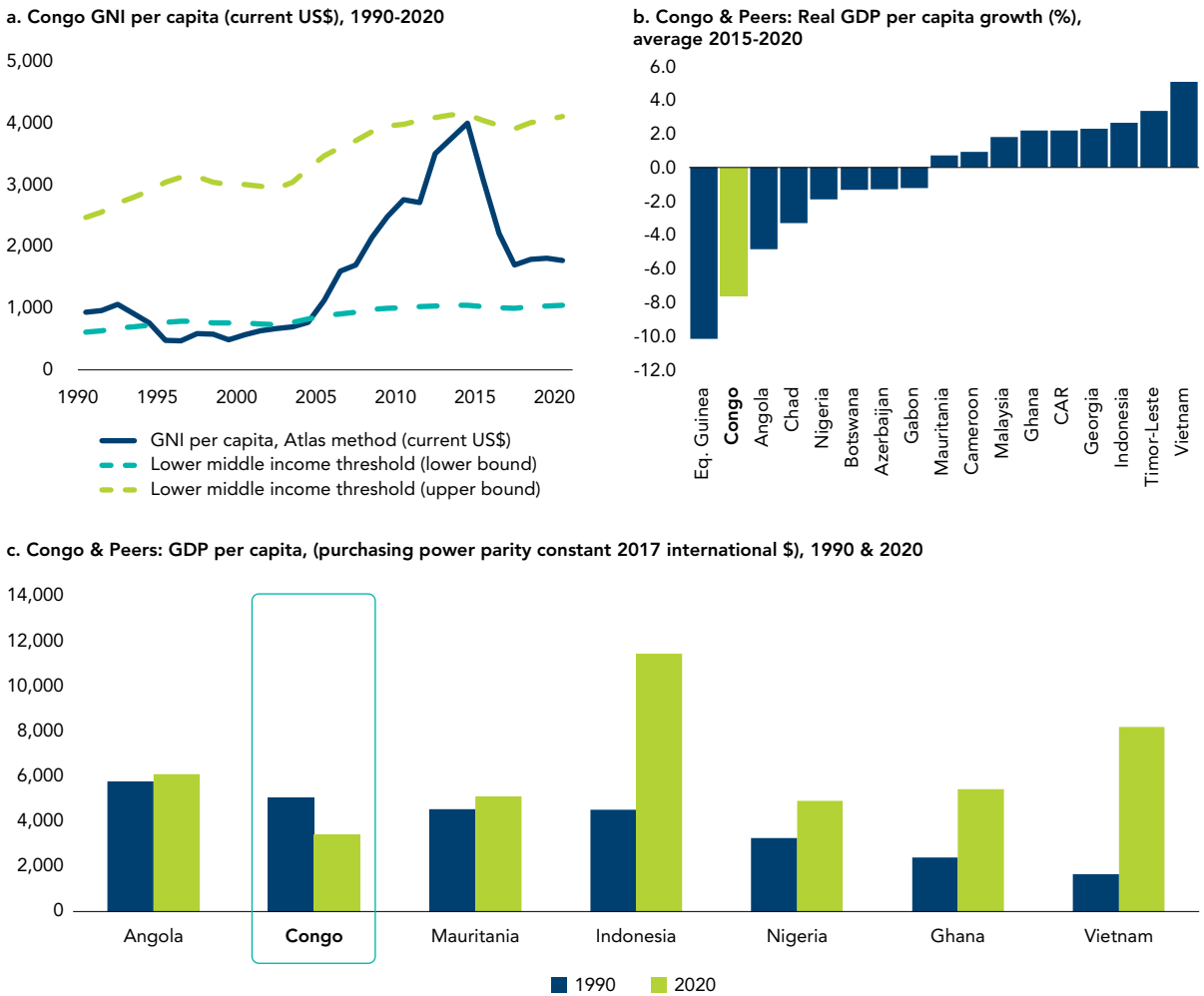
CHAPTER 1

Balancing Assets to Boost Long-Term Growth

1.1 The Republic of Congo is at a critical juncture in its development history

The Republic of Congo’s seven-year recession led to a dramatic drop in income per capita and has put the country at risk of falling back into low-income status. Following a period of high political instability (including two civil wars in the 1990s), Congo managed to secure significant income per capita gains during the early 2000s. However, economic activity in Congo (historically dependent on the oil sector) has been shrinking since 2015 when the last commodity supercycle (2002-2014) ended. While the significantly growth in per capita GNI during the oil boom helped Congo reach lower-middle income status in 2005 and near upper middle income status in 2014 (Figure 1-a), the end of the oil boom drove a collapse in GNI per capita by more than half between 2014 and 2020. Over that period, Congo experienced the second worst decline in real GDP per capita among peer countries, after Equatorial Guinea (Figure 1-b).¹ Congo’s real GDP per capita is now equal to the levels of the early 1970s. Several countries, including commodity exporters such as Angola and Indonesia that in the early 1990s had similar or lower GDP per capita (at purchasing power parity) than Congo, now have substantially higher GDP per capita (Figure 1-c).

FIGURE 1
Gains in income per capita during the last oil boom have been lost



Source: WDI. June 2022.

¹ Throughout this report, Congo’s regional peers are Angola, Cameroon, Ghana, and Nigeria; its structural peers are Azerbaijan, Iraq, Mauritania, and Timor-Leste; and its aspirational peers are Indonesia, Malaysia, and Vietnam. Depending on data availability, sub-sets or alternate comparators are sometimes used.

The COVID-19 crisis was another setback for Congo’s recovery from the ending of the last oil boom, prolonging the economic recession that started in 2015. Because of the COVID-19 pandemic, the Congolese economy shrunk by 6.2 percent in 2020 (see Box 1). While most countries worldwide partially recovered from the pandemic in 2021, Congo’s economy is estimated to have further contracted by 2.2 percent despite the recovery in oil prices.² This ongoing recession has translated into a reversal of long-term progress in poverty reduction, with poverty rates (using the international poverty line of \$1.90 a day) estimated at 53.3 percent in 2021 compared to 39.6 percent in 2011 (and approaching the 2005 poverty rate of 55.1 percent). Despite the adoption of a “resilience plan” in June 2022 to mitigate the impact of the war on Ukraine on Congo, poverty could be further exacerbated as a result of the effects of rising food prices on the most vulnerable (see Box 2).

The protracted economic recession has translated into a reversal of long-term progress in poverty reduction.

BOX 1

The economic impact of COVID-19 in Congo has been substantial: Collapse in oil revenue, shortages of imports and depressed domestic demand, and fiscal imbalances

The COVID-19 pandemic has impacted the Congolese economy through various channels.³

First, growth was undermined by lower global demand for oil (in the initial phase of the pandemic), lower oil production following the decision by OPEC members (which include Congo) to cut production, and the disruption of Congolese oil production from COVID-19 containment measures. Second, economic activity was harmed by global trade disruptions, which reduced availability of products and pushed up food and transport prices in domestic markets. Third, the economy was affected by local pandemic restrictions that led to a drop in domestic demand and labor supply.

The COVID-19 pandemic undercut the economy’s performance in 2020, resulting in a contraction of 6.2 percent of GDP, the sharpest among Central African Economic and Monetary Community (CEMAC) countries.

Despite the gradual lifting of containment measures, economic growth continued to shrink in 2021 driven by the underperformance of the oil sector. The pandemic-related global crisis also had a strong negative impact on Congo’s fiscal balance in 2020. With the plunge in oil prices and oil production and broadly unchanged public expenditure, the overall fiscal balance recorded a deficit of 2.4 percent of GDP in 2020 (against a surplus of 3.4 percent in 2019). The impact on businesses was also significant due to the sharp drop in domestic demand, with most firms experiencing a decrease in sales revenue in 2020. Firms responded to the pandemic shock by laying off workers, reducing working hours and cutting wages. The pandemic also delayed private sector investment spending, with 40 percent of firms reporting canceling investment in equipment in 2020.

² Despite higher oil prices and increased global demand, oil production declined in 2021 due to postponed investments by oil companies, maturing oil fields, and technical challenges.

³ As of May 2022, there were about 24 thousand confirmed cases, 385 deaths, and just under 12.4 percent of the population vaccinated.

BOX 2



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The impact of the war on Ukraine in Congo: More expensive food, high oil prices, and potential debt pressures

The direct impact of a prolonged war on Ukraine is likely to be contained in Congo, but the indirect impact through higher commodity prices would add to already existing high inflationary pressures. Russia and Ukraine account for less than three percent of Congo's total imports, but significant shortages and supply chain disruptions of wheat are a possibility since close to 70 percent of Congo's wheat consumption is imported from Russia. Overall, the crisis is projected to continue rising further international agricultural prices, which could result in higher domestic inflation, lower household real incomes, and an increase in the poverty rate (since food accounts for about 30 percent of Congo's merchandise imports, and the country imports close to 70 percent of its domestic food consumption).

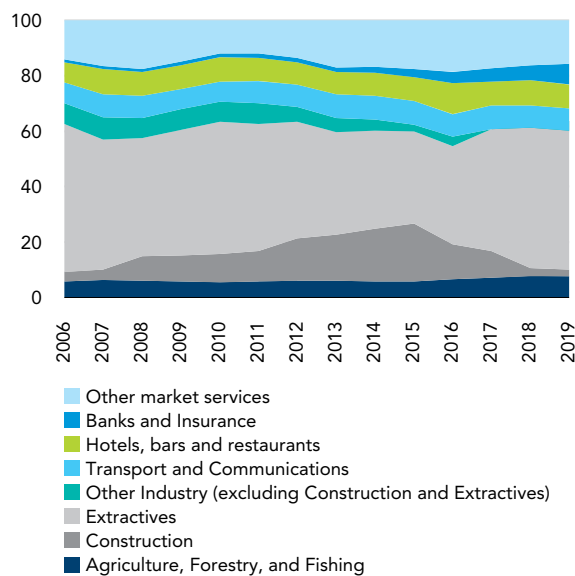
On the other hand, oil prices are also expected to remain high, providing a windfall of fiscal and export revenues and potentially strengthening the economic recovery. Strong energy prices will also support a faster than anticipated decrease of the debt stock as debt repayments are tied to oil prices owing to agreements with oil traders. However, higher oil prices would also lead to some additional fiscal costs due to higher fuel subsidies.

Finally, risks related to stronger tightening of BEAC's monetary policy to respond to rising inflationary pressures, as well as higher risk premia in financial markets (owing to continuous tightening of monetary policy in high income countries) could undermine economic recovery and possibly increase debt vulnerabilities.

Congo has made little progress in reducing the dominant role of the hydrocarbon sector in the economy and diversifying its productive base to industries with a higher labor content. For the last 15 years, the share of the hydrocarbon sector in the economy has remained roughly unchanged (Figure 2-a), fluctuating around an average of 42 percent of GDP. During the same period, agriculture, forestry, and fishing represented about six percent of GDP, despite the sector's large potential for development (see section 1.2.1). The manufacturing sector, which is mostly small-scale, has broadly stayed unchanged, at an average of 6.5 percent of GDP over the same period, while services remained the economy's second largest sector of economic activity with 33 percent of GDP. The industry sector, dominated by the hydrocarbon sector, employs only a very small percentage of the labor force (Figure 2-b).

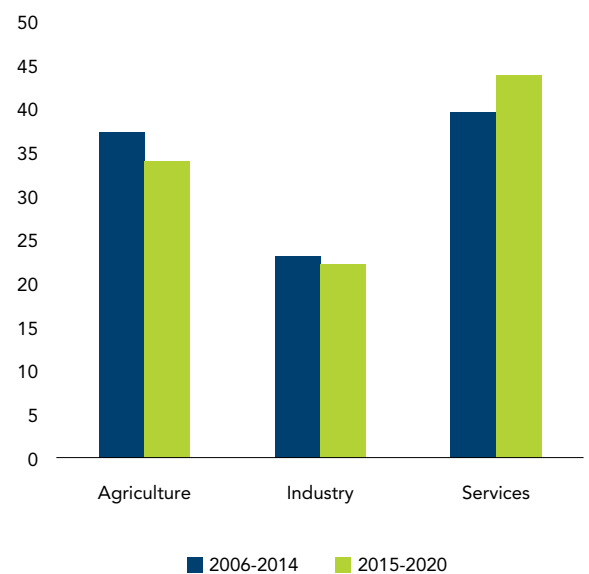
FIGURE 2
The hydrocarbon sector plays a dominant role in the economy but offers fewer employment opportunities

a. Sectoral shares in total GDP (in % of GDP)



Source: Congolese authorities. June 2022.

b. Employment shares (average, % of total employment)



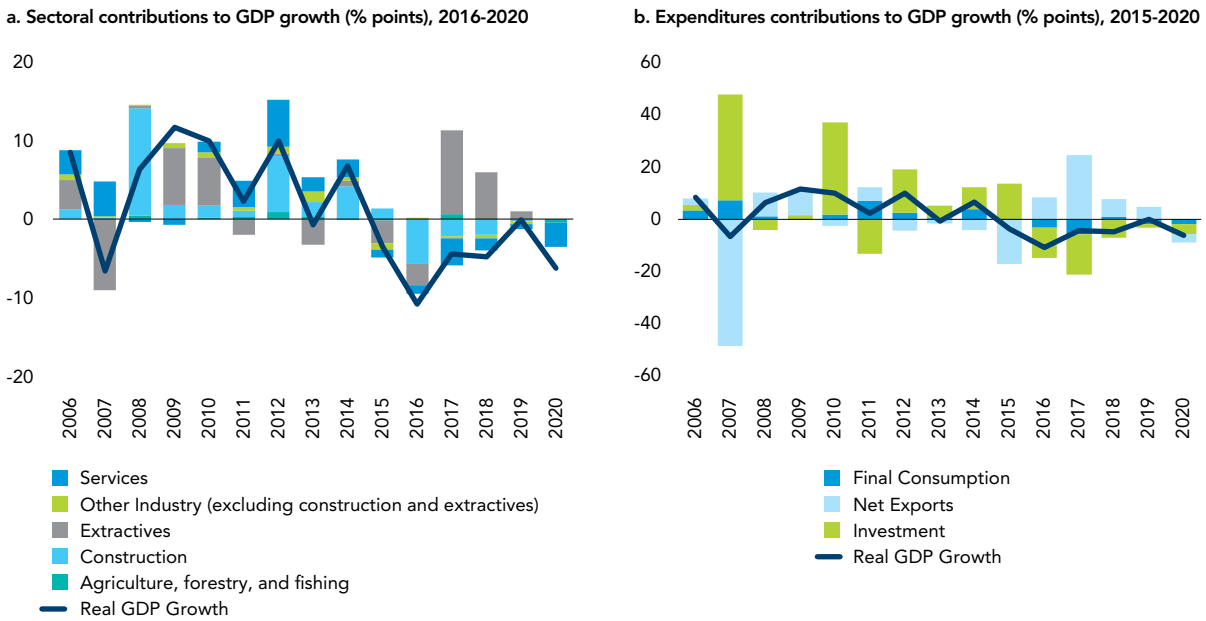
Source: WDI. June 2022.

Unsurprisingly, the hydrocarbon sector, through its direct and indirect impact on the economy, has been the main driver of economic growth in Congo.⁴ The extractive sector, specifically oil production, has been a key contributor to Congo's growth for at least the last 15 years (Figure 3-a). The service and construction sectors also significantly contributed to growth; however, their performance is closely tied to the activity of the hydrocarbon sector, directly and indirectly, financed by oil revenues. This tendency is evident during the post-oil price boom period, when both sectors plummeted. More generally, the non-oil sector has been unable to grow since the end of the last oil boom, exposing the high dependence of Congo's economy on the oil sector. The same tendency holds for the expenditure side, where growth has been driven by private investment mostly directed to the oil sector and related services (e.g., professional services) and by public investment directed to the construction sector, financed mostly by oil rents (Figure 3-b). Because of oil price volatility, dependency on the oil sector has translated into high GDP growth volatility which, in turn, undermines long term economic growth prospects and poverty reduction.⁵

⁴ In the 1990s, large political shocks (including civil wars) were another driver of Congo economic performance. However, in recent years, these types of shocks were limited (with perhaps the exception of the 2015 pool rebellion's conflict).

⁵ The literature finds that high output volatility has negative effects on long-term growth as it can depress investment (and bias it towards short-term returns), and it is also associated with lower investment in human capital (Hnatkowska, 2004; Calderón, 2009).

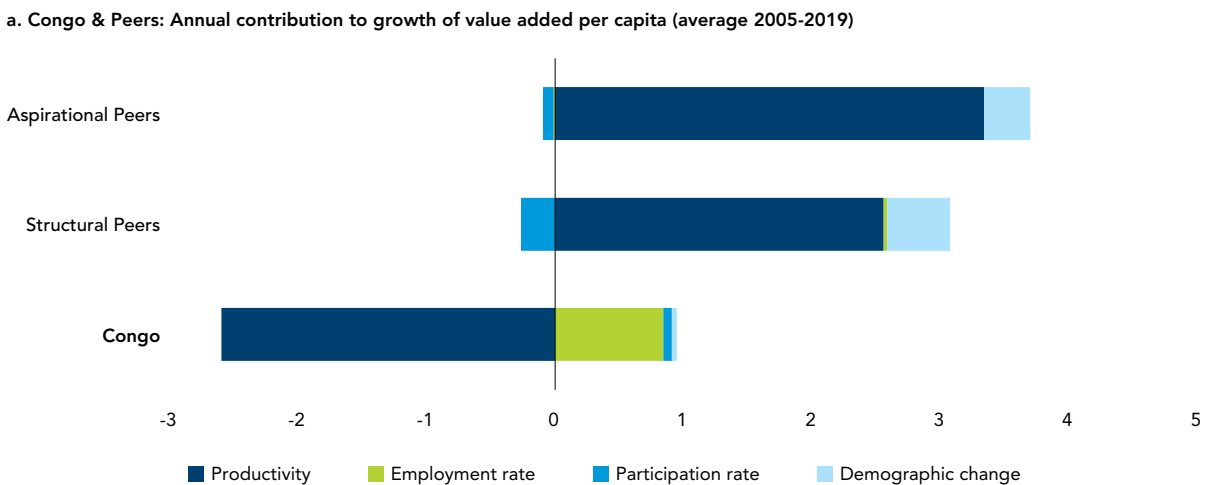
FIGURE 3
The oil sector remains the major driver of economic growth in Congo



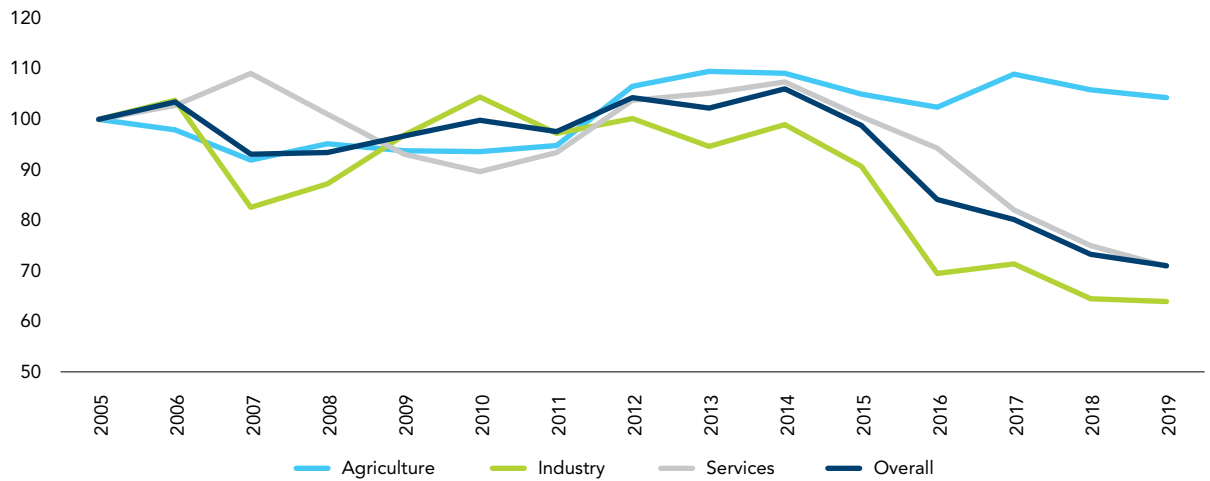
Source: Congolese authorities. June 2022.

Labor productivity has been falling, yet boosting the growth of income per capita requires rising labor productivity. Despite some structural changes reflecting the movement of workers from low productivity sectors (agriculture) to higher productivity sectors (industry and services), the country’s labor productivity has decreased over the last 15 years, driving Congo’s loss in per capita income growth (Figure 4-a). The steepest decline in overall labor productivity happened after the end of the previous oil boom due to a fall in labor productivity in the services and industry sectors (Figure 4-b). Low productivity limits diversification since industries with unproductive firms are less competitive and fail to develop (see Chapter 2).

FIGURE 4
Falling output per employee drives Congo’s loss in income per capita, especially in industry and services



b. Congo: Change in labor productivity relative to 2005 (%)



Source: WDI and World Bank staff calculations. June 2022.

Congo's current development model is unlikely to deliver sustainable economic growth and productive jobs going forward. The government's motivation to take on the bold structural reforms needed to push Congo towards upper middle-income status has typically waned during times of oil windfalls. Importantly, going forward, Congo's current economic model—dependent on the oil sector—is unlikely to deliver even the volatile economic growth of the past, challenged by the current uncertain global context, projected depletion of Congo's oil reserves, and the global transition to a low carbon economy (see Section 1.2.1). In addition to the unsustainability of overall growth, an oil-based economy provides few opportunities for job creation due to the low labor content of the hydrocarbon industry. Indeed, the great majority of the Congolese population cannot find a job in the formal economy, with about three quarters of the Congolese workforce (including most youth) employed in the informal sector, either self-employed or in low productivity jobs.⁶

The Congolese government's new National Development Plan (*Plan National de Développement, PND*) for 2022-26 lays out steps for a more diversified and inclusive growth model. To reverse flagging GDP growth, Congo adopted early this year a new PND for 2022-26. The PND aims to build a strong, resilient, and diversified economy for sustainable and inclusive development and is articulated around six strategic areas: the development of agriculture and agroforestry, industry, tourism, digital economy, real estate, and special economic zones. It also identifies peace and political stability, governance, the business environment, and environmental protection as four cross-cutting areas that will support successful implementation. In addition, the recent endorsement of the CEMAC Heads of State reform agenda focused on diversification offers a new opportunity to push forward policies to transition to a more sustainable economic development model. Indeed, at their most recent exceptional summit (August 2021), the CEMAC Heads of State endorsed an agenda of structural reforms to address the root cause of the region's vulnerability: the over-reliance on the hydrocarbon sector.⁷

The success of the new PND will, however, depend on strong macro-fiscal management and commitment to implement bold structural reforms. The PND offers a good opportunity to transform Congo's economy and boost inclusive and sustainable development. Its successful implementation is conditional, however, on the ability of the government to mobilize financing (in a context of already high debt levels and strong uncertainty about the country's oil production and economic recovery), improve public finance management and efficiency of public investment,⁸ and implement effectively structural reforms to improve the business environment and

⁶ World Bank (2018).

⁷ Specific reforms were endorsed in the area of governance (including public financial management, public investment management, tax and customs administration, and SOE management), business climate, financial sector development (including digital sector), and human capital and skills accumulation to support private sector development.

⁸ Indeed, the large investment program of the early 2010s was not translated into economic growth, partly reflecting weaknesses in planning, selection, and execution of projects.

attract private investment (Section 1.2.3). Estimates suggest that the implementation of the new PND would require a massive investment program of CFAF 8.9 trillion (about US\$ 15.5 billion) where 45 percent of the financing is hoped to come from the public sector and the remaining 55 percent from the private sector.

The next sections of this chapter follow the analytic framework of the “Diversified Development” report (World Bank, 2014) to assess why Congo’s vast endowment of natural resources has not delivered higher growth and to inform the implementation of the government’s PND. Diversification can be measured in many ways, including through exports, products, and assets. The “Diversified Development” framework argues that the diversification of an economy should be measured through three types of assets: natural capital, produced capital (physical and human), and institutions. The rest of this chapter follows the “Diversified Development” framework and takes stock of Congo’s current asset endowment base. It finds that Congo remains dependent on non-renewable natural resources, but the country’s ability to manage natural resource rents is limited (Section 1.2.1). Dependency on volatile oil rents limits the government’s capacity to manage public investment in key public infrastructure (and infrastructure maintenance). As a result, Congo’s infrastructure remains insufficient in coverage and quality and limits the country’s ability to crowd in private investment and provide public services (Section 1.2.2). Human capital outcomes, which depend on the state’s effective provision of social services, are low and a key constraint on productivity and the country’s ability to diversify (Section 1.2.2). To achieve more diversified development, Congo needs to strengthen the quality of its policies and institutions, or “intangible capital”, which have been deteriorating (Section 1.2.3). Indeed, the mechanisms to manage volatile resource earnings, provide high quality social services, and administer public spending as well as regulate the domestic market can only emerge from effective and enabling institutions. These, in turn, support macroeconomic stability and resilience to shocks, expanded private investment, and the acceleration of the country’s economic diversification.

1.2 Sustainable development will require dramatic action to diversify assets

Congo remains far from achieving a diversified asset portfolio. A country’s assets can be classified into three categories (Figure 5): first, natural resources, in the form of minerals, arable land, forests and water resources; second, produced capital, which consists of both physical and human capital in the form of supporting infrastructure and a healthy and skilled labor force; and third, intangible assets or institutions, which comprise regulations and mechanisms that a country has to manage resource rents and provide social services. In the case of Congo, natural capital has historically been the country’s largest asset and source of wealth, at about 40 percent of the total capital wealth since 1995 (Figure 6). This pattern suggests that other forms of assets—including produced capital—have not been growing, a pattern quite different from Congo’s aspirational peers such as Botswana and Malaysia (see Box 3 and 4).

Congo’s concentrated asset portfolio suggests that the country has been exploiting its natural capital endowments without building other sources of wealth. Changes in country wealth can be illuminated by adjusted net savings, measured as gross national savings (or gross investment, given the savings-investment identity) minus depreciation of produced capital, depletion of subsoil assets (fossil fuels and minerals) and timber resources, and air pollution damages to human health, plus a credit for expenditures on education.⁹ Positive adjusted net savings indicates that savings/investment plus expenditures on education (a proxy for human capital) are higher than the exploitation of natural resources, meaning that the country is accumulating assets and wealth. In contrast, Congo’s adjusted net savings have been mostly negative over the past decades, indicating that the country has been depleting its natural resources without converting enough of its natural resource revenues into other forms of capital, thereby not adding to its wealth (see Figure 7-a). Congo’s adjusted net savings was negative even during the previous oil boom, a very weak performance compared to peers (see Figure 7-b).

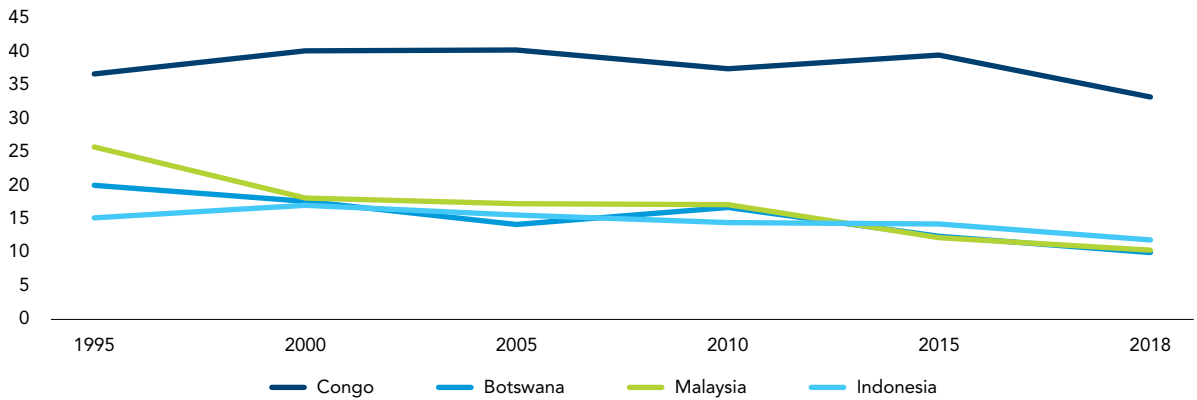
⁹ See World Bank (2021), *Changing of Wealth of Nations*.

FIGURE 5
Framework of Asset Diversification



FIGURE 6
Natural capital remains Congo's greatest asset

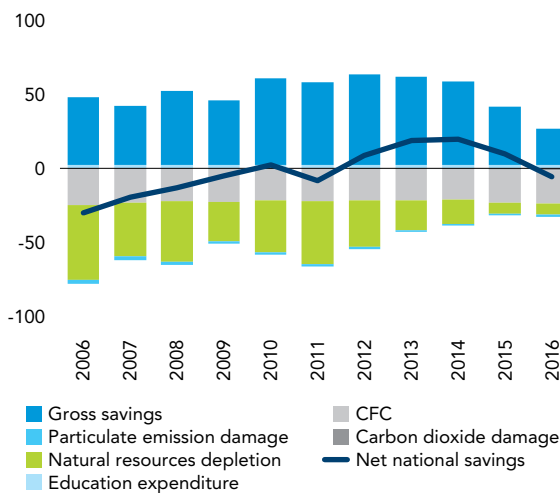
Congo & Peers: Natural Capital Wealth (% of Total Capital Wealth)



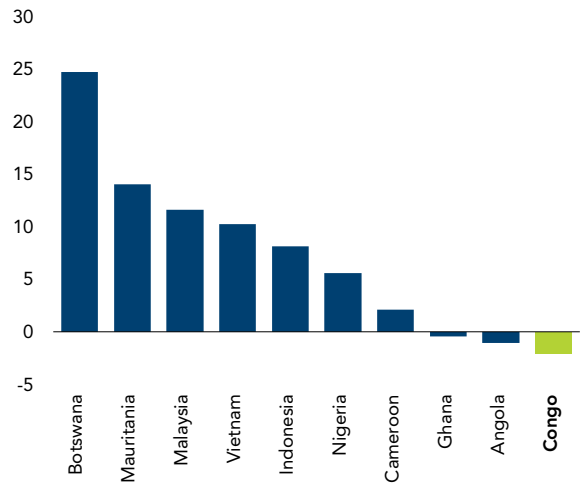
Source: World Bank (2021), Changing of Wealth of Nations. June 2022.

FIGURE 7
Congo has been depleting its natural capital endowments without adding to its wealth

a. Congo: Adjusted net savings subcomponents (% of GNI)



b. Congo & Peers: Adjusted net savings, including particulate emission damage (% of GNI, average 2006-2016)



Note: CFC is consumption of fixed capital.

Source: World Bank (2021), Changing of Wealth of Nations. June 2022.

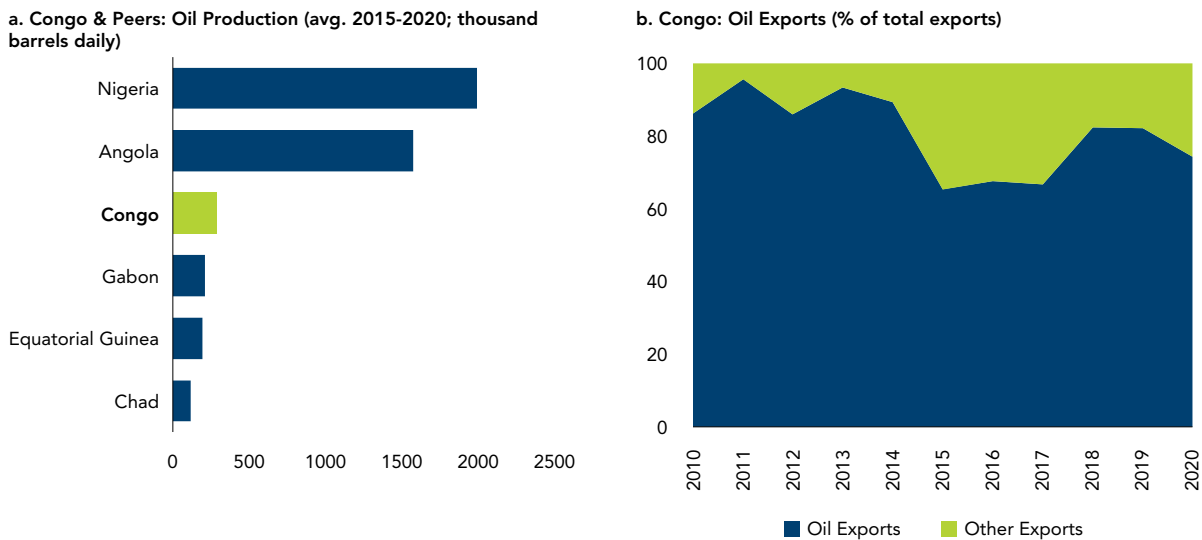
1.2.1 Natural resources have been central for Congo’s growth, but they go beyond oil and must be managed better

Out of its great natural resource wealth, Congo has so far only exploited oil

Congo has a variety of natural resources. The country’s stock of natural wealth was estimated at US\$14,670 per capita in 2018, which is larger than the average in Sub-Saharan Africa (SSA) (US\$5,128 per capita) and the average for lower-middle income countries (US\$6,316 per capita).¹⁰

The exploitation of natural resources in Congo has been focused on oil and carried out by international oil companies. Congo is the third largest oil producer in SSA behind Nigeria and Angola and ahead of Gabon and Equatorial Guinea¹¹ (Figure 8-a). Production is sourced from 18 offshore and onshore blocks, with proven reserves reaching 2.9 billion barrels as of 2020, just behind Angola and Nigeria in SSA. Over the past three years, Congo exported about 109 thousand barrels per day of crude oil on average. Most of its oil exports went to the Asia-Pacific region, with China importing approximately 65 percent of total oil exports in 2020. The National Oil Company of Congo (*Société Nationale des Pétroles du Congo*, SNPC) manages the government-controlled shares of the country’s crude oil fields resulting from production sharing contracts, and its production accounts for about ten percent of the country’s total over the past three years.¹² Thus, the overwhelming part of production is carried on by international oil companies, with Total Energies, a French company, alone accounting for 60 percent of the country’s total oil production.¹³

FIGURE 8
Congo’s oil production and oil exports are significant



Source: Statistical Review of World Energy - BP, June 2022.

¹⁰ The stock of natural wealth is calculated by the World Bank’s Changing Wealth of Nations flagship (along with the calculation of produced capital and human capital) and includes the valuation of renewable and nonrenewable natural capital.

¹¹ BP (2021), World Energy Statistics Report (70th edition).

¹² SNPC is also active—directly or in partnership with other companies—in the exploration and exploitation of oil fields (World Bank, 2022).

¹³ A significant amount of Congo’s natural gas associated with oil production is flared with a flaring intensity of 17.31 cu m. per barrel (or 1,522 million cu m. flaring volume per year), which is higher than that of Angola (at 4.07 cu m.), Nigeria (11.1 cu m.) and Equatorial Guinea (8.03 cu m.), and only below that of Gabon 23.16 cu m (see World Bank’s Global Gas Flaring Tracker. <https://www.worldbank.org/en/programs/gasflaringreduction/global-flaring-data>). Congo could instead liquify and store the gas, providing a complementary energy source to be used industrially or domestically, or export it, as prices and demand for liquefied natural gas are likely to remain high (as natural gas is seen as a key part of the global transition to low carbon energy).

Congo's oil production is expected to decline in the medium term due to local supply issues and face likely falling demand over the long-term from the global transition to a low-carbon economy. After a declining trend since 2011, oil production started to rise in 2016 thanks to the N'Kossa Marine offshore fields. However, in the absence of new discoveries,¹⁴ Congo's production is already set to peak in 2024 and then decline and remain stable from 2040 at 60 percent of peak production as a result of field maturation and a slowdown in upstream development.¹⁵ Besides, while oil will likely remain an important energy source for the next few decades, the transition to a low-carbon economy is expected to reduce global oil demand permanently from around 2040.

Congo also has a significant stock of other hydrocarbon resources and strong mining potential, but these remain underdeveloped.

Congo has the fifth largest proven natural gas reserves in SSA with 284 billion standard cubic meters (cu. m.), but production is relatively modest at 405 million cu. m. as of 2020.¹⁶ Scaling up gas production has been hindered by the lack of supporting transport infrastructure. Further, the sector suffers from an absence of a sufficient domestic market for gas (both current and potential given the small domestic market size), and an appropriate legal, regulatory, and upstream contractual structure (e.g., concession agreements and production sharing agreements). As part of Europe's effort to decrease its dependency on Russian natural gas, Congo signed an agreement in 2022 with an Italian hydrocarbon company which will scale up production capacity to as much as 4.5 billion cu. m. per year. Developing liquefied natural gas facilities and floating platforms has the potential to boost the production and export capacity of the country significantly. There is also a substantial mining potential in Congo, with known reserves of iron (25 billion tons), potash (3.2 billion tons), copper (2.2 million tons), and phosphate (532 million tons), but the sector remains underdeveloped, with polymetallic ore constituting the bulk of mining production and accounting for only 0.8 percent of GDP in 2019.¹⁷

The efficient exploitation of natural renewable capital would require policies to enhance the productivity of the forestry and agriculture sector.

Natural renewable capital, including forests and arable land for agriculture, are also abundant but remain unexploited.¹⁸ Congo's natural forests, which cover about 61 percent of the country's surface or about 22 million hectares, represent Africa's third largest forest area. The sector lacks transparency in revenue collection, and illegal logging and unregulated forest exploration are significant, with informal production at about 20 to 30 percent of total timber production. Importantly, about one-quarter of Congo's primary forest sits atop the Congo peatlands, preservation of which is critical to avoid massive release of stored carbon. While the timber and timber-related industry have doubled since 2000, the objectives of sustainable forest management and preservation of peatlands limit the commercial potential of Congo's forests. In addition to forestry, Congo has a substantial food and cash crop potential, with an endowment of ten million hectares of arable land, equivalent to 31 percent of the country's land area, 90 percent of which is unexploited. Overall, the efficient exploitation of natural renewable capital would require policies to enhance the productivity of the forestry and agriculture sectors. These would likely include improving the business environment (including through stable electricity and transport infrastructure, and easing import and export procedures), enhancing the skills of the labor force, and supporting private sector initiatives.¹⁹

¹⁴ Current high oil prices are increasing oil investment profitability and may attract new investments in the field, which will increase the likelihood of new oil discoveries.

¹⁵ IMF (2021).

¹⁶ By comparison, Nigeria produced 49,947 million cu. m., Angola 11,313, and Equatorial Guinea 6,023 in 2020 (2020 OPEC Annual Statistical Bulletin).

¹⁷ World Bank (2022).

¹⁸ World Bank (2018).

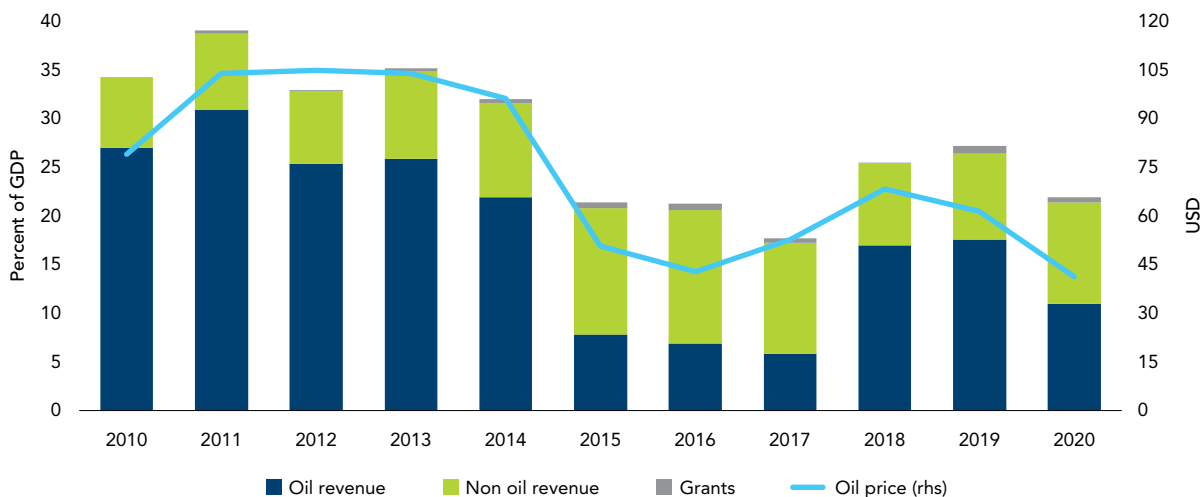
¹⁹ World Bank (2018).

Oil revenue is critical for government finances, but collection falls short

Congo remains heavily dependent on oil revenues, which are highly volatile due to large swings in oil prices and production (Figure 9). In the years before the end of the last oil boom (2009-2014), oil revenues reached 71.9 percent of total government revenues. With the drop in oil prices, this percentage decreased but remained substantial, averaging 60.4 percent of total government revenues during 2018-2020. Volatility in oil revenues is driven not only by international oil price cycles (which have historically presented large swings) but also by large variations in domestic oil production due to the interplay of maturing oil fields, new development, and temporary factors, most recently restrictions on oil field access due to containment measures adopted to limit the spread of the COVID-19 virus.

FIGURE 9
Oil dominates Congo’s government revenues

Congo: Oil and non-oil revenue (% of GDP), 2009-2020



Source: Congolese authorities, IMF and World Bank staff estimates. June 2022.

Despite oil exports’ high contribution to total revenue collection, the capacity of the government to collect oil revenues in Congo is low when compared to peers. Hydrocarbon revenues as a percentage of oil rents are mostly below peers (see Figure 10-b). Also, Congo collects fewer revenues per dollar exported compared to most peers. Indeed, Congo managed to collect only US\$ 0.31 in 2019 compared, for instance, to Cameroon which collected US\$ 0.46 that same year (see Figure 10-a). Discrepancies in oil trade statistics suggest that oil exports have been underreported, implying a revenue loss to the government. Indeed, trade data from COMTRADE suggests irregular reporting of oil receipts, with differences in both value and volume of exports between oil import data reported by Congo’s trading partners and Congo’s own export data.²⁰ These discrepancies suggest under-reporting and under-valuation of Congo’s exports by oil companies to reduce their reported profit and avoid taxes.²¹ It may also partly originate from a lack of coordination and information sharing across government units on export statistics. The past two Extractive Industries Transparency Initiative (EITI) reports (2018 and 2019) identify significant potential revenue losses amounting to about one percent of GDP per year.

²⁰ World Bank (2022).

²¹ See Ferrantino et al. (2012), Chalendar et al. (2016) for examples from other countries.

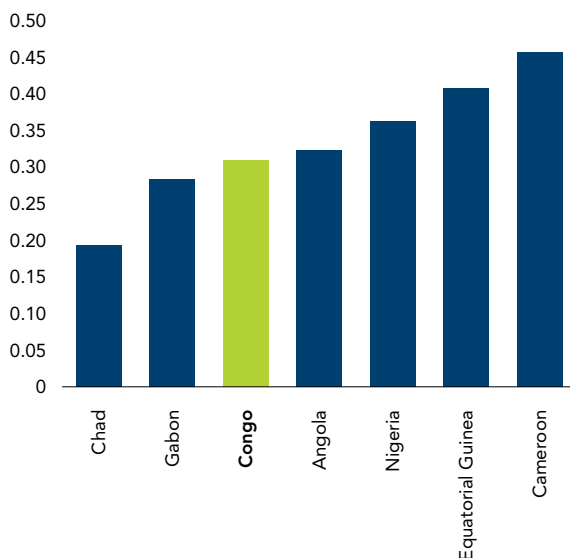
Congo’s relatively weak performance in collecting oil revenue suggests that there is room to negotiate better oil production sharing deals and, most importantly, that the new Hydrocarbon Code has not been fully enforced. For instance, the decrease of the “Cost Stop” (maximum amount of oil produced that can be allocated to cost recovery by the oil company) from 60 percent in the 1994 Hydrocarbon Code to 50 percent in the 2016 Hydrocarbon Code, contrasts with the actual “Cost Stop” that several companies are practicing, which stood at an average close to 70 percent of production during 2018-2021. Also, the threshold on the share of the State’s “Profit Oil” (the part of the profit that goes to the government at no less than 35 percent in the 2016 Hydrocarbon Code) is not applied in most cases.²²

The government’s share of oil rent could also be increased through the implementation of key structural and governance reforms as well as through capacity building. Policies aiming to improve the business environment, reduce corruption, and lower political risks would decrease the risk for investors of exploiting oil in Congo. This would allow the government to negotiate a larger share of the oil rent in future contracts. The country would also benefit from an improvement in transparency and dissemination of oil revenue data, as well as undertaking EITI corrective actions to ensure proper management of oil resources.²³ In addition, the practice of borrowing against future oil production should be prohibited, as it results in substantial revenue losses for the State.²⁴ Finally, improving Congolese contractual negotiation capabilities and market intelligence will allow the authorities to reduce information asymmetry, have better investment and operating costs estimates, and consequently negotiate and secure a fair government share. In particular, the improvement of oil market knowledge—oil prices and costs—should allow the country to avoid selling oil at minimum market prices.²⁵

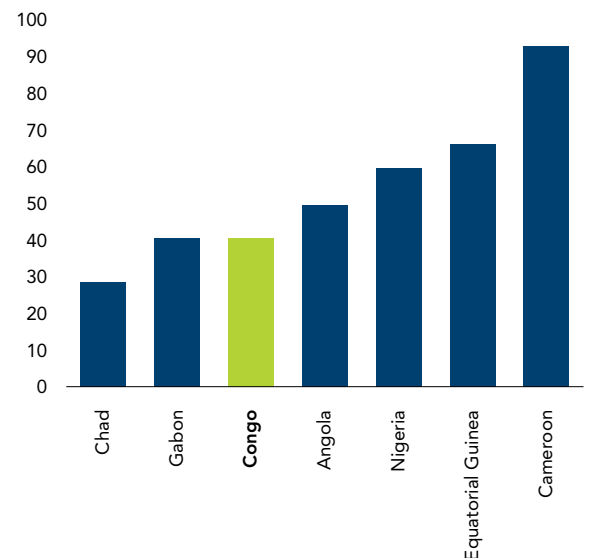
FIGURE 10

Congo’s share of oil rents could be higher and lags that of peers

a. Government revenues per dollar of oil exports (2019)



b. Congo & Peers: Government share of the hydrocarbon rents (2019), Hydrocarbon revenues (% rents)



Source: Congolese authorities, EITI, IMF and World Bank staff estimates. June 2022.

²² See World Bank (2022) for more details.

²³ For instance, accelerate the publication of the implementing texts of the 2016-28 Hydrocarbons Code). See EITI (2019) for an extensive overview of the recommendations and the monitoring of the implementation of the previous recommendations.

²⁴ Instances of these types of contracts include the pre-financing agreement with the oil trade company Gunvor which led to a gain-loss to the government of around \$US 1.45 billion. The company obtained the right to exports oil worth \$US 2.2 billion (without a bidding process) against six pre-financing of \$US 125 million each to the SNPC or a total of \$US 750 million.

²⁵ The national company sells the State’s share of oil months before production and must, therefore, accept a discount to cover the buyer’s risk.

1.2.2 Insufficient, volatile, and inefficient investment in produced capital has left Congo with both low human capital and gaps in infrastructure

Underinvestment in human capital limits the productivity of the workforce, constraining Congo's economic growth

The drawdown of Congo's oil resources has not supported the accumulation of human capital. While Congo's health expenditure grew from just over one percent of GDP in 2010 to two percent on average during 2016-20, its current public health spending lags that of SSA countries and peer countries (Figure 11-a). Unlike health, education expenditure saw a decline since the end of the oil boom, with spending on education declining from a peak of 3.6 percent of GDP in 2014 to 2.5 percent in 2019, reflecting cuts in education-related investment and a hiring freeze for teachers during 2015-2019. Aggregate human capital expenditures also recorded the lowest budget execution rates among spending categories in Congo, with public spending on education, health, and social protection often under-executed (with an average execution rate of 83.3 percent over 2009-2014 and 80.0 percent after the end of the oil boom).

Congo lags behind on human capital, especially compared to aspirational peers such as Malaysia. The 2020 Human Capital Index (HCI), which classifies countries according to learning and health outcomes, gives Congo a score of 0.42 (see Figure 11-b), reflecting minimal progress since 2010 when its score was 0.41. Such a low score implies that Congolese children born today will only achieve about 42 percent of the productivity that they could have achieved as future workers at the age of 18 had they benefitted from complete education and full health. This outcome is low compared to both the SSA average (at 0.6 in 2020) and that of aspirational peers. For example, Malaysia, with an HCI score of 0.6, appears to have been more efficient in converting its natural resource rents into human capital by investing in its social sectors. In particular, the Malaysia state oil company contributes directly to the building of human capital in the country through training and vocational programs as well as direct funding to a national research and development fund (see the Malaysia country case in Box 3).

Furthermore, Congo's low quality of education limits the country's ability to take full advantage of its labor force, including in the development of the digital sector. When adjusted for the quality of learning, the registered 8.9 years of school of Congolese students turns out to be only equivalent to 5.3 years, which constitutes a learning gap of 3.6 years (Figure 11-b). The low percentage of graduates from science, technology, engineering, and mathematics programs in tertiary education is likely one of the causes of the country's low adoption of information and communications technologies (ICT)(see Chapter 4 for more details).²⁶

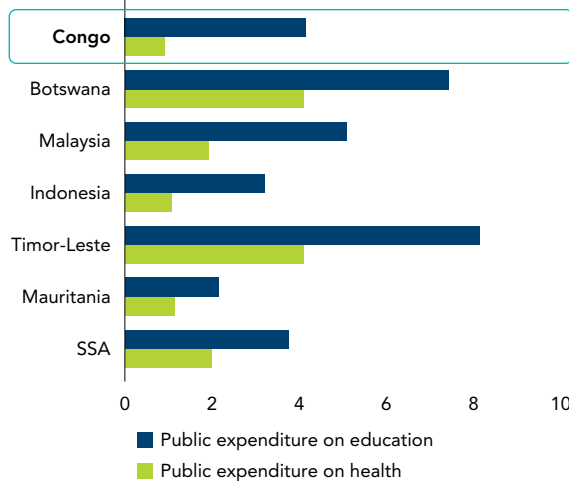


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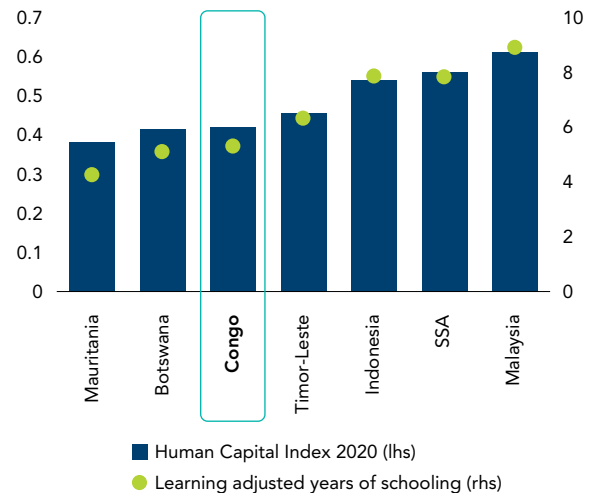
²⁶ Blimpo and Owusu (2020) findings suggest that Africa's ICT low performances are partly explained by the poor quality and quantity of math and science education as well as the insufficient availability of scientists and engineers.

FIGURE 11
Inadequate human capital outcomes are accompanied by low and inefficient social sector spending

a. Congo & Peers: Government spending on Education and Health (% of GDP, 2010-2019 average)



b. Congo & Peers: HCI and Learning-Adjusted Years of School



Source: WDI and HCI (2020). June 2022.

BOX 3

State oil company contribution to building human capital: Lessons from Malaysia

Malaysia’s state-owned oil company, Petronas, which has the exclusive rights to exploit the country’s oil and gas resources, plays a significant role in the development of local skills.

In addition to including training requirements in production sharing agreements (signed between Petronas and other operators), Petronas also directly provides world-class educational and training services through various educational institutions (e.g., Universiti Teknologi Petronas).²⁷ Petronas also established the Petronas Management training center, to provide a range of technical, management, and competency development programs (e.g., Akademi Laut Malaysia maritime training center for maritime-related activities).

Petronas’s contribution to building local skills and human capital is also accomplished through direct support to schools and disadvantaged families.

Petronas provides support to vocational schools for selected courses on industry-related engineering programs (17 schools in 2018) as well as other programs aiming at increase science, technology, engineering, and mathematics skills in Malaysia. Sponsorships are awarded to students from underprivileged families pursuing education in fields related to oil and gas at reputable institutions of higher learning in Malaysia as well as underprivileged primary students in science and mathematics (6,515 Malaysian students in 2018). Moreover, all operators in the oil and gas sector are required to pay 0.5 percent of the sum of cost oil and the contractor’s share of profit oil every fiscal year to a research fund to support research and development, with the fund collecting about US\$345 million during 2007 to 2018.

²⁷ The university is one of Malaysia’s leading institutions of higher learning, particularly in the fields of engineering, science, and technology. The university ranks 145th in the QS World University Rankings 2018 for engineering and technology.

Volatile and inefficient investment in physical capital built insufficient infrastructure to support productivity and diversification

High private and public investment spending over recent years contributed to a steady accumulation of physical capital in Congo, but the investment was volatile and driven by developments in the oil sector.²⁸

For the past 20 years, total investment in Congo has been high and variable compared to the SSA average and driven by private investment (in particular foreign direct investment) in the construction and maintenance of oil wells (see Figure 12-a). Unfortunately, sectors not connected to the oil industry are barely attracting foreign investors, which limits their productivity growth.²⁹ The new law on Public-Private Partnership adopted by Parliament in December 2022 and enacted in January 2023 can facilitate investments in non-oil-related sectors, the preparation of implementing decrees to this new law should be a priority. On the public investment side, after decades of low investment rates, in 2009 the government introduced a vast public infrastructure investment program including transport (roads and aviation), energy and water, financed by oil revenues and rapid accumulation of debt.³⁰ The collapse of international oil prices in 2014 and the resulting decrease in fiscal space, however, led to a significant drop in public investment, putting a brake on the government's extensive investment program with some projects remaining unfinished (see Figure 12-a). Notwithstanding, the long period of investment before the oil price collapse allowed Congo to substantially increase its capital stock, which is higher than the SSA average (as of 2017) yet below the CEMAC average.

Despite relatively high public investment, Congo's coverage and quality of infrastructure remain insufficient, in particular in electricity and internet.

Congo has the least reliable electric supply system compared to peer countries. Only about half of the total population has access to electricity (well below the average for other low-middle income countries of 88 percent), and only 14.8 percent of rural residents. Moreover, Congo experiences more power outages in a typical month than other SSA countries and lower-middle income developing countries, and suffers much larger losses of generated electricity (40 percent compared to an average of 27 percent in other SSA countries). Availability of other infrastructure such as roads and health facilities remains lower than the SSA average.³¹ Indicators of telecommunications development and water access show Congo to be comparable to other SSA and lower-middle income countries. A significant improvement in telecom connectivity, in particular in access to internet services, is a critical element for successful economic diversification and growth (see Figure 12-b) (see Chapter 4).

A significant improvement in telecom connectivity, in particular in access to internet services, is a critical element for successful economic diversification and growth.

Low public investment efficiency has limited the economic and social benefits of public spending.

Despite significant progress in public investment spending efficiency following a series of public financial management reforms in the last decade,³² Congo's public investment efficiency score is 70.8 (as of 2017), which is low compared to peer countries (see Figure 12-c) (see Box 4 for the successful case of Botswana).³³ In addition, the recent contraction of the Congolese economy and the associated cuts in public investment have likely led to a deterioration in the efficiency of capital spending. For instance, low public infrastructure maintenance expenditures have been insufficient to meet the minimum level of routine maintenance, including for roads and electricity.³⁴ More generally, because projects are not systematically subject to rigorous technical, economic, financial as well as environmental and social appraisal, they may not necessarily have a significant development impact and may have unclear and/or limited social value.³⁵ Indeed, urban-centered, ineffective

²⁸ Infrastructure capital stock is only one component of an overall country's physical capital stock, which also includes machinery and equipment.

²⁹ Financial Times, fDi Markets data.

³⁰ World Bank (2018).

³¹ For instance, only 13.0 percent of the road network is paved in Congo, compared to 18.3 percent for the SSA average.

³² The 2008-2010 reforms in public financial management consisted of adopting the Action Plan for Improving Public Investment Management (PAAGIP) in 2008 and the public procurement code in 2009 and creating the Commission in charge of identification and selection of public investment projects in 2010.

³³ Public Investment efficiency is calculated using standard non-parametric approaches (DEA and Partial frontier estimator). See World Bank (2022) for a detailed description of the estimation.

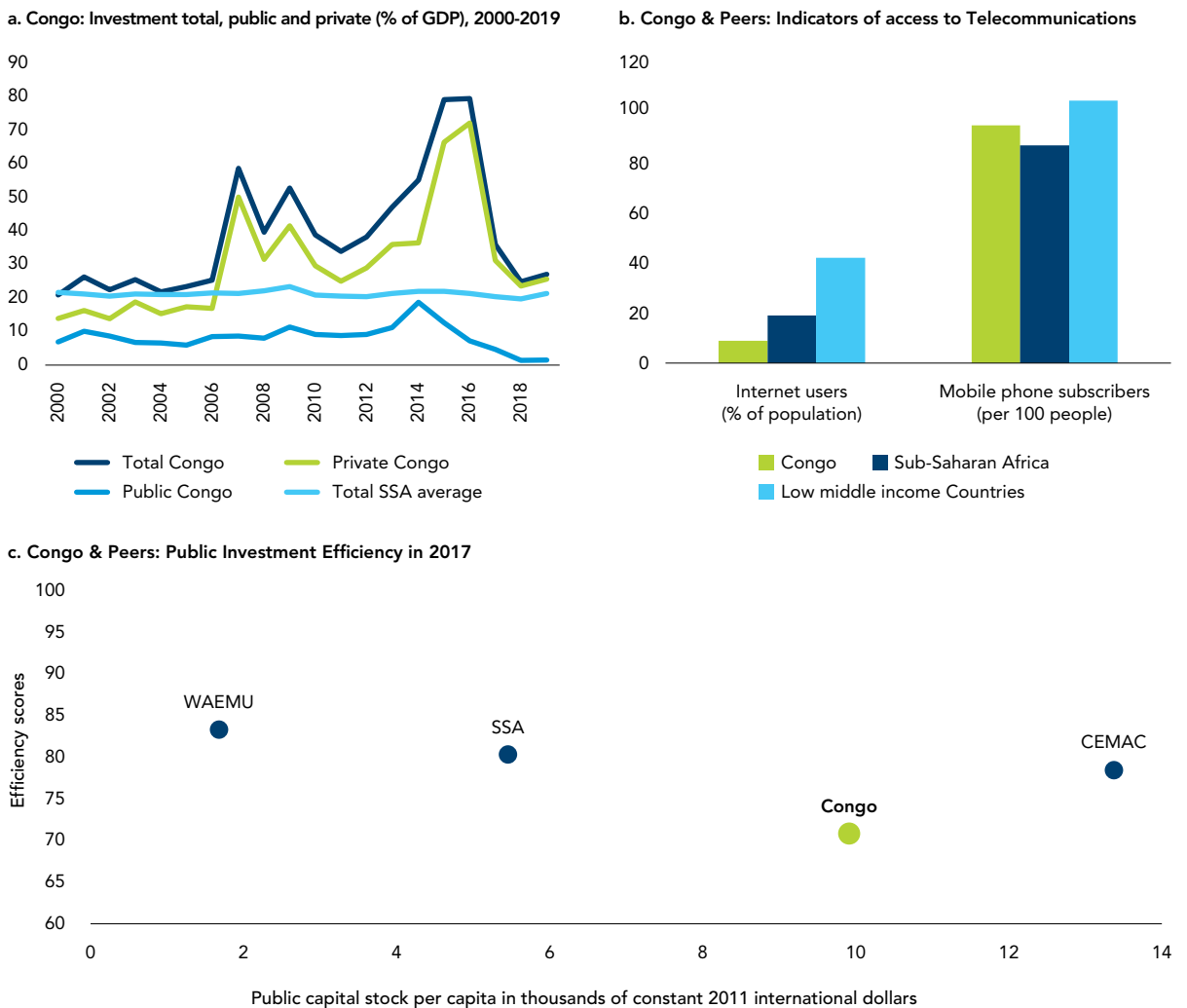
³⁴ World Bank (2022).

³⁵ RGC, (2018) Melina, Selim, and Verdugo-Yepes (2019).

infrastructure and utility projects often fail to address the basic needs of the majority of the population, with rural areas in particular constrained by the inadequate distribution of state resources. Weaknesses in planning and selection of investment projects have led to white elephants such as airports in various rural localities and high-budget prestige projects such as stadiums.³⁶ In recent years, in an attempt to strengthen public investment management processes, the Government has adopted a law establishing the Center for Studies and Evaluation of Investment Projects (*Centre National d'étude et d'Évaluation des Projets d'Investissement Public*, CNEEIP) in charge of investment project appraisal and evaluation in 2018, but its operationalization remains incomplete.

The steady accumulation of infrastructure capital stock would enable productivity gains, supporting diversification efforts (see Chapters 3 and 6). Infrastructure reduces the cost of production and transportation of goods and services, thus increasing the productivity of input factors. Additionally, infrastructure networks expand access to markets (including online markets), thus further lowering production costs through economies of scale. More availability of high-quality infrastructure in Congo would boost the productivity of other production factors such as human capital and natural resources, supporting the development of these assets and Congo's diversification.

FIGURE 12
Despite high historical investment rates, access to basic infrastructure remains low



Source: WDI, IMF PIMA (2020), AIDI (2020) and World Bank staff calculations. June 2022.

³⁶ World Bank (2015), World Bank (2016).

In particular, enhancing the quantity and quality of strategic infrastructure would support Congo’s digital adoption and trade integration. The slow development of ICT infrastructure (e.g., digitalization, electricity, and internet) remain a bottleneck for digital adoption in Congo, hindering the growth potential impact of ICT (see Chapter 4). Indeed, Congo is not taking advantage of ICT’s spillover effects, for example, through trade expansion by facilitating customs clearance and other aspects of the cross-border movement of goods and people. The deficit of ICT, transport and logistics infrastructure remains a major bottleneck to trade integration in Congo (see Chapter 5 and 6).³⁷ Specifically, weak road connectivity, insufficient storage, and inadequate commercial infrastructure hinder market linkages.³⁸

BOX 4

A peer country case of successful public investment management: Botswana³⁹

Botswana’s growth model has been built on effective capacity to maximize revenue captured from minerals and invested them efficiently in infrastructure. Public investment has been consistently high at around 11 percent of GDP since 2000, which outpaces peer countries and emerging market economies. Relatively high public investment spending has contributed to steady accumulation of capital stock—almost three times more per capita than peers and emerging market averages. In terms of public investment management, Botswana’s institutions for managing public investment compare reasonably well to other emerging market economies, especially in terms of national and sectoral planning and fiscal rules. For example, a comprehensive National Development Plan is published along with the Public Investment Plan, which provides six-year projections for the estimated total economic cost by project, which allows for an effective platform for investment funding and implementation.⁴⁰

Good progress in building physical capital was achieved also thanks to Botswana’s capacity to maintain stable levels of public investment. Prudent management of public finances has allowed enough fiscal space to maintain stable levels of public investment, avoiding large cuts in infrastructure projects that usually follow a recession. Indeed, despite a high dependency on mineral revenues, Botswana has managed to implement countercyclical fiscal policy successfully, while keeping low public debt ratios. In particular, prudent fiscal policy combined with formal debt limits—at 20 percent of GDP since 2006 for both domestic and external debt—has allowed the government to build fiscal buffers during good times and spend them judiciously during bad times.

³⁷ For example, the Logistics Performance Index (LPI) score for infrastructure has deteriorated despite significant investments, while the overall LPI score of 2.49 in 2018 was at the same level as in 2010.

³⁸ In 2014, the country had barely five kilometers of roads per 100 square kilometers, concentrated in the two main cities, leading to high transport costs and difficulties in accessing markets for agricultural goods (World Bank, 2018).

³⁹ Lewin, Michael (2011), Rial et al. (2018).

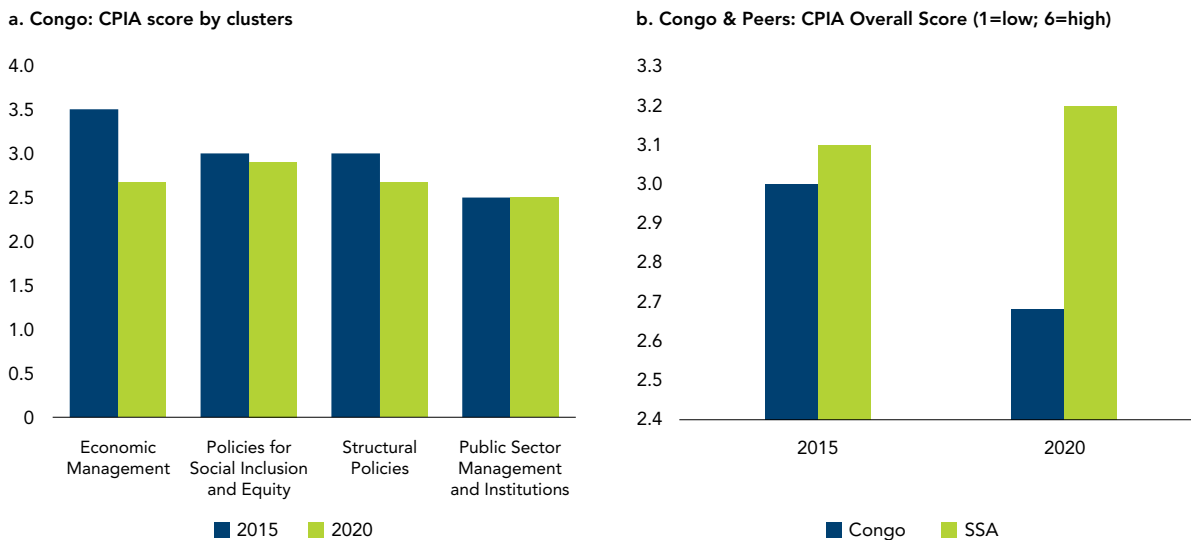
⁴⁰ IMF (2017).



1.2.3 Institutional capital must be bolstered to support the government’s ability to transform natural resources into physical and human capital

The decades-long exploitation of natural resources has not been accompanied by the development of strong institutions in Congo, which are needed to raise productivity across sectors. The World Bank’s Country Policy and Institutional Assessment (CPIA) provides a review against standard criteria of Congo’s economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions. Despite some recent progress in specific areas, Congo’s scores in most of these institutional dimensions have deteriorated, while others remain unchanged (see Figure 13-a and b). Among the 16 areas grouped within the four broad clusters are some particularly important aspects of Congo’s policies and institutions that will be discussed in the following sections.

FIGURE 13
Deteriorating quality of Congo’s policies and institutions leaves it farther behind SSA averages



Source: WDI. June 2022.

Weak economic management has brought Congo into debt distress, shrunk fiscal space, and failed to contain procyclical spending, together undercutting long-term growth prospects

Weak debt policy and management have led to a sharp deterioration in debt sustainability, which recent efforts are now correcting. During the first half of the 2010s, the government ramped up spending on public infrastructure and public sector wages, financed by oil revenue windfalls and concessional external borrowing. However, following the plunge in oil prices in 2014, the country resorted to non-concessional, oil-backed external loans to continue its infrastructure projects. Short of cash, the government soon became unable to meet its contractual obligations, leading to the accumulation of external arrears. By 2017, Congo was in debt distress with an unsustainable debt level (Figure 14-d). These developments took place in a context of low debt management capacity, including a lack of debt transparency and coordination between debt management and other macroeconomic policies. While Congo is still in debt distress due to outstanding external arrears, the country made substantial progress in debt restructuring, which enabled it to return to debt sustainability in 2021. Recently, the government has adopted welcome measures on debt policy and management, which will

progressively relax the currently strong fiscal constraints. These measures include the publication of a medium-term debt management strategy in December 2021 for the 2022-24 period, limiting external borrowing to concessional terms, and negotiating debt restructuring agreements. On the latter, the government has reached recently debt restructuring agreements with the three largest oil traders (Trafigura, Orion, and most recently in January 2022 with Glencore), and continues to actively pursue negotiations on debt restructuring with China.

Procyclical fiscal policies, tightly linked to oil price fluctuations, have amplified the economic cycles in Congo and impacted long-term growth. Congo has followed strong procyclical spending policies, i.e., a heavy increase in spending during boom periods and fiscal consolidation during recessions. These policies have not been contained by the CEMAC fiscal rule adopted in 2016 owing to non-compliance (see Figure 14-a).^{41,42} Indeed, weak institutions in Congo were not capable of containing political pressure to spend in good times, leading to fiscal profligacy and/or rent-seeking activities.⁴³ The pro-cyclical fiscal policy during the last oil boom financed large public infrastructure investments (which were often inefficient), the expansion of subsidies (especially in energy), expansion in likely unproductive public-sector jobs, and higher public-sector wages. Following the end of the oil boom in 2014, the government was forced to embark on a significant fiscal consolidation effort. The sharp contraction in public spending amplified the economic recession, while the sudden cuts to infrastructure projects froze capital accumulation and slashed maintenance spending, undercutting long-term growth (see Figure 14 b and c). While the existing regional fiscal rule is a welcome initiative, its efficacy is also dependent on bottom-up solutions which consist, for example, of improving transparency in the implementation of the budget and fiscal rule, providing lawmakers, markets, and citizens with the information they need to hold governments accountable. Effective sanctions by CEMAC institutions will also help with the actual implementation of this regional fiscal rule.

Weak and worsening structural policies related to the business environment are stunting growth

Congo's business regulatory environment is not very attractive to private sector investment. Despite having adopted regional commercial legislation (sponsored by OHADA⁴⁴), Congo still needs to implement simplified, transparent, and predictable processes when it comes to starting a new business. The heavy regulatory process is reflected in the long period of time required to start a business (50 days in 2019, compared, for example, to 14 days in Cameroon). Other activities affecting business, such as registering property are also time-consuming (54 days in 2019, compared to 12 in Malaysia), and the arbitrary implementation of regulations on business operations remains a hurdle for companies. The time to enforce a contract is 560 days, unchanged for the past 15 years. Congo does not have a Competition Authority and lacks a comprehensive Competition Law, although related draft laws are under preparation. The existing legislation does not cover all relevant competition topics (e.g., does not allow for penalties nor address either merger control or abuse of dominance) and is not systematically applied (see Chapter 3 for additional details). As a result, Congo's CPIA score for business regulatory environment (which is part of the cluster of structural policies) is low and shows deterioration in recent years (from 2.5 in 2015 to 2.0 in 2020, on a scale of 1 (low) to 6 (high)).

Congo still needs to implement simplified, transparent, and predictable processes when it comes to starting a new business.

⁴¹ CEMAC's 2016 new reference fiscal criterion was adopted under the New Convergence Rules. The new reference fiscal balance (with a floor of -1.5 percent of GDP) can be defined as the overall non-oil balance plus 80 percent of the average oil revenue-to-GDP ratio over the three previous years. It is, therefore, fully disconnected from the current year's oil revenue and does not allow governments to increase spending immediately when oil revenue increases.

⁴² The special topic section of the CEMAC Quarterly Economic Barometer (January 2022) looks into the cyclical nature of government spending and finds that fiscal policy in CEMAC countries has amplified economic cycles (even more than in other SSA countries), deepening economic downturns and adding heat to upturns. The report also finds that improvements in institutions could considerably attenuate this effect.

⁴³ Diallo (2009), Herrera et al. (2019).

⁴⁴ OHADA, or the Organization for the Harmonization of Business Law in Africa, was created in 1993 and now has 17 member states. It aims to support economic integration, growth, and investment through harmonized, simple, and modern business law.

Social inclusion policies have fallen short of Congo's rising needs for strong human capital

Policies aiming to protect and develop human capital need to be strengthened. The quality of policies and institutions to boost health, education, and social protection has remained mostly unchanged since the mid-2000s, according to the World Bank's CPIA and remains close to SSA averages. The implementation of the National Health Development Plan (PNDS) (2018-2022) is under review, but there is a lack of up-to-date data to provide a thorough evaluation of its performance. In the meantime, there is an urgency to strengthen national and local capacities for service delivery, improve access and quality of primary health care, combat prohibitive prices (particularly for medicines) that result in high out-of-pocket spending for patients, and address weaknesses in resource management. In education policy, Congo has made progress, including implementing the first phase of the revised education strategy (2021-2030), having developed an education information system and the improved institutional capacity to collect, analyze and use data. However, the government's capacity to evaluate learning outcomes and to use evaluation findings to inform policy decisions remains weak. Finally, social assistance has remained dependent on external financing, notably through the Lisungi Social Safety Net project that was of the main instrument for the government's emergency assistance to poor and vulnerable households during the pandemic-related crisis. However, overall, coverage of social protection remains limited in reach and effectiveness, and the Ministry of Social Affairs and Humanitarian Action needs additional human and financial resources, as well as stronger institutional capacity for effective policy implementation.

Stagnation in public sector management, despite some recent progress in transparency and control of corruption, leaves much to be done

Despite some recent progress, Congo's performance in public sector management needs improvement. Congo's score in the CPIA cluster "public sector management and institutions" has remained unchanged in the last 15 years. This performance results from insufficient enforcement of the rule of law, low government efficiency in spending and revenue collection (see section 1.2.1), as well as low transparency in the public sector. For instance, Congo ranks among the worst countries worldwide in terms of corruption control,⁴⁵ and the country also ranks low in the resource governance index (a rank of 39 out of 100 in 2017).⁴⁶ Notwithstanding, some progress in transparency and control of corruption has been achieved, including through the publication of Extractive Industries Transparency Initiative (EITI) reports and the creation of the High Authority for the Fight Against Corruption in 2018. In 2019 Congo adopted a law that institutionalizes the monitoring and evaluation of public policy, which is a welcome step in improving public sector management. However, this law has not been implemented to date, as the relevant institutional arrangements and regulations are still pending. Also, a new anti-corruption law was passed in Parliament in February and ratified in March 2022. The accompanying decree on conflicts of interest rules and procedures is being developed.

Improving institutions in Congo would support the capacity of the government to transform natural resources into physical and human capital assets, as have some of Congo's aspirational peer countries.

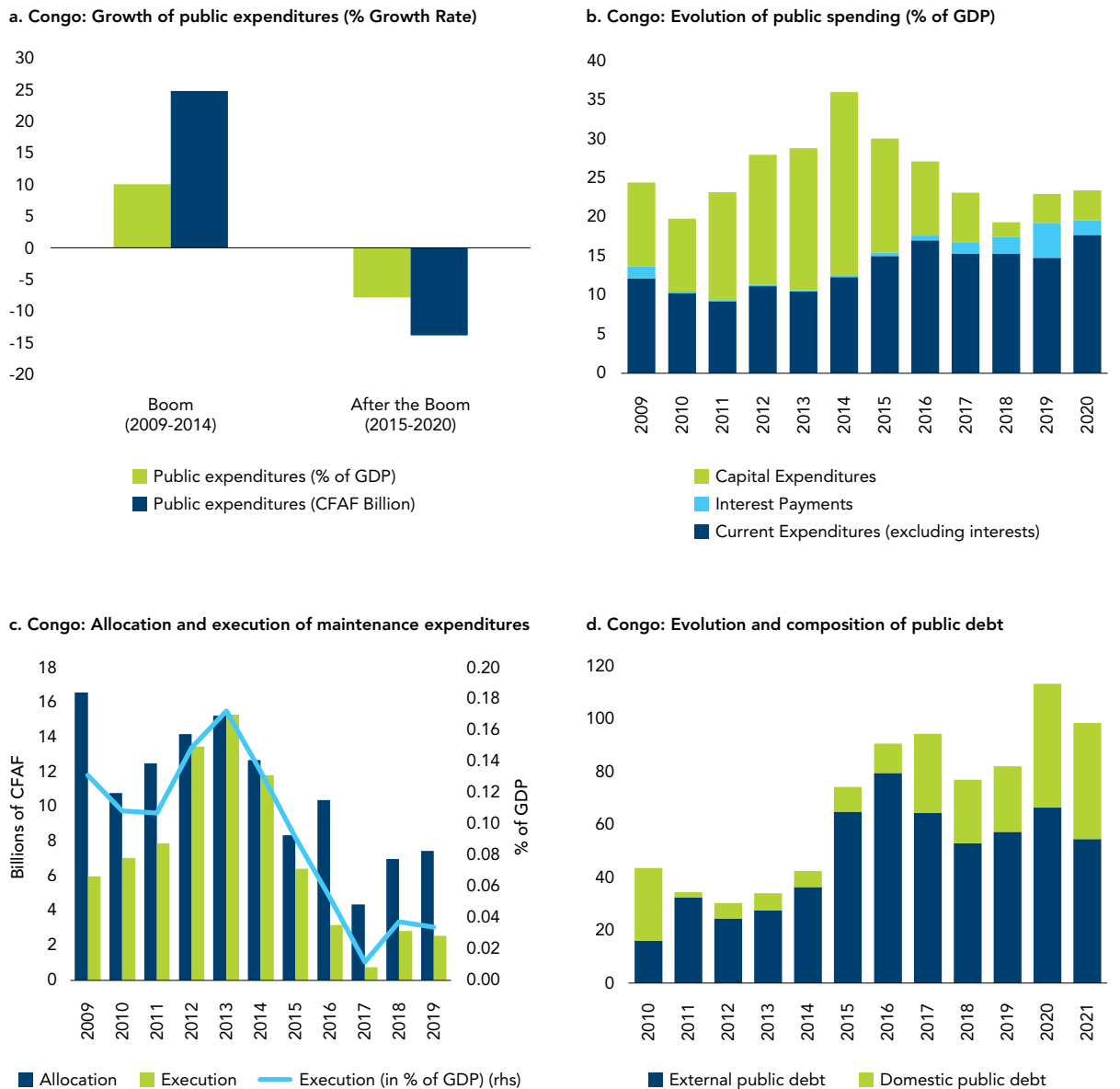
Strengthening the country's quality of institutions would be essential to better manage resource rents, including better mobilizing oil revenues, and ensure macroeconomic and fiscal stability and resilience to shocks. Better institutions and policies would allow Congo to be more effective in public service delivery (e.g., through better public investment and social spending efficiency), improve human capital outcomes (through improved health and education of its labor force), and provide an enabling environment for private sector development. Other countries have achieved these goals: for instance, Botswana's long-term success in extracting resource rents and channeling them to productive activities can be attributed to key institutions. These include a democratic government since independence in 1966, long-term economic planning and fiscal discipline (e.g., mineral revenues can be spent only for capital projects included in the national development plan, and on education,

⁴⁵ Worldwide Governance Indicators, 2021 update.

⁴⁶ The Resource Governance Index assesses how resource-rich countries govern their oil, gas and mineral wealth using 54 indicators grouped into three dimensions: value realization, revenue management and enabling environment. <https://resourcegovernanceindex.org/country-profiles/COG/oil-gas?years=2017>

training, and health), regulation and management of the mining sector, strong anticorruption institutions, and a sovereign savings fund for future generations financed through mineral revenues. Botswana’s experience provides key lessons for Congo as it aims to diversify its development and boost long-term growth.

FIGURE 14
The end of the oil boom led to plummeting capital spending, sustained current spending (except for maintenance), and soaring public debt



Source: Congolese authorities and World Bank staff calculations. June 2022.





CHAPTER 2

Labor Productivity

2.1 Productivity growth is the key driver of sustainable income growth and poverty reduction

Increasing productivity is crucial for meeting the objectives of the Republic of Congo’s National Development Plan 2022-26, including diversification and sustained growth. Labor productivity measures the level of output per worker. It is a principal driver of economic growth, accounting for more than half of the differences in GDP per capita across countries⁴⁷ and poverty reduction. Firms with higher labor productivity tend to grow faster and be more resilient (as evidenced during the COVID-19 crisis⁴⁸) while industries with less productive firms will be uncompetitive and fail to expand. In this context, it is especially important to consider productivity at the firm level, which is the most fundamental level where production occurs. Removing constraints to productivity, especially at the firm level, presents an important opportunity to reach the government’s development plan goals of diversification away from oil and towards higher growth, particularly in the non-oil economy.

Although productivity growth has multiple drivers, given limited data for firms in Congo, the focus of this labor productivity analysis will be on the misallocation of labor between firms. Productivity growth has three fundamental drivers. The first is productivity improvements within existing firms. This component is most closely related to firm capabilities, including innovation, technology adoption, and good managerial and business practices, as well as skills. The second driver is the reallocation of production factors, i.e., labor and capital, between firms, shifting from less productive to more productive firms. Incentives such as higher wages at more productive firms typically drive reallocation. Lastly, the dynamic component captures the overall productivity growth when the least productive firms exit, while new firms that are more productive than average enter. Due to data limitations, the analysis here will focus on misallocation, i.e., the between component, with a brief discussion of the dynamic one. Note that Chapter 4 on electricity and digital technologies will offer some insights into the within component.

This chapter analyzes firm-level labor productivity for the first time in Congo, with a focus on the non-extractive sector. Microeconomic studies of firm level productivity in Congo have been lacking⁴⁹. Hence, this study will be the first to investigate the country’s micro-foundations of productivity growth, subject to



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⁴⁷ Cusolito and Maloney, 2018.

⁴⁸ The global evidence shows that more productive firms were less likely to close during COVID-19 and more productive firms are recovering faster. This is because more productive firms are, by definition, more efficient and can therefore absorb more shocks. Further, the evidence shows that they can adjust faster. Muzi et al., 2021; Cirera et al. 2021.

⁴⁹ World Bank, 2018.

data limitations (Box 5). Wherever possible, the analysis will focus on the non-extractive sector, given the need for Congo's economy to diversify away from oil. First, the analysis will discuss the overall recent trends in productivity compared to other countries. Second, using firm level data for 2019 and 2020, it will analyze productivity along different firm characteristics and identify where the main productivity gaps lie. Then, it will aim to explain which factors serve as drags on productivity growth, focusing on misallocation, and assess the potential productivity gains from reducing misallocation. Lastly, the chapter ends with policy considerations that can boost productivity.

BOX 5

Productivity Data and Measures for the Republic of Congo

The productivity analysis of this chapter relies on two main data sources. For the cross-country comparisons, it uses data from the World Bank's World Development Indicators (WDI), which is not disaggregated by extractive and non-extractive industries. The subsequent analysis for Congo uses firm-level data from the 2020 General Census of Firms by the Institute for Statistics (*Institut National de la Statistique*, INS). The census contains information on sales, employment, wages, intermediate consumption, value added, and firm demographics for 2019 and 2020, covering 75,118 firms. Firm-level data for other years is not available. In the firm-level analysis, we consider all census firms, but largely exclude extractives firms where possible in order to focus on the non-extractive economy.

Private sector employment in Congo is dominated by micro, small, and medium enterprises, which provides an important context for the results. According to the firm census, 98 percent of the 75,118 identified active firms in 2020 in Congo were micro or small. Brazzaville and Pointe-Noire account for about 75 percent of firms, according to census. Further, about 94 percent firms are counted as informal. Lastly, micro, small, and medium enterprises accounted for 83 percent of persons engaged in businesses (informal and formal) and for 35 percent of global turnover in 2019.

Due to data constraints, labor productivity is used instead of total factor productivity. Total factor productivity is generally measured as the residual component (or explainer) of output, after accounting for inputs such as capital and labor. However, data on capital is unavailable for Congo so total factor productivity cannot be estimated. Hence, the analysis must rely on labor productivity measures. A caveat of doing so is that labor productivity does not capture the effects of capital inputs. It, therefore, overstates the productivity of capital-intensive sectors such as extractives and utilities.

This chapter uses two measures of labor productivity, with a focus on value added per worker. There are two possible measures of labor productivity, (i) value added per worker and (ii) sales per worker. Using value added removes intermediate inputs and can, therefore, be a more precise measurement of productivity than using sales. This is because a firm's sales confound the effect of inputs and materials with its productivity. Furthermore, value added per worker may be less directly affected by temporary sales reductions, e.g., due to COVID-19. Hence, value added per worker is used as the main productivity measure. However, value added per worker could have also been affected by the pandemic. Hence, where possible, results using sales per worker are also reported, as a robustness check to further corroborate the results. To construct these measures, value added and sales by are divided by the number of employees, all of which come directly from the 2020 enterprise census.

2.2 Inadequate productivity in the Republic of Congo

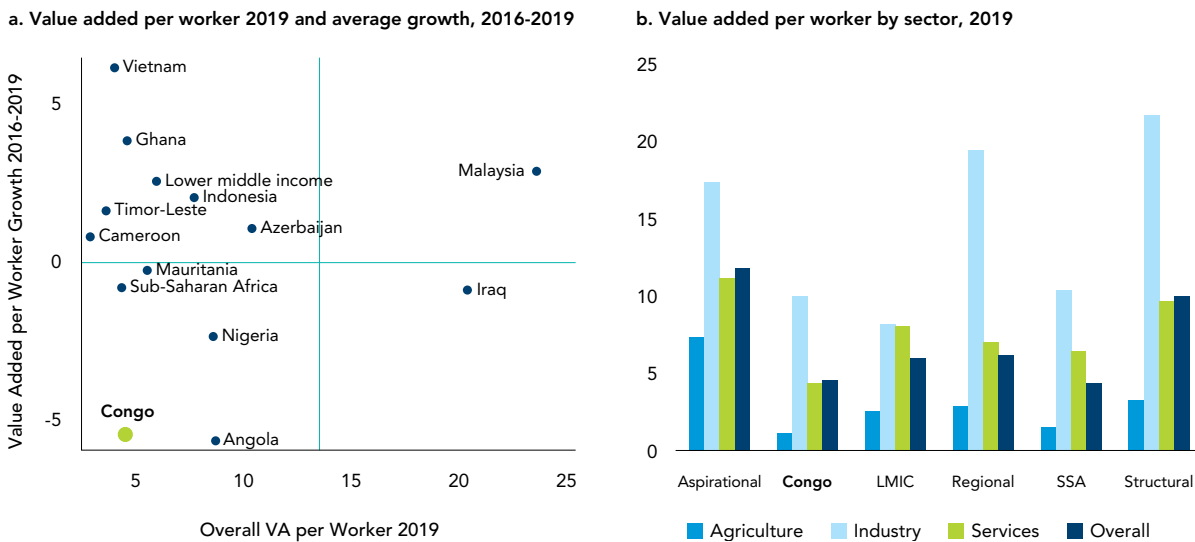
2.2.1 Cross-country analysis reveals a severe productivity problem in the Republic of Congo

Congo faces low and declining labor productivity when compared to peers, thereby limiting economic growth and preventing catch-up with other economies. Figure 15-a shows labor productivity in 2019 and its average growth during 2016-19 measured as value added per worker for Congo and peer countries. Congo has a concerning combination of very low labor productivity and highly negative labor productivity growth rates. Only one peer, Angola, has a lower growth rate of labor productivity over this period, but it registered almost double the productivity level, while peers with lower levels all have higher growth rates. Hence, the country is backsliding, and the productivity frontier is becoming more distant.

An average worker in Congo needs to work 2.6 times longer to produce the same output as one in aspirational peer countries.

An average worker in Congo needs to work 2.6 times longer to produce the same output as one in aspirational peer countries and 2.2 times as long compared to structural peers. In 2019, Congo’s overall labor productivity, measured as value-added per worker, was only US\$4,500 (constant 2015), compared to an average of US\$11,800 among aspirational peers and US\$10,000 among structural peers (Figure 15-b). Average labor productivity is also higher among LMIs at US\$6,000 and regional peers at US\$6,200. The only comparison group with lower labor productivity is the group of SSA countries (at US\$4,300).

FIGURE 15
Labor productivity levels are low and decreasing



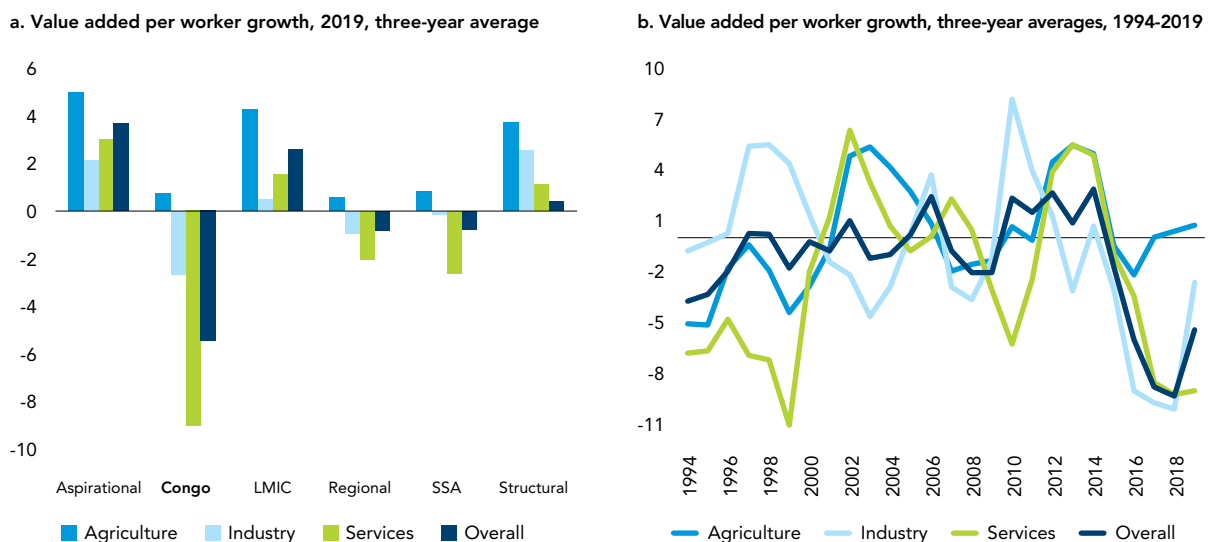
Source: Staff calculations based on WDI (2022). Value added expressed as thousands of 2015 constant US\$. Regional peers are Angola, Cameroon, Ghana, Nigeria. Structural peers are Azerbaijan, Iraq, Mauritania, Timor-Leste. Aspirational peers are Indonesia, Malaysia, Vietnam. Growth is in real terms. LMIC is lower-middle income countries. June 2022.

Across sectors, labor productivity levels in Congo generally lag its peers, even in the sector which is Congo’s most productive. The level of productivity in Congo’s industrial sector, including oil, is more than double that of services and almost nine times as much as agriculture (Figure 15-b).⁵⁰ However, the industrial sector’s productivity still underperforms compared to all peers, except lower-middle income countries. Further, productivity levels in agriculture and services are the lowest across all comparison groups.

Recent labor productivity growth is strongly negative and much lower than peers across all broad sectors. Average labor productivity growth during 2016-19 in Congo has been strongly negative (Figure 16-a). While regional and SSA peers have also experienced negative productivity growth in this period, their average was around -0.8 percent, almost seven times less than the average -5.5 percent in Congo. All other peer groups saw positive average growth. This is especially concerning given Congo’s low level of productivity. The negative growth was strongest in services, reaching -9.0 percent, compared to -2.6 in the industrial sector. However, agriculture saw slight positive growth of 0.7 percent, which was below that of all peer groups, except for the regional peer average of 0.6.

Labor productivity growth has been volatile and increasingly negative, mirroring volatile and declining GDP growth. Figure 16-b shows the trend of three-year average labor productivity growth rates in Congo.⁵¹ As can be seen, productivity growth began falling in 2014 and progressively trended downward until 2019, when it made a slight recovery. Between 2015-2019, the three-year growth rate has been consistently negative,⁵² creating downward pressure on GDP growth. Furthermore, productivity growth has been volatile, which can induce volatility in GDP.⁵³ Lastly, since 2015, the productivity growth rates in industry and services have both been negative and no longer moving in opposite directions, thereby exacerbating the volatility and decline of overall productivity, as they no longer cancel each other out.

FIGURE 16
Labor productivity growth is weak and declining across sectors and over time compared to peers



Source: Staff calculations based on WDI (2022). Regional peers are Angola, Cameroon, Ghana, Nigeria. Structural peers are Azerbaijan, Iraq, Mauritania, Timor-Leste. Aspirational peers are Indonesia, Malaysia, Vietnam. Growth is in real terms. June 2022.

⁵⁰ The subnational analysis using firm census data suggests that the high labor productivity of industry is especially driven by extractives, but also utilities and construction.

⁵¹ Here, three-year averages help to smooth out temporary shocks or business cycle effects, in order to examine structural trends.

⁵² Note that the three-year average for 2015 is based on year-on-year growth rates from 2013-2015. Among these, the 2013 year-on-year average was also negative at -2.0 percent, while the 2014 rate was positive at 3.7 percent. Since 2015, the year-on-year growth rates have been negative in each year.

⁵³ High GDP volatility is concerning because it can reduce overall growth and investment while increasing the likelihood of a crisis (Perry, 2009).

2.2.2 Sub-national analysis reveals significant variation in productivity

Regional disparities in labor productivity, excluding extractives, are very large. Figure 17-a shows two measures of labor productivity—value added and sales per worker—across regions in 2020. Given the need for Congo’s economy to diversify away from oil and raise productivity elsewhere, the estimates exclude the extractives sector. Both labor productivity measures show similar results. As expected, the most developed regions of Brazzaville, Pointe-Noire and Cuvette have the highest productivity levels, with Cuvette in first place at CFAF 4.7 million of value added per worker. This is almost four times higher than the least productive regions (Likouala with CFAF 1.1 million of value added per worker and Pool with CFAF 1.3 million).

Labor productivity growth from 2019 to 2020, excluding extractives, has been negative in all regions and has partially exacerbated regional disparities. As shown in Figure 17-b, according to both measures, labor productivity has declined across all regions even when excluding extractives. Brazzaville’s value added per worker contracted the least, at a rate of 15.5 percent. However, regions with lower productivity levels experienced stronger contractions, reaching as much as 30.3 percent for sales and 33.7 percent for value added per worker in Kouilou. As a result, some regional disparities in productivity levels have increased. At least part of this trend is likely attributable to COVID-19. However, lack of data does not allow the pandemic effects to be disentangled from broader structural trends, and earlier firm-level data is not available.⁵⁴

FIGURE 17
Productivity and productivity growth vary substantially across regions



Source: Staff calculations based on the 2020 firm census data from INS (2022). Labor productivity measures are expressed as millions of current CFAF per year. Growth is in real terms. Estimates exclude the extractives sector. June 2022.

There is significant variation in labor productivity across sub-sectors. The extractives sub-sector has the highest value added per worker at CFAF 20.8 million. Beyond extractives, labor productivity is highest in the financial sector and utilities⁵⁵ (Figure 18-a). Among other service sub-sectors, transportation and ICT have the highest productivity, with a value added per worker of CFAF 7.1 million and 4.4 million respectively, while the lowest productivity is in the education sector. A particular cause for concern is the very low productivity of manufacturing, with value added per worker of just CFAF 1.55 million. Hence, the relatively high productivity

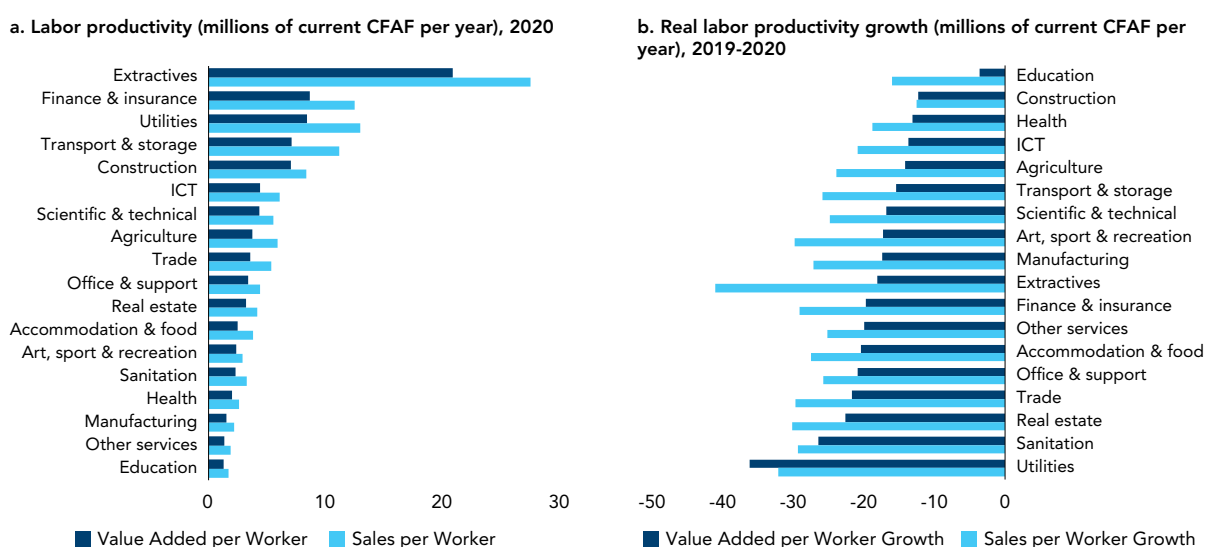
⁵⁴ The same reasoning will hold for subsequent analysis when it comes to discuss productivity growth from 2019 to 2020.

⁵⁵ Utilities are defined as the production and distribution of electricity and gas.

of the industrial sector overall (Figure 15-b) is driven by extractives, utilities, and construction. However, an important caveat is that labor productivity severely overestimates total factor productivity for extractives and utilities because these sectors are much more capital intensive.

Labor productivity growth between 2019-2020 exhibits considerable variability and has been negative across all subsectors. Labor productivity growth, measured by value added per worker, ranged from -3.6 percent in the education sector to -36.2 percent in utilities (Figure 18-b). Using sales per worker also shows a similar pattern, with a notably higher decline in extractives, most likely related to the fall in oil prices. Some higher value-added sectors, such as ICT, transport, and construction, were relatively more resilient, with smaller productivity contractions.

FIGURE 18
Productivity and productivity growth vary across subsectors



Source: Staff calculations based on the 2020 firm census data from INS (2022). Labor productivity measures expressed as millions of current CFAF per year. Growth is in real terms. June 2022.

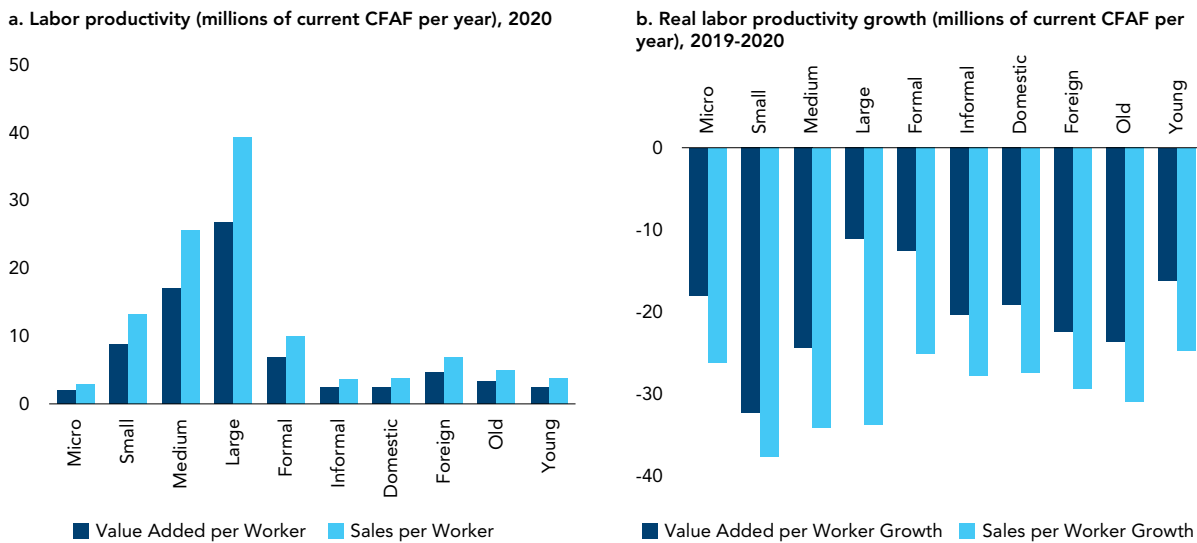
Larger, formal, foreign, and older firms have higher labor productivity, encouragingly in line with expected patterns. Figure 19-a shows that productivity is steadily increasing with firm size when excluding extractives. Hence, on average, more productive firms seem able to grow, as would be expected in a well-functioning market. Similarly, formal firms are much more productive than informal ones, as is the case for most countries. This implies that highly productive firms may be partially self-selecting into formality in Congo, due to the benefits of formality.⁵⁶ Further, foreign firms operating in the country outside of extractives are more productive than domestic ones, indicating a relatively successful attraction of productive foreign direct investment, which may have positive spillover effects. Lastly, older firms are more productive than younger ones,⁵⁷ which can be a sign of positive learning effects and functioning market forces, whereby more productive firms are likelier to survive.

Labor productivity contractions in 2019-2020 have been broad-based, declining most in small, informal, foreign, and older firms. Labor productivity strongly declined among all firm types. The growth in value added per worker among small firms was -32.3 percent, compared to -18.0 percent in micro, -24.4 percent in medium, and -11.2 percent in large firms, excluding extractives (Figure 19-b). Further, more productive firms, such as older and foreign ones, saw much stronger reductions in their labor productivity.

⁵⁶ The benefits of formality for firms include easier access to finance, access to new (export) markets, certain legal protections, and enhanced government support, while the costs can stem from entry fees, taxes, regulation, and reduced flexibility. LaPorta and Shleifer, 2014.

⁵⁷ Young firms are five years old or less.

FIGURE 19
Productivity and productivity growth differ by firm characteristics



Source: Staff calculations based on the 2020 firm census data from INS (2022). Labor productivity measures are expressed as millions of current CFAF per year. Growth is in real terms. Estimates exclude the extractives sector. Young firms are aged 5 years or less. June 2022.

The recent decline in labor productivity may be partially related to COVID-19 but likely mostly continues the longer structural trend of negative growth. The multitude of shocks resulting from the pandemic can have negative effects on productivity in general.⁵⁸ Further, the measurement of labor productivity in 2020 may partially capture short-term effects, as business activity ceased while firms still held onto workers. In particular, due to the rapid pandemic-induced sales reductions, sales per worker may overstate contractions in underlying labor productivity. Nevertheless, COVID-19 may affect value added per worker slightly less through the reduced sales channel, which indeed shows smaller but sizable reductions.⁵⁹ However, while possible, it is unlikely that the productivity decline in 2019-2020 is entirely due to COVID-19, given the consistently negative growth rates since 2015 (Figure 16-b).

The diffusion of digital technology and product innovation accelerated during the pandemic, which will have positive productivity effects.

Global evidence suggests that the COVID-19 pandemic may have some positive effects on longer-term productivity. Global evidence shows that the diffusion of digital technology and product innovation accelerated during the pandemic, which will have positive productivity effects.⁶⁰ While data for Congo is not available, it is likely to have experienced similar developments, as these trends are consistent among the 51 surveyed countries and across all income groups. Further, less productive firms were more likely to close permanently during the crisis.⁶¹ This, in turn, should increase aggregate productivity, as resources are freed up for more productive firms. Again, such data for Congo is unavailable, but similar effects are likely given the robust and broad global evidence.

⁵⁸ Apedo-Amah, et. al. (2020).

⁵⁹ World Bank (2021b) shows that sales did fall due to the pandemic in Congo. However, the added value for each remaining sale would not be affected. Further, growth was still negative even when excluding firms that had no value added, for example, because no sales could be made. However, value-added per worker could be affected by COVID-19 through other channels.

⁶⁰ Cirera, et. al. (2021).

⁶¹ As Muzi, et. al. (2021) found across 31 economies.

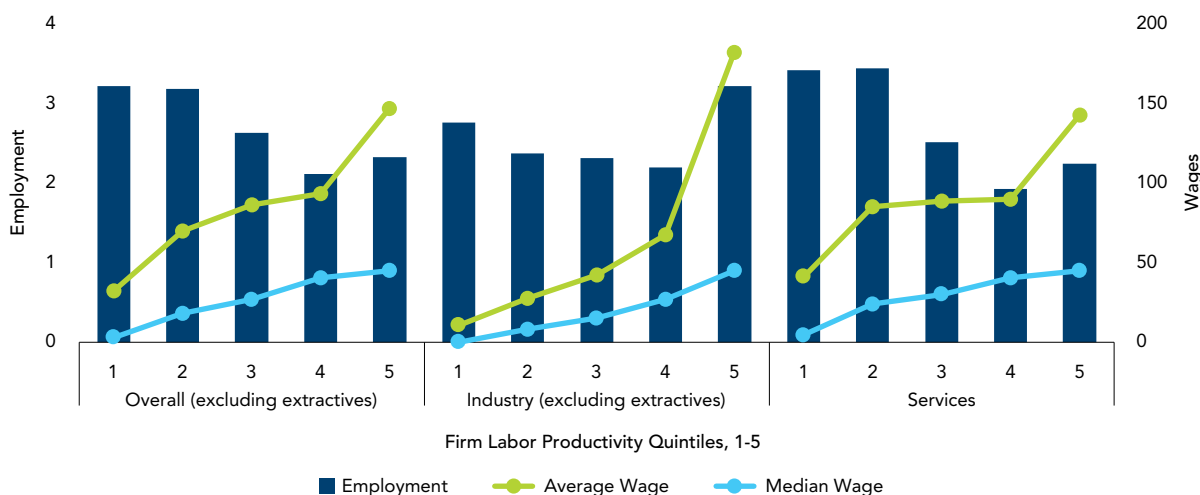
2.3 Misallocation drags down Congolese productivity

The efficient allocation of resources across firms is crucial for productivity growth. Productivity can improve if the factors of production, particularly labor and capital, move from less to more efficient firms (which is known as between-firm productivity growth). Hence, even if the productivity of each individual firm remains the same, aggregate productivity can increase if the most productive firms grow more than the less productive ones. Failure of more productive firms to grow can be a sign that resources are being misallocated and that there are barriers to the growth of more productive firms.

Although more productive firms pay higher wages in Congo, they tend to employ fewer people on average, thereby indicating a misallocation of labor, especially in services. Figure 20 shows average firm employment and wages by labor productivity quintiles (excluding extractives) for the overall economy, industry, and services.⁶² As productivity increases, mean and median wages steadily increase as well. This pattern illustrates why productivity growth is crucial for creating better jobs in Congo. However, the least productive firms employ the most people, with average firm employment steadily decreasing in higher productivity groups.⁶³ Hence, there is a misallocation of labor, because most workers should ideally be allocated to more productive firms. Therefore, aggregate productivity could be strongly increased by moving workers to more productive firms, where they could create more value. This overall trend is particularly strong in services. In the industrial sector, average employment is also decreasing in productivity between the first and fourth quintile. However, there, the most productive firms are the largest, followed by the least productive ones.

FIGURE 20
More productive firms pay higher wages but employ fewer people on average

Average employment and wages by labor productivity quintile



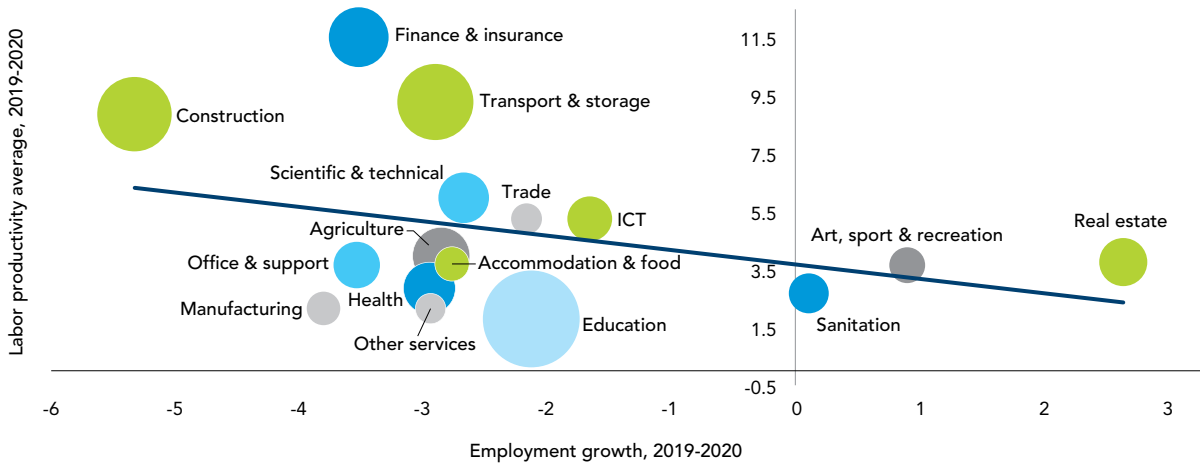
Note: Labor productivity measured as value added per worker. Wages expressed as 10,000 of current CFAF per year. Estimates exclude the extractives sector. The same pattern is observed when considering only formal firms with relatively higher employment sizes.
 Source: Staff calculations based on the 2020 firm census data from INS (2022). June 2022.

⁶² Here and for the remainder of this analysis, labor productivity is measured as value added per worker because it is subject to less bias.
⁶³ Total employment follows a similar trend. However, as shown in Figure 24, the unconditional correlation of employment and productivity is slightly positive. Nevertheless, that way of cutting the data also points to misallocation.

Employment growth is not always in the most productive sectors or in those with the highest productivity growth, thereby dragging down aggregate productivity through the misallocation of labor. The sectors with the most employment growth between 2019-2020 have mainly been those with lower productivity (Figure 21).⁶⁴ This implies that labor has been flowing to less productive sectors, thereby exacerbating misallocation and reducing aggregate productivity. A further concern about this trend is that since more productive firms tend to pay higher wages, these labor movements will tend to depress wages. Similarly, there is a negative relationship between employment growth and productivity growth (Figure 22). While these relationships can often be

FIGURE 21
Employment has not grown in high productivity sectors, dragging down aggregate productivity

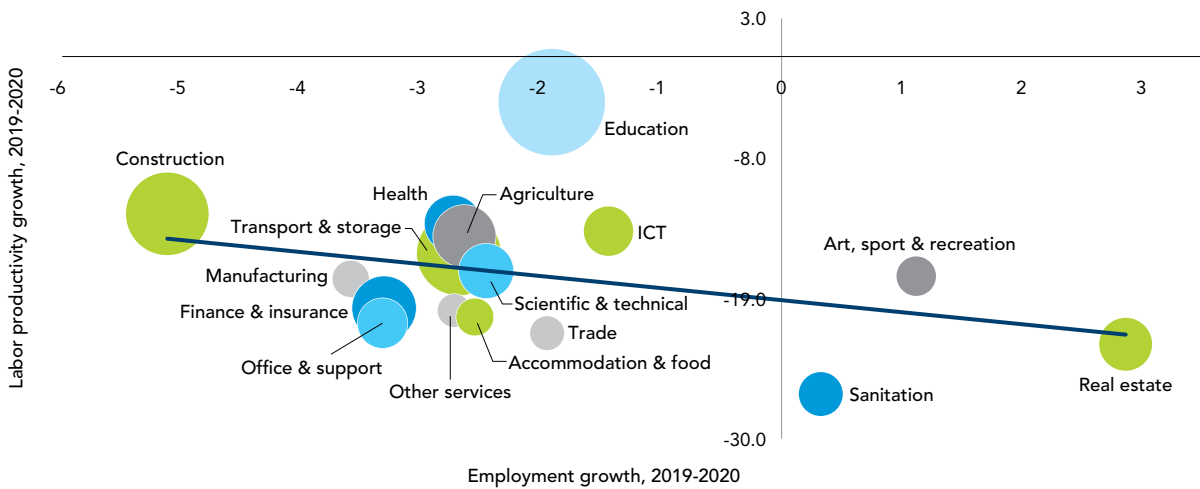
Employment growth and labor productivity levels by subsector, 2019-2020



Note: The size of the bubble represents employment in that subsector. Labor productivity measured as value added per worker, expressed as millions of current CFAF per year. Estimates exclude the extractives sector.
 Source: Staff calculations based on the 2020 firm census data from INS (2022). June 2022.

FIGURE 22
Productivity is not growing in sectors with employment growth and vice-versa

Employment growth and productivity growth by subsector, 2019-2020



Note: The size of the bubble represents employment in that subsector. Labor productivity measured as value added per worker. Growth is in real terms. Estimates exclude the extractives sector.
 Source: Staff calculations based on the 2020 firm census data from INS (2022). June 2022.

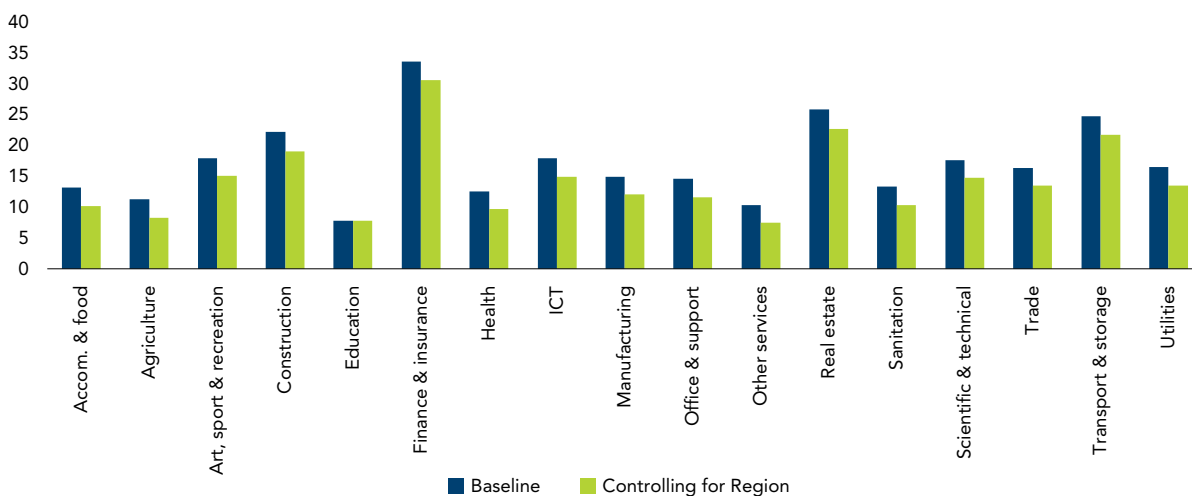
⁶⁴ In the figure, the size of the bubble represents employment in that subsector.

ambiguous in limited datasets,⁶⁵ in an ideal case, more productive sectors should grow their employment more than others, thereby increasing aggregate productivity and the share of better (higher wage) jobs. These results in Congo are an indication of misallocation because, over time, more workers should be allocated to sectors where they can work more productively. In that case, a strong positive relationship between employment and productivity should be observed. Instead, in Congo, findings suggest a negative relationship.

Within sectors, there is considerable labor productivity dispersion, even when controlling for regional differences, further corroborating high levels of misallocation. Figure 23 shows the ratio of labor productivity between firms in the 80th and 20th percentile in 2020, with and without controlling for region. The 80-20 ratios range from 7 to 34, implying huge differences in firm productivity within each industry. In advanced economies like the United States of America (USA), top firms are only twice as productive as those in the bottom percentiles. By contrast in Congo, firms with vastly different productivity levels co-exist within the same sector and even the same region. Part of this dispersion can be explained by factors such as firm capabilities and markups.⁶⁶ However, the presence of both productive and unproductive firms can signal misallocation, as less productive firms take up resources from more productive ones and should have been outcompeted. The magnitude of dispersion indicates large potential gains from moving factors, particularly labor, to more productive firms. The sectors with the most of this misallocation are finance and real estate, while education has the least.

FIGURE 23
The high degree of productivity dispersion implies that misallocation is an issue, especially in certain services, such as the financial sector

Dispersion in firm labor productivity, ratio between 80th and 20th percentile, 2020



Note: Labor productivity measured as value added per worker. Estimates exclude the extractives sector.
 Source: Staff calculations based on the 2020 firm census data from INS (2022). June 2022.

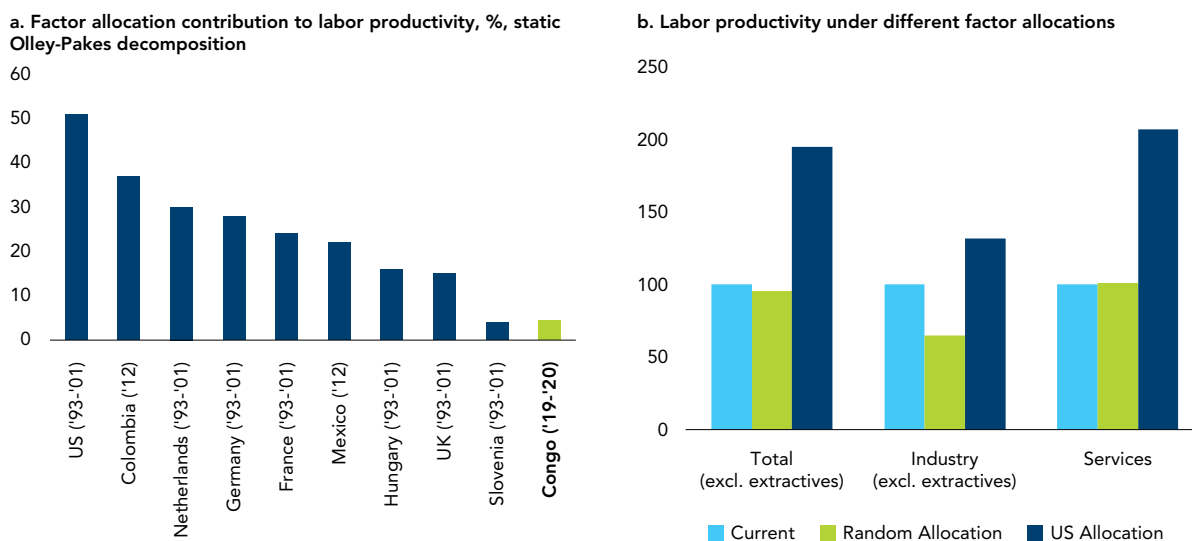
State-owned enterprises (SOEs) tend to drag down aggregate productivity while employing more people and providing higher wages, which exacerbates misallocation. Productivity is assessed by size group between SOEs and private firms. Across all size groups, SOEs are less productive than privately owned firms.⁶⁷ The difference is particularly notable among large firms, where SOEs had an average value added per worker 30 percent lower than that of private firms in 2020.⁶⁸ Furthermore, labor hoarding by SOEs is one common driver of low aggregate productivity. A typical medium-size SOE’s number of employees is more than double

⁶⁵ The relationship can be negative when productivity rises because jobs have been cut, e.g., by shedding superfluous workers or switching to technologies that require less labor; or it can be positive when more productive firms expand.
⁶⁶ Cusolito and Maloney (2018).
⁶⁷ SOEs here are defined as firms with over 50 percent public national participation in the capital of the company. Similar results emerge with other common definitions, such as 20 percent or more public participation.
⁶⁸ The same patterns of labor productivity and employment emerge in 2019 data.

that of a private medium-size firm. Meanwhile the level of employment in a large SOE is on average about 20 percent higher than in a large private firm. SOEs also pay higher wages. The average wage in a medium-size SOE is double the wage in a medium-size private firm while large SOE wages are about 15 percent higher than the wage for a large private firm.

Since factor allocation contributes very little to labor productivity levels, Congo could attain large potential gains from reducing misallocation, particularly in services. A static productivity decomposition in levels, excluding extractives, provides further insights into misallocation.⁶⁹ This shows a very low contribution of factor allocation (i.e., the between-firm component of productivity), accounting for four percent of the overall labor productivity level, while the rest comes from the within component (Figure 24-a). This implies that firm size and productivity are very weakly correlated. With low misallocation, the correlation should be high, as the more productive firms should receive more resources (e.g., labor) and grow in size. With a correlation of zero (i.e., a completely random allocation), Congo’s productivity would be four percent lower (Figure 24-b). As a result, the country can make large productivity gains by reducing misallocation. The results imply that reducing distortions to the level of the USA would increase aggregate labor productivity by 95 percent.⁷⁰ Further, misallocation is larger in services. An allocation similar to the USA would increase productivity by 207 percent in services, vs. 65 percent in industry.

FIGURE 24
Improving the allocation of resources could greatly increase productivity levels



Source: Staff calculations based on 2020 firm census data from INS (2022). Labor productivity measured as value added per worker. Estimates exclude the extractives sector. Data for comparator countries comes from Trang and Iacovone (2015). June 2022.

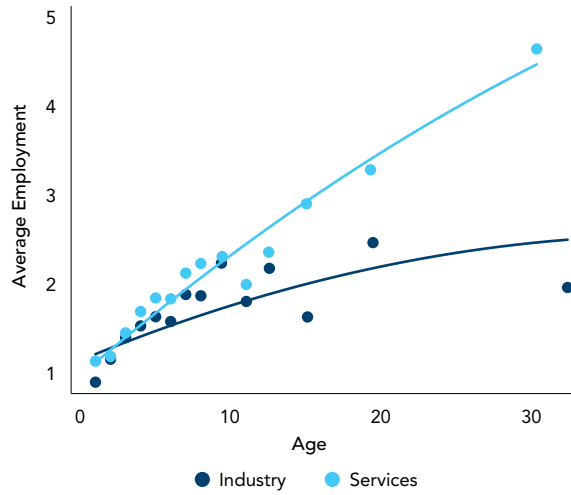
However, older firms tend to be consistently larger and more productive, indicating a relative efficiency of exits and dynamic market forces over time, as well as positive learning effects. Figure 25 shows the average firm employment and productivity by age cohort, excluding extractives. As can be seen, firms that have survived for a longer time are larger, meaning they were able to grow in terms of employment compared to younger firms. Further, productivity is increasing with age. Hence, less productive firms have not been able to survive very long on average, in contrast to more productive ones. Similarly, these results may indicate that firms are able and incentivized to learn and increase their productivity over time. Hence, some overall market forces, including entry and exit dynamics, appear to be working in general. Interestingly, this relationship appears stronger in services than in industry (excluding extractives).

⁶⁹ Following Olley and Pakes (1996) and Trang and Iacovone (2015).

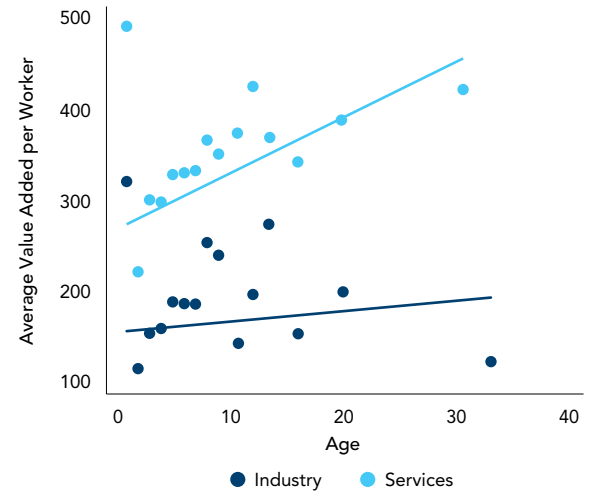
⁷⁰ In other words, increasing the between component contribution of productivity to the United States level. Similar data for peer countries is not available so the United States, which is a frontier economy, is used for comparison.

FIGURE 25
Older firms are larger and more productive, implying some efficiency of dynamic market forces, including exits

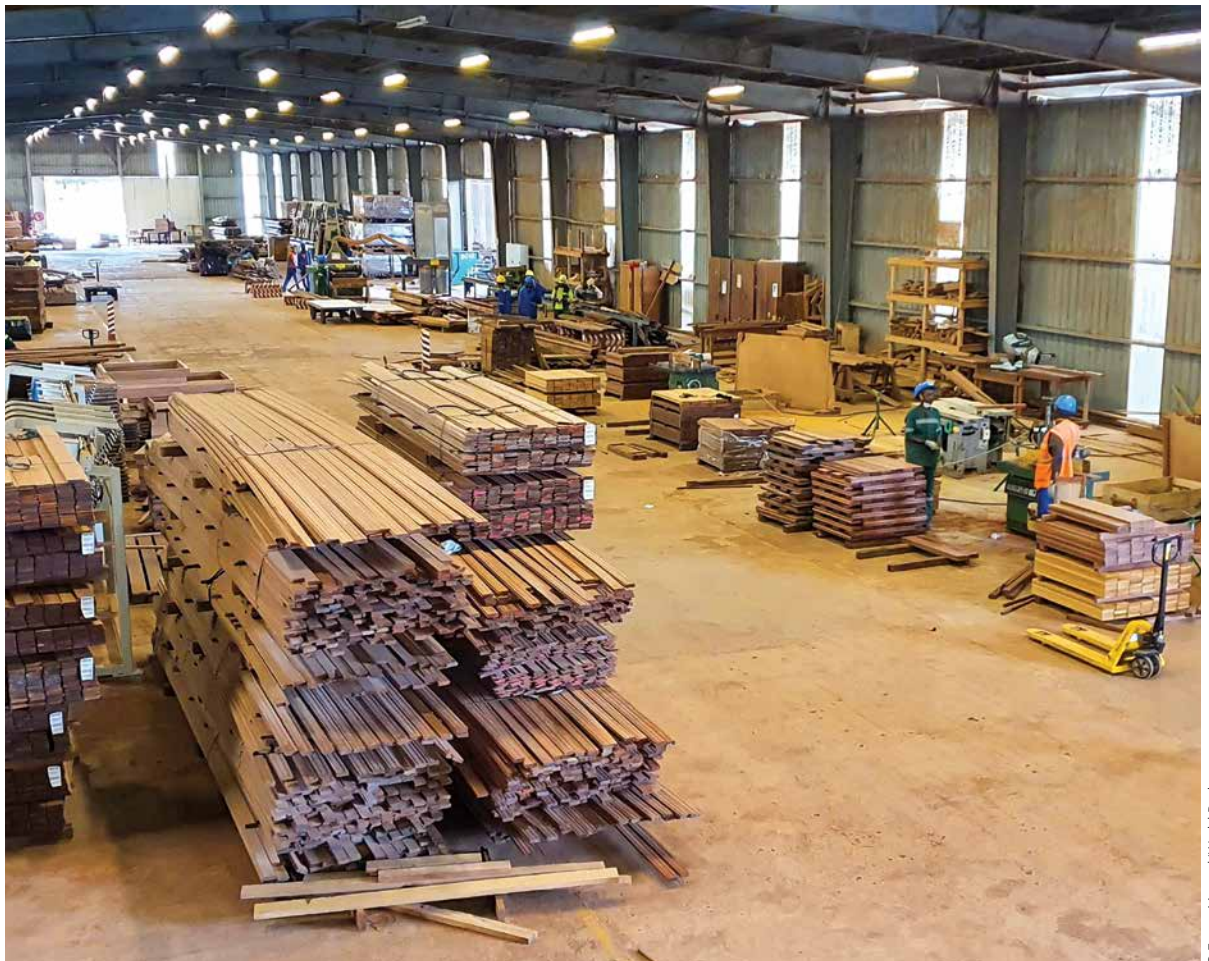
a. Employment by firm age, 2020



b. Labor productivity by firm age, 2020



Note: Labor productivity measured as value added per worker, expressed as 10,000 current CFAF per year. Estimates exclude extractives sector. Source: Staff calculations based on 2020 firm census data from INS (2022). June 2022.



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2.4 Policy implications

To raise productivity, policies should provide incentives to firms to upgrade their capabilities, allow productive firms to grow, and remove constraints on entry and exit. Productivity can grow by firms becoming more capable (within-firm productivity growth); by more resources being allocated to more productive firms (reducing misallocation, which results in between-firm productivity growth); and by productive entry and exit (dynamic growth). Box 6 summarizes the main policy directions that would directly promote each of these channels. However, most policies are not exclusively associated with one component. For example, reforming business regulations can facilitate both the entry of new firms (dynamic) and the growth of previously restricted ones (between). Similarly, increasing competition can enable between-firm growth, while also providing incentives to firms to upgrade their capabilities (within). Lastly, other aspects of the business environment such as access to electricity affects all channels.

BOX 6

Sources of Productivity Growth and Enabling Policy

Within-firm	Between-firm	Dynamic
<p>Firms increasing their capabilities</p> <p>Capabilities to be targeted are innovation, technology adoption, workforce skills, as well as good management and business practices.</p> <p>Policy Levers: Improving education and technical skills; encouraging entrepreneurship, good management, technology adoption (digital), and innovation; reducing administrative burdens; improving the business environment (including access to electricity); and increasing access to finance.</p>	<p>Allocating resources to more productive firms</p> <p>Misallocation of resources indicates barriers that prevent movement of capital, labor, and other factors of production to the most productive firms in the economy.</p> <p>Policy Levers: Removing distortions in product markets (competition policy); addressing frictions in land, capital, and labor markets; improving the business environment (incl. access to electricity); increasing access to finance; and opening markets to trade and investment.</p>	<p>Entry of productive and exit of unproductive firms</p> <p>Entry of highly productive, fast-growing firms and exit of firms that are not growing.</p> <p>Policy Levers: Same as within-firm and between-firm productivity levers, but with emphasis on dismantling barriers to entry and exit of domestic and foreign firms (e.g., licensing, asset recovery)</p>

Note: Adapted from Davies (2019).

The analytic results in this chapter indicate that Congo should prioritize policies to reduce distortions that cause misallocation (between firms), i.e., by enabling production factors to flow to the most productive firms. In Congo, there is substantial evidence for misallocation as the main drag on aggregate labor productivity. The results show that the least productive firms employ the most workers. Further, growing sectors are not always the most productive ones or those with the highest productivity growth. Similarly, there is considerable productivity dispersion within the same sectors, which signals strong misallocation. Lastly, the results indicate that labor allocation only contributes four percent to the overall level of labor productivity. These results together imply that resources, particularly labor, are not always flowing to the firms that can use them most efficiently. One reason for this misallocation may be frictions in matching employees to employers, including skill mismatches. Policies that remove distortions in input and output markets can, therefore, be expected

to push up productivity. As a result, overall labor productivity could increase by as much as 95 percent if distortions were to be reduced towards the level of a frontier economy such as the US.

Policies to reduce misallocation should particularly focus on services, as they appear to be most affected.

All the results indicating misallocation appears stronger among services than in industry (excluding extractives). Service sector productivity would more than double under an allocation as efficient as the USA, compared to a 65 percent increase in industry. Furthermore, services-led development may also be particularly advantageous for the future and help to diversify the economy away from oil, especially given the low productivity levels in manufacturing. However, further analytics would be required before embarking on this path.

There are several policy options to reduce misallocation, including increasing competition, opening markets to trade and investment, and removing distortions in product markets and access to inputs.

Competition pushes firms to become more efficient and facilitates the reallocation of inputs toward more productive firms, as less efficient ones are outcompeted.⁷¹ Potential competition reforms may include updating the competition legal framework, supporting an independent competition authority, and leveling the playing field for public and private actors (see Chapter 3). Similarly, opening markets to trade and investment can increase competition, provide productivity enhancing inputs, and induce productivity spillovers (see Chapter 5). To this end, policymakers can also attempt to strengthen foreign investment promotion and related strategies. Furthermore, burdensome product market regulations should be revised, as they can serve as a barrier to competition and efficient resource allocation. Lastly, other regulations may also inhibit access to input factors, such as land, capital, and labor.

While the very limited evidence suggests that dynamic market forces have been functioning to some extent in Congo, productivity can be further improved through supporting efficient firm entry and exits.

There is some evidence that, on average, more productive Congolese firms are likelier to survive and grow, which is encouraging. However, the limited data cannot rule out this dynamic productivity channel as important. To increase dynamic productivity, policymakers need to reduce barriers to entry and exit. For example, simplifying regulations for licenses or permits and supporting e-licensing would facilitate firms' entry. Another avenue could be simplifying and supporting insolvency procedures. This would help inefficient firms exit, thereby freeing scarce resources for more productive uses and enabling struggling entrepreneurs to liquidate and quickly get back into the economy.

A crucial part of the business environment in the Republic of Congo is access to electricity.

Supporting firm capabilities, including through digital transformation, can increase productivity. While the limited data do not allow for a thorough investigation of firm capabilities, the results of Figure 24 do indicate that they are important, accounting for most of the aggregate labor productivity levels. Better capabilities, which include technology adoption, innovation capacity, good managerial practices, and workforce skills, improve productivity and, therefore, growth within a firm.⁷² Firm capabilities can be directly supported through targeted training programs, business development services, technology transfer and extension services, incubators, accelerators, and technology centers. Similarly, improving the business environment, supporting access to finance, and increasing competition can enable and incentivize the proper investments in capabilities by firms.⁷³ Lastly, digital transformation has an especially strong potential to improve productivity (see Chapter 4).

Overall improvements to the business environment, including access to electricity, would also help raise productivity. The business environment affects all channels of productivity. First, it enables productivity-enhancing investments and provides incentives to improve capabilities within firms. Furthermore, it supports aggregate productivity growth between firms, by ensuring that more productive firms can enter and grow faster, while less productive firms shrink and exit as they are outcompeted. A crucial part of the business environment in Congo is access to electricity (Chapter 4).

⁷¹ Aghion and Griffith, (2005).

⁷² Better technology and innovation lead to a more efficient use of resources, successful new products improve sales, and more skilled employees can do better work in higher value-added sectors. Lastly, good management acts as a technology which improves productivity. See Bloom, et. al. (2013).

⁷³ A general overview of the available policy options and implementation guidance can be found in World Bank (2021a) for micro, small, and medium enterprises and in Cirera, et. al. (2020b) for innovation.



CHAPTER 3

Boosting Productivity through Competition

3.1 Congo's competitive environment lags behind peers

Competition constitutes an essential driving force for boosting long-term productivity and private sector development. Competition leads to more efficient markets by incentivizing companies to reduce their costs and innovate. As a result, more efficient companies will increase their market shares, while lower-productivity firms will tend to leave the market in the long run. Theoretical and empirical studies demonstrate that competition leads to more efficient markets,⁷⁴ increased innovation,⁷⁵ productivity,⁷⁶ and economic growth.⁷⁷ Moreover, empirical evidence shows that the degree of competition in the domestic market is a key determinant of international competitiveness.⁷⁸ Lack of competition in key inputs for domestic production—such as energy, transport or telecommunication services—can artificially increase firms' costs, constraining international competitiveness and GDP growth.

According to perception-based indicators, domestic competition in Congo appears to lag behind its regional, structural and aspirational peers. The Bertelsmann Transformation Index (BTI) assesses competition in Congo to be perceived as less robust than in most countries of the region: Congo ranks 117th out of 137 countries on the Economic Transformation component of the overall index.⁷⁹ Within that component, Congo's index for 'organization of the market and competition' (assessing the extent to which "there are clear rules for stable, market-based competition")⁸⁰ is significantly below its peers (Figure 26-a). Among competition-related sub-indices, Congo also compares unfavorably to its peers, lagging behind in terms of: (i) 'market organization' (assessing the extent to which an institutional framework ensures unrestricted participation in the market and a level playing field for all market participants) (Figure 26-b); (ii) 'competition policy' (i.e., assessing competition laws and the extent to which they are enforced) (Figure 26-c); (iii) 'liberalization of foreign trade' (i.e., assessing the degree of openness of the economy to foreign trade) (Figure 26-d); and (iv) 'private enterprise' (i.e., assessing privatization processes and the extent to which private companies permitted and protected) (Figure 26-e).⁸¹

Businesses also perceive risks related to cronyism, discrimination against foreign companies, and unfair competitive practices to a greater extent than in comparator countries. According to the Economist Intelligence Unit's Risk Tracker, government regulations and interventions in markets that increase business risks and harm competition can adversely affect the ability of firms to compete in markets.⁸² Risks are perceived to be significantly higher than in comparator countries except from retail price controls which, while remaining a significant source of risk, are on par with regional peers (Figure 26-f). These perceived risks may be limiting the development of the private sector in Congo.

Previous assessments by the World Bank appear to confirm the existence of business risks related to regulation. In the World Bank's CPIA, Congo scored 2.0 out of a possible 6 in Business Regulatory Environment, with a 2 out of 6 in all three subcategories (regulations affecting entry, exit, and competition; regulations of ongoing business operations; and regulations of factor markets). This CPIA score is lower than regional peers: Cameroon (3.0), Ghana (3.5), Nigeria (3.5).

⁷⁴ *Competition Policy: Encouraging Thriving Markets for Development*, Kitzmuller and Licetti (WBG) (2013).

⁷⁵ *Labour Market Institutions, Product Market Regulation, and Innovation*, Bassanini and Ernst (OECD Working Paper) (2002); *Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity*, Bloom, Draca, & Von Reenen (NBER Working Paper) (2011).

⁷⁶ *Competition and Innovation: An Inverted-U Relationship*, Aghion & Griffith, Q. J. of Econ., V. 120, No. 2 (May 2005); *Technology, Information, and the Decentralization of the Firm*, Acemoglu et al., Q. J. of Econ., Vol. 122, No. 4 (Nov. 2007).

⁷⁷ *Competition Policy and Productivity Growth: An Empirical Assessment*, Buccirossi et al., Rev. of Econ. & Stat., Vol. 95 No. 4 (Oct. 2009); *The Effects of Competition Policy on Development – Cross-Country Evidence Using Four New Indicators*, Voigt, J. of Development Studies, Vol. 45, No. 8 (2009).

⁷⁸ *Export Competitiveness: Why Domestic Market Competition Matters*, Goodwin & Pierola (WBG) (2015).

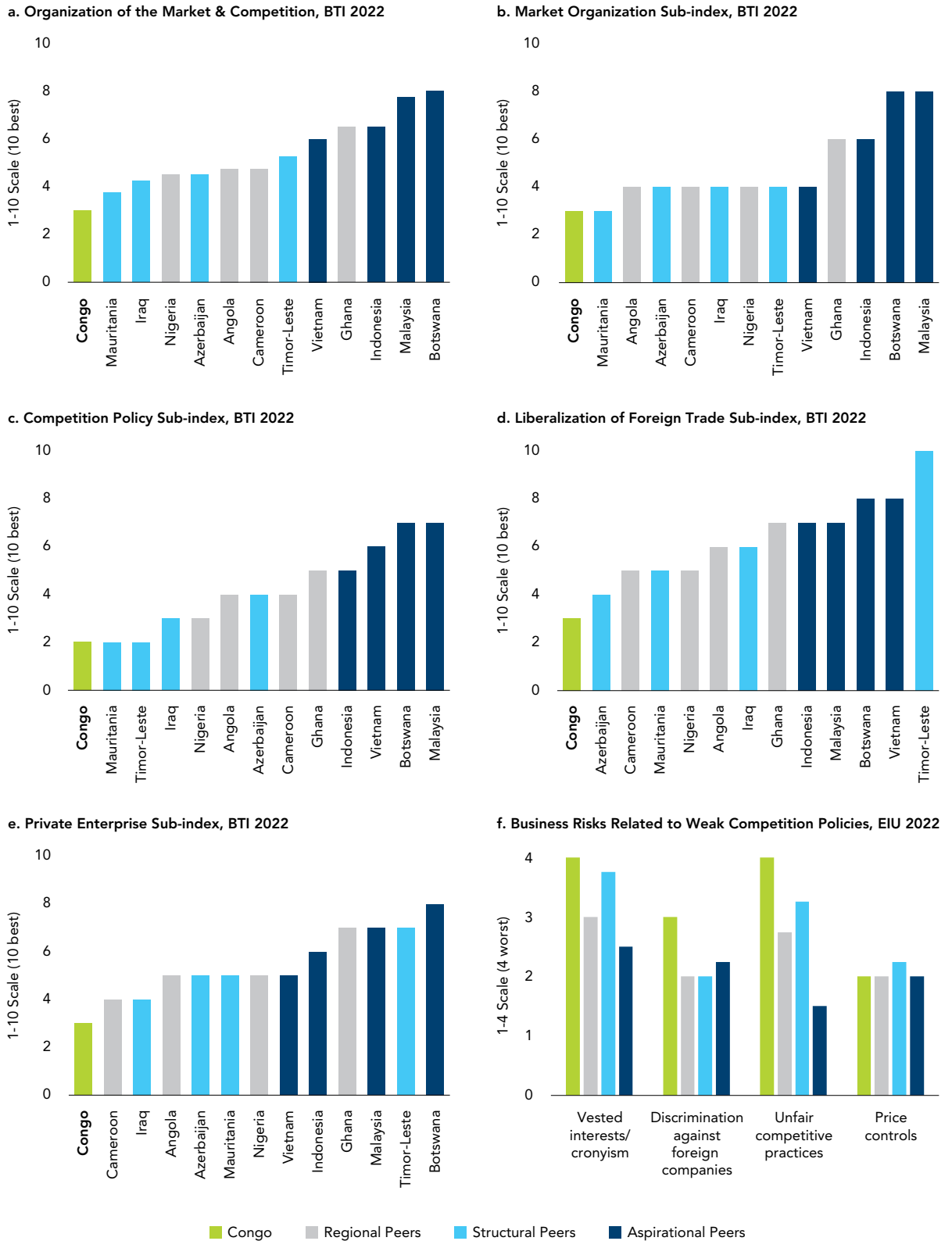
⁷⁹ The BTI assesses transformation toward democracy and a market economy as well as the quality of governance, organized around three components: political transformation, governance, and economic transformation. *The Bertelsmann Transformation Index 2022 Country Report, Congo, Rep.*, available at https://bti-project.org/fileadmin/api/content/en/downloads/reports/country_report_2022_COG.pdf.

⁸⁰ 'Organization of the market and competition' is one of seven criteria for the Economic Transformation index. *BTI 2022 Codebook for Country Assessments*, available at https://bti-project.org/fileadmin/api/content/en/downloads/codebooks/BTI2022_Codebook.pdf.

⁸¹ *BTI 2022 Codebook for Country Assessments*.

⁸² Economist Intelligence Unit Risk Tracker scores are assigned by analysts on both qualitative and quantitative factors.

FIGURE 26
Congo fares inadequately in competition related indicators



Note: The BTI and EIU are perception indicators. BTI 2022 covers the period from February 1, 2019, to January 31, 2021. Angola, Cameroon, Ghana, and Nigeria are included as regional peers. Azerbaijan, Iraq, Mauritania, and Timor-Leste are structural peers. Botswana, Indonesia, Malaysia, and Vietnam are aspirational peers. EIU scores are updated by analysts quarterly on both qualitative and quantitative factors—this data is from May 2022. Source: Bertelsmann Transformation Index (BTI) 2022; Economist Intelligence Unit (EIU) Risk Tracker, May 2022.

As is true elsewhere, competition in Congo is affected both by government policy in setting the regulatory environment and market rules and by direct market involvement through SOEs. Competition in Congo is hindered by government behavior in three important ways. First, market distortions arise due to the state's participation in markets through SOEs (Section 3.2), including in markets where competition is viable and where private-sector competitors are present. Second, markets are distorted by government price controls (Section 3.3); and last, Congo lacks a functioning economy-wide competition policy (Section 3.4).

3.2 Congolese SOEs benefit from an uneven playing field

Despite past divestment efforts, the government of Congo retains a prominent role in the economy through SOEs.⁸³ In the 1990s, Congo undertook a major move toward government divestment in an economy dominated by SOEs.⁸⁴ The Congolese state still controls the key public services of electricity, water, and transport. Overall, the Congolese government has an ownership stake in 55 companies, of which the government has a majority share in 34.⁸⁵ The ten largest SOEs are in the areas of energy, transport, banking, and healthcare,⁸⁶ but there are also SOEs in mining, agro-industry,⁸⁷ residential housing, gambling and insurance.⁸⁸ While many of these SOEs are present in network industries with natural-monopoly segments (e.g., electricity, water supply, and railways), they also operate in contestable markets (markets where no underlying economic factor precludes private-sector participation⁸⁹ such as power generation) and in competitive markets (such as banking,⁹⁰ insurance,⁹¹ residential housing,⁹² and gambling⁹³). SOE presence in industries with inherent barriers to entry, such as network effects, is not in of itself a problem and is common internationally, but where private-sector competition is feasible, it is important to ensure that preferential treatment of SOEs does not discourage the participation of the private sector. On the other hand, the presence of SOEs in contestable and competitive market segments can crowd out efficient private sector operators and limit competition.

A “competitive neutrality” gap analysis suggests that Congolese SOEs do not consistently compete on an even playing field relative to private-sector firms. Competitive neutrality refers to the consistent application of the same laws and regulations to SOEs as private firms—a key characteristic of a level playing field.⁹⁴ Table 1 summarizes the “competitive neutrality” gap analysis for Congo at the firm-level and at the level of cross-cutting regulatory frameworks and sectoral policies.

⁸³ SOEs in Congo comprise the public portfolio (*portefeuille public*). Companies in which the state has a majority share are called public enterprises (*entreprises publiques*), and those in which the state has a minority share are called holdings (participations). SOEs are organized both under a 1981 law as *Etablissements Publics à Caractère Industriel et Commercial* for wholly state-owned entities and under OHADA law as *Sociétés Anonymes*. See *Zoom sur les Entreprises du Portefeuille public avec Madame Lydie Oboa Oworo, Directrice générale*, (Jan. 19, 2017) available at <https://www.finances.gouv.cg/fr/articles/zoom-sur-les-entreprises-du-portefeuille-public-avec-madame-lydie-oboa-oworo-directrice>; Law No. 13-81 (Mar. 14, 1981) (State Enterprise Charter).

⁸⁴ Law 24-94 (Aug. 10, 1994) (introducing a framework for privatization); and Law 10-95 (Apr. 17, 1995) (identifying specific sectors to be privatized). In the past five years, no Congolese SOEs have been created. *2022 SOE Checklist Survey for Congo*.

⁸⁵ *2022 SOE Checklist Survey for Congo*. In 2021, the top ten SOEs (listed in note 82 below) had a total turnover (CFAF 577,670 million) that amounted to 8.3 percent of GDP (CFAF 6,944,920.92 million per World Bank estimate). For a list of SOEs that existed at the end of 2016, see *Cartographie des Entreprises Publiques, Ministère de l'économie, de l'industrie et du portefeuille public* (last updated Dec. 31, 2016), <https://economie.gouv.cg/fr/cartographie-des-entreprises-publiques>.

⁸⁶ The ten largest SOEs in order of largest to smallest in terms of turnover are: *Société Nationale des Pétroles du Congo* (SNPC), *Energie électrique du Congo* (E²C), *Centrale électrique du Congo* (CEC), *Port autonome de Pointe-Noire*, *Congo Télécom*, *Banque postale du Congo*, *La Congolaise des Eaux*, *Chemin de Fer Congo-Océan*, *Port autonome de Brazzaville et des Ports secondaires*, and *Centrale d'achats des médicaments essentiels et des produits de santé. Rapport annuel sur la dette publique, Caisse Congolaise d'Amortissement* (2021), p. 38, available at <https://www.finances.gouv.cg/fr/rapport-annuel-sur-la-dette-publique-2021>.

⁸⁷ Government participation in agro-industry extends to inputs, cultivation, and processing. *2022 SOE Checklist Survey for Congo*. The partially state-owned SOE, *Société Agricole pour le Raffinage du Sucre* (Agricultural Company for Industrial Sugar Refining), produces crushed lime as a soil additive for cane fields, cultivates cane, and refines sugar. See <https://www.somdiaa.com/groupe/filiales/saris-congo/>.

⁸⁸ *2022 SOE Checklist Survey for Congo*.

⁸⁹ Competitive sectors are characterized by small entry barriers; contestable sectors are characterized by moderate entry barriers, public goods, or externalities; and natural monopoly sectors are those that exhibit high entry barriers, economies of scale, or sub-additivity cost structures.

⁹⁰ *Banque Congolaise de l'Habitat* (BCH).

⁹¹ *Assurances et Réassurances du Congo* (ARC).

⁹² The state's involvement in the residential housing markets through the SOE, *La Société de Promotion Immobilière*, includes but is by no means limited to low-income housing. See, <https://soprim.cg>.

⁹³ *La Congolaise de Gestion et de Loterie*.

⁹⁴ Competitive neutrality is a principle according to which all enterprises, public or private, domestic or foreign, face the same set of rules and where government's contact, ownership or involvement in the marketplace, in fact or in law, does not confer an undue competitive advantage on any actual or potential market participant. *Roundtable on Competition Neutrality, Issues paper* by the Secretariat, OECD (2015), p. 4.

TABLE 1
Preliminary competitive neutrality gap analysis for Congo

Competitive neutrality gap analysis				
Subsidiarity analysis: the role of the State in the economy analysis				
Firm-level principles: Separation of SOE commercial and non-commercial activities				
	1 Streamlining the operational form of government business	2 Identifying the costs of any given function	3 Achieving a commercial rate of return	4 Accounting for public service obligations
Congo	<ul style="list-style-type: none"> No legal separation between commercial and non-commercial activities of SOEs. 	<ul style="list-style-type: none"> No accounting separation/cost allocation requirement in the law. 	<ul style="list-style-type: none"> No formal requirement to achieve a commercial rate of return. No formal obligation for SOEs to cover direct costs using internally generated revenues and no private sector benchmark for SOEs' transactions. 	<ul style="list-style-type: none"> Lack of systematic, transparent and objective criteria for SOEs in the compensation of Public Service Obligations (PSOs).
Benchmark	<ul style="list-style-type: none"> Legislation requires business separation of SOEs. 	<ul style="list-style-type: none"> Separate accounts for commercial and non-commercial activities of SOEs. SOEs objectively assessed based on transparent performance reports. 	<ul style="list-style-type: none"> SOEs commercial operations and investments are required to have positive Net Present Value (NPV), market consistent rate of returns and to be measured based on private sector performance. 	<ul style="list-style-type: none"> Compensation paid to SOEs for the provision of PSOs is based on transparent accountability and objective criteria. Cross-subsidization is avoided.
Principles embedded in cross-cutting regulatory frameworks and sectoral policies				
	5 Regulatory neutrality	6 Public procurement	7 Tax neutrality	8 Debt neutrality and outright subsidies
Congo	<ul style="list-style-type: none"> SOEs are not provided legal exceptions with respect to competition law, regulatory requirements, or insolvency. 	<ul style="list-style-type: none"> SOEs are not provided legal exceptions with respect to public-procurement law. 	<ul style="list-style-type: none"> SOEs are not provided legal exceptions with respect to tax law. There is some evidence that SOEs are able to accumulate tax debt. 	<ul style="list-style-type: none"> The government has provided debt guarantees, but (with no formal legislative change) has ceased to do so in recent years. The government also provides state guarantees and land transfers to some SOEs. The government is able to and has provided outright subsidies to struggling SOEs.
Benchmark	<ul style="list-style-type: none"> Companies compete on a level-playing field with no trade protection and market-based competition for rights to invest in state assets. Sectors where competition is feasible are open to private investment. 	<ul style="list-style-type: none"> Market-based competition in public procurement. Bids/auctions designed to reduce the risks of bid rigging. 	<ul style="list-style-type: none"> Tax exemptions, subsidies, and debt guarantees granted following competitive neutrality principles. 	
State aid legal framework and implementation requires improvements to minimize room for anticompetitive outcomes				
Level playing field in the market between SOEs and privately owned operators				

3.2.1 Blurring of commercial and non-commercial activities for SOEs may confer an unfair advantage

The absence of a clear separation between commercial and non-commercial activities of SOEs allows them to cross-subsidize commercial activities in markets where they face private competition.

Currently, according to publicly available information, there seems to be no formal requirement for SOEs to separate their commercial and noncommercial activities and keep separated accounts. Moreover, it appears that SOEs are not required to achieve a positive rate of return or net present value. Compensation of public service obligations is not systematically subject to transparent and objective criteria. Without such separation of commercial and non-commercial activities, there is the risk that compensation of public service obligations will allow an SOE to persist in commercial activities despite being less efficient than competitors or to cross-subsidize between commercial and non-commercial activities, maintaining artificially low prices with respect to the SOE's commercial activities to the disadvantage of any actual or potential private competitors.

Importantly, Congolese SOEs are not systematically and transparently audited in a manner that would allow the separation of commercial and non-commercial activities. The General Directorate of Public Portfolio (*Direction Générale du Portefeuille Public*, DGPP) is tasked with monitoring the financial performance of SOEs. However, in practice, the DGPP lacks adequate resources and seems to have a limited role.⁹⁵ Although annual financial statements are required for both public and private companies,⁹⁶ there are generally no additional reporting requirements regarding SOE

Although annual financial statements are required for both public and private companies, there are generally no additional reporting requirements regarding SOE performance or financial decisions.



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⁹⁵ Congolese SOEs have two forms of supervision: technical supervision provided by the relevant line ministry, and financial and administrative supervision provided by the DGPP in the Ministry of Finance. Even since the creation of the DGPP in 2013, the line ministries play a preponderant role that the supervising SOEs. *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG, (2018), ¶ 16.

⁹⁶ OHADA Uniform Act on Economic Companies and Public Interest Groups, art. 269.

performance or financial decisions.⁹⁷ SOEs' annual reports are subject to audit by the agency charged with auditing public enterprises (*Commissariat National aux Comptes*, CNC),⁹⁸ but such audits have not consistently occurred.⁹⁹ Congo Telecom, for example, had gone a decade without an audit as of 2018 (Box 7). Moreover, to ensure independence, it is best practice to use external audits rather than to rely solely on a government auditing authority.¹⁰⁰ In the last few years, Congolese authorities have been making ongoing efforts to increase transparency of SOEs with support from the World Bank and the IMF.¹⁰¹ These efforts have included external audits by international audit firms of select SOEs, but such auditing is not required or applied to SOEs in general. These efforts are also based on OHADA accounting law,¹⁰² which applies equally to SOEs and private companies and does not provide for separation of commercial and non-commercial activities.¹⁰³

BOX 7

Ineffective Monitoring of SOEs – Congo Telecom

The SOE, Congo Telecom, (and its predecessor)¹⁰⁴ has struggled in the telecommunications market since liberalization in 1997, requiring capital injections by the state, but accounting practices were entirely inadequate to allow for effective monitoring. Congo Telecom's competitive struggles stand out in a sector of rapid growth, increased efficiency, and adaptation of innovations. Its predecessor started as a monopoly and a good deal of the telecommunication infrastructure was destroyed by the civil war in 1997.¹⁰⁵ Congo Telecom focused on its fixed-line monopoly and failed to capitalize on the initial rise of the mobile market. In 2007, the company had to suspend salary payments, and in 2010, still overstuffed, Congo Telecom faced bankruptcy.¹⁰⁶ It was able to survive (albeit with direct capital infusion by the state)¹⁰⁷ by shifting its focus towards fiber optics and relying on the use of the fiber optics infrastructure which is managed by the Direction Générale des Grands Travaux.¹⁰⁸ By 2015, Congo Telecom was no longer losing money.¹⁰⁹ The true extent of its financial troubles and the extent to which it was being outcompeted by the private sector were not fully apparent at the time, however. The company's accounting practices were entirely inadequate. As of 2018, Congo Telecom operated without a budget for more than a decade and does not have certified financial statements from that time.¹¹⁰ It changed management in 2020, however, and reforms are being considered that would improve accounting practices, including the listing of Congo Telecom on the regional stock exchange.¹¹¹

⁹⁷ 2022 SOE Checklist Survey for Congo. An exception is the recent requirement that SOEs report their debt twice annually to the *Caisse congolaise d'amortissement*. *Rapport annuel sur la dette publique*, (2021), p. 38, available at <https://www.finances.gouv.cg/fr/rapport-annuel-sur-la-dette-publique-2021>.

⁹⁸ See CNC Website, <https://cnc-congo.cg/>.

⁹⁹ *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG (2018). SOEs can also be audited by the *Cour des Comptes et de Discipline Budgétaire* (CCDB), see Law No. 022-1992 of Aug. 20, 1992, but such audits are also not regularly conducted, See *Loi des finances: contraindre les entreprises publiques à reverser les taxes à l'Etat, Agence d'information d'Afrique Centrale* (Dec. 11, 2021), available at <https://www.adiac-congo.com/content/loi-des-finances-contraindre-les-entreprises-publiques-reverser-les-taxes-letat-133085>.

¹⁰⁰ *Corporate Governance of State-Owned Enterprises: A Toolkit*, WBG (2014), pp. 35-36. Subjecting select SOEs to credit rating assessments can also be a powerful tool in increasing financial transparency. See *Vietnam Electricity (EVN) Achieves its First and Positive Credit Rating from Fitch Ratings*, WBG (Jun. 7, 2018).

¹⁰¹ These efforts focus on addressing the limited coverage on SOE debt and financial performance and are supported by the performance and policy actions under the World Bank's Sustainable Development Finance Policy as well as by the IMF. There has also been recent movement toward listing Congolese on the regional stock exchange. In 2020, Congo presented the regional Central Bank, BEAC, with a list of SOEs—Congo Telecom, E2C, CEC, and SNDE. *Le Congo veut introduire quatre entreprises à la BVMAC*, African Markets (Jan. 15, 2021), available at <https://www.african-markets.com/fr/actualite/afrique-centrale/congo-brazzaville/le-congo-veut-introduire-quatre-entreprises-a-la-bvmac>. The process of preparing for public listing could present the opportunity to increase accounting transparency.

¹⁰² 2022 SOE Checklist Survey for Congo. See also, e.g., *Rapport des commissaires aux comptes sur les états financiers annuels et Spécial sur les conventions réglementées de la SNPC - exercice clos 2020* (auditing the SOE SNPC using OHADA standards), available at <https://www.finances.gouv.cg/fr/type/rapport>.

¹⁰³ OHADA Uniform Act on Accounting Law and Financial Reporting (2017).

¹⁰⁴ Congo Telecom until 2009 was known as *Société des Télécommunications du Congo* (SOTELCO), which in turn derived from the telecommunications division of *Office National des Postes et Télécommunications* (ONPT).

¹⁰⁵ *Public-Private Partnership in Telecommunications Infrastructure Projects: The Case of the Republic of Congo*, WBG (2010), p. 10.

¹⁰⁶ *The Republic of Congo's Infrastructure*, WBG (2010), pp. 15–16.

¹⁰⁷ Congo Telecom received a subsidy of CFAF 500 million in 2014. *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG (2018).

¹⁰⁸ *Evaluation de la gouvernance des entreprises du portefeuille public*, WBG (2018), ¶ 134.

¹⁰⁹ *Id.* at ¶ 133.

¹¹⁰ *Id.* at ¶ 131.

¹¹¹ *Le Congo veut introduire quatre entreprises à la BVMAC*, African Markets (Jan. 15, 2021).

3.2.2 SOEs receive some preferential treatment relative to private sector firms

Although Congolese commercial law formally treats SOEs identically to private sector firms, the regulatory treatment of SOEs differs in practice. SOEs are not provided legal exceptions related to competition, public procurement, regulatory requirements, taxation, or insolvency laws.¹¹² There is some evidence, however, of SOEs failing to pay taxes without clear repercussions.¹¹³ In 2018, for example, Congo Telecom had accumulated tax debt (both value added tax and corporate income tax) despite having operated at a profit.¹¹⁴ In 2020, SNPC also had accumulated tax debts of about US\$1,849,000 despite having operated at a profit for the previous two years.¹¹⁵

SOEs receive certain advantages in the form of debt guarantees and outright subsidies that are not granted to the private sector.¹¹⁶ Although the government has not guaranteed SOE debt recently,¹¹⁷ it had done so in a substantial way until a few years ago. For example, the government guaranteed CFAF 184 billion in 2014 and 222 billion in 2016 for *l'Assurance et Réassurance du Congo*.¹¹⁸ There are no rules that provide criteria for granting direct or indirect subsidies to public and private companies to minimize competition distortions, and the state does occasionally inject funds into public enterprises without a clear process. As an example, the struggling railway SOE, *Chemin de Fer Congo-Océan*, received CFAF 8.7 billion in 2012 and 5.6 billion in 2016 (about US\$17.4 million and 9.5 million respectively).¹¹⁹ On the other hand, SOE subsidies are substantial enough to undermine government fiscal health. For example, the large energy SOEs, *Congolaise de Raffinage* (CORAF, an oil refinery)¹²¹ and *Centrale Électrique du Congo* (CEC, a natural-gas fired power plant), together received over three percent of GDP in subsidies during 2018 and 2019 and over one percent in 2020 and 2021 (Figure 27). The reduction of subsidies to CORAF after 2019 is the result of reform efforts that included regular auditing and a performance contract.¹²² Energy subsidies are expected to further increase in 2022 as a consequence of the war on Ukraine.

No process ensures that sovereign debt guarantees or budget subsidies are not propping up inefficient firms. Subsidies can be granted without assessing the competitiveness of the SOE. In particular, the DGPP manages state aid to public enterprises, and it is not subject to any rules requiring it to take into account distortionary market effects.¹²³ For an example of the implementation of a state-aid framework that requires authorization of a competition authority, see Annex 1 describing the framework of Moldova.

Moreover, there is no pre-established procedure for assessing the advisability from a competition standpoint of either creating an SOE or divesting from an SOE.¹²⁴ The Congolese government is presently considering the divestment from certain SOEs and may list four major SOEs on the regional stock exchange,

¹¹² 2022 SOE Checklist Survey for Congo; *L'acte uniforme de l'OHADA portant organisation des procédures collectives d'apurement du passif* (Sept., 2015), art. 1-1.

¹¹³ This is also true for private sector firms.

¹¹⁴ *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG, (2018), ¶ 135. It is difficult to gauge whether and to what extent SOEs might be privileged over private firms with respect to tax collection because of ineffectiveness in the collection of tax arrears from the private sector as well as from SOEs.

¹¹⁵ *Rapport des commissaires aux comptes sur les états financiers annuels et Spécial sur les conventions réglementées de la SNPC - exercice clos 2020*, pp. 7, 38, available at <https://www.finances.gouv.cg/fr/type/rapport>.

¹¹⁶ There are instances of public money going to private competitors. For example, the government supports micro, small, and medium enterprises through the Guarantee and Support Fund (*Fonds d'Impulsion, de Garantie et d'Accompagnement*, <https://www.figa.cg/accueil.html>). However, it is important to note that any differential treatment of SOE vis-à-vis private sector would require assessing whether SOE and private firms operate under similar market conditions.

¹¹⁷ 2022 SOE Checklist survey for Congo. At present guarantees for SOEs are minimal. *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG (2018). For example, none of the ten largest SOEs presently hold guaranteed debt. *Rapport annuel sur la dette publique, Caisse Congolaise d'Amortissement* (2021), p. 40, available at <https://www.finances.gouv.cg/fr/rapport-annuel-sur-la-dette-publique-2021>.

¹¹⁸ *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG (2018).

¹¹⁹ Using an average exchange rate of 0.002 US\$/CFAF in 2012 and 0.0017 US\$/CFAF in 2016.

¹²⁰ *Evaluation de la Gouvernance des Entreprises du Portefeuille Public*, WBG (2018).

¹²¹ CORAF is an oil refinery and subsidiary of wholly state-owned SNPC. CEC operates a gas power plant and is 80 percent state-owned. As a comparison, state aid expenditure in the European Union member states with larger available public budgets remained below one percent of GDP at the Union level (2019). See: https://ec.europa.eu/competition-policy/system/files/2021-06/state_aid_scoreboard_note_2020.pdf

¹²² *Republic of Congo: Staff Report for the 2021 Article IV Consultation*, IMF (Sept. 13, 2021); *Republic of Congo: Request for a Three-Year Arrangement Under the Extended Credit Facility*, IMF (Jan. 10, 2022). Transfers to CEC were also conditioned on its realized earnings and expenses. *Id.*

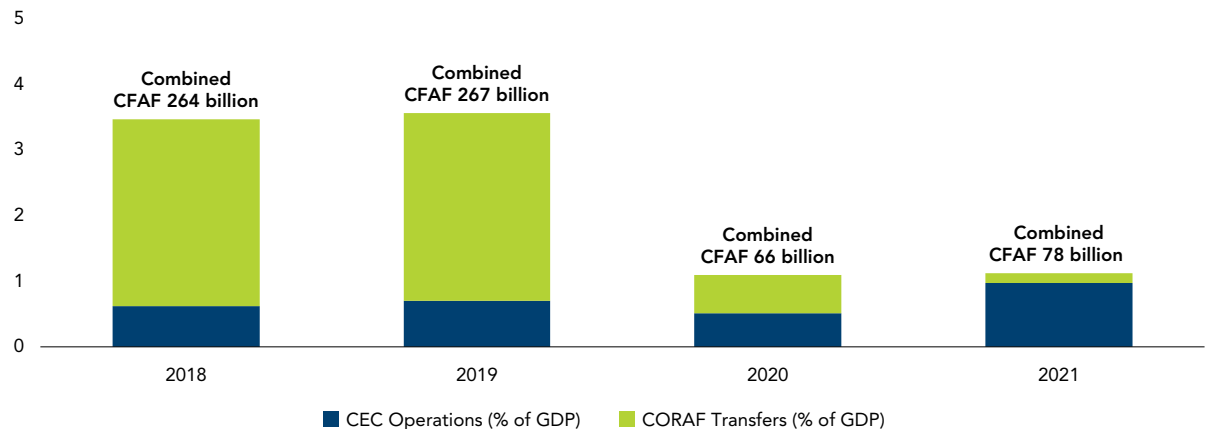
¹²³ 2022 SOE Checklist survey for Congo. In theory, Congo's subsidies of SOEs are subject to monitoring by CEMAC, which has exclusive jurisdiction to enforce a law designed to prevent anti-competitive subsidies. Regulation No. 06/19-UEAC-639-CM-33, arts. 83-101 (Apr. 7, 2019), available at <http://www.droit-afrique.com/uploads/CEMAC-Reglement-2019-06-concurrence.pdf>; *Id.* at art. 20(b) (exclusive CEMAC jurisdiction). On paper, this legislation resembles that of Moldova, outlined in Annex 1 – subsidies and indirect state aid is to be disallowed where market distortions are not justified by countervailing public interest. *Id.* at art. 82. In reality, this law seems not to have been enforced. The CEMAC Website, for example, shows no signs of monitoring SOE subsidies. <https://www.cemac.int/Accueil>, at writing, only available at <https://web.archive.org/web/20220327091126/https://www.cemac.int/Accueil>.

¹²⁴ 2022 SOE Checklist Survey for Congo; 2021 Investment Climate Statements: Republic of the Congo, U.S. Department of State.

which could result in government partial divestment.¹²⁵ There does not, however, appear to be any systematic process by which divestment decisions are evaluated with respect to their effect on the competitiveness of markets.

FIGURE 27
Transfers and subsidies to CORAF and CEC SOEs are substantial

Transfers and subsidies to CORAF and CEC SOEs as % GDP, 2018-2021



Source: National authorities. June 2022.

3.3 Regulatory restrictions to competition distort markets in key areas

Many key sectors in Congo’s economy are dominated by SOEs and characterized by price controls. The largest SOE, wholly owned by the state, the *Société Nationale des Pétroles du Congo* (SNPC), manages and commercializes government shares of oil production, and its subsidiary, CORAF, refines most of the oil. The water market is a monopoly of *La Congolaise des Eaux*, which is majority state-owned. SOEs also have a large presence in transport, with the wholly state-owned *Société Chemin de Fer Congo-Océan* as a monopolist in rail transport and government stakes in the company managing airports (*Aéroports du Congo*) and providing road infrastructure (*La Congolaise des Routes*). Price controls are prevalent in key industries, with, for example, the government regulating retail prices of petroleum products, water, electricity, and retail and wholesale telecommunications tariffs.

This section further examines the telecommunications and electricity sectors. Because telecommunications and electricity are network industries, typically subject to high entry barriers, entry is often difficult and can be more difficult in the absence of effective regulations to facilitate entry and sanctions on exclusionary practices of incumbents. Thus, both pro-competitive ex ante regulation and ex post enforcement of competition policy are important (see Annex 2 for a summary of government holdings in telecommunications and electricity, as well as the other network sectors of gas and water). Moreover, telecommunications and electricity are enabling sectors—sectors necessary for the efficient function of other industries. In particular, both sectors are crucial to the digital economy, which Congo has recognized as a priority for economic diversification and growth. While in-depth competition assessments are warranted, the analysis below will provide several high-level entry points to stimulate the discussion on the role of competition and regulation to enhance market outcomes for consumers. (See Chapter 4: Boosting Productivity through Digital Technology and Improved Access to Electricity for a more detailed analysis of access to electricity and the digital transformation).

¹²⁵ See *Marché financier d’Afrique centrale: 10 candidatures pour l’entrée en bourse*, Jiongo (EcoMatin) (Apr. 28, 2022), available at <https://ecomatin.net/marche-financier-dafrique-centrale-10-candidatures-pour-lentree-en-bourse/>.

3.3.1 Electricity sector has not attracted needed private participants

Efforts to open the electricity sector to private-sector participants have largely failed. Electricity production, transmission and distribution are all considered to be public services under the authority of the state and each of these sectors is dominated by direct government participation in the market.¹²⁶ The electricity sector was theoretically opened up to private sector participation by reforms introduced in 2003 (with further reforms in 2017),¹²⁷ which allowed for private participants in the electricity industry and created a regulator, *l'Agence de Régulation du Secteur de l'Électricité* (ARSEL), to oversee market dynamics and ensure regulation of the sector.¹²⁸ These reforms also attempted to make private sector participation feasible by requiring that private sector competitors could access the existing grid by requiring operators to provide third-party access to transport and distribution networks at prices regulated by ARSEL.^{129,130}

These reforms were not sufficient to encourage private sector participation, and there are no private sector companies that act as independent competitors in the electricity market. The SOE, *Énergie Electrique du Congo* (E²C), which evolved from the state electricity monopoly,¹³¹ remains the only player in transmission and distribution.¹³² In production, E²C accounts for 36.5 percent¹³³ of the market in 2018 through its operation of hydroelectric plants.¹³⁴ The largest producer is *Centrale Electrique du Congo* (CEC) (484 MW installed capacity of gas turbines), which is 80 percent state owned with the remaining 20 percent owned by the international energy firm, ENI.¹³⁵ Under the 2003 Electricity Code,¹³⁶ the government can delegate public service activities in the electricity sector to the private sector through a license or concession following a public tender.¹³⁷ Hence, there is no general authorization system allowing private operators to operate independently in potentially competitive segments of the electricity sector.¹³⁸ Furthermore, the nature of delegation contracts may be unattractive to private-sector operators. The contracts may have a span of up to 30 years, but after its term, the contract must be tendered-out again.¹³⁹ More importantly, the government retains broad powers to revise the terms of the contract creating uncertainty for investors.¹⁴⁰

E²C's monopoly in electricity transmission may discourage any future competition in production and distribution. Despite Congo's consideration of reforms in recent years,¹⁴¹ E²C presently is an electricity producer as well as holding monopolies in transmission and distribution. Lack of vertical separation between the transmission sector—which is typically considered a natural monopoly—and production and distribution can allow the transmission incumbent to foreclose market entry into production and distribution.¹⁴² Although in smaller electricity markets such as Congo's, complete vertical separation is not always desirable, options other than “structural” separation or complete separation of ownership which can support more competition. Legal

¹²⁶ Electricity Code, Law No. 14-2003 (Apr. 10, 2003), art. 7.

¹²⁷ *Id.* Decree No. 2017-247 (Jul. 17, 2017) (setting delegation procedures); Decree No. 2017-248 (Jul. 17, 2017) (setting the conditions for independent electricity production); Decree No. 2017-252 (Jul. 17, 2017) (setting pricing principles).

¹²⁸ Law No. 16-2003 (Apr. 10, 2003).

¹²⁹ Electricity Code, Law No. 14-2003 of (Apr. 2003), arts. 46–50; Decree No. 2017-248 (Jul. 17, 2017), art. 11.

¹³⁰ For an overview of the typical framework for the competition analysis of electricity sectors, see Annex 3.

¹³¹ E²C was formed from the fully state-owned *Société Nationale d'Électricité* in 2018. Law No. 22-2018 (Jun. 13, 2018).

¹³² *Le cadre légal et réglementaire du secteur de l'électricité en République du Congo*, Sancy Lenoble Matschinga, available at <https://www.village-justice.com/articles/cadre-legal-reglementaire-secteur-electricite-republique-congo,38981.html>; 2022 *Survey for Congo* (following an abbreviated OECD PMR template).

¹³³ Percentage calculated from United States Energy Information Administration data. Congo Brazzaville's net electricity generation by fuel type, available at <https://www.eia.gov/international/analysis/country/COG>.

¹³⁴ These include Imboulou (120 MW), Moukouloulou (74 MW), Djoué (14 MW), and Liouesso (19.2 MW). *Centrales de Production de la Electricité*, E²C, <http://e2c.cg/nos-metiers/production/>. ENI also constructed the *Centrale Électrique du Djeno* (CED) plant (gas turbines; 170 MW). Congo-Brazzaville, U.S. Energy Information Administration (May 12, 2021), <https://www.eia.gov/international/analysis/country/COG>.

¹³⁵ *Centrale Electrique du Congo* (CEC) Pointe-Noire Power Plant, Republic of the Congo, Power Technology (Jan. 11, 2022), <https://www.power-technology.com/marketdata/centrale-electrique-du-congo-cec-pointe-noire-power-plant-republic-of-the-congo/>.

¹³⁶ While these contracts are termed “*contrats de délégation*,” they resemble concession contracts in that the law contemplates the delegation to a private-sector participant of management of an entire enterprise, such as a hydroelectric plant.

¹³⁷ Electricity Code, Law No. 14-2003 of (Apr. 2003), arts. 23–25; Decree No. 2017-247 (Jul. 17, 2017).

¹³⁸ *Id.* at arts. 9, 23. Furthermore, the Electricity Code restricts the possibility of delegation to Congolese firms. In particular, the delegate must be “*une ou plusieurs personnes publiques ou privées de droit congolaise*,” *id.* at art. 23. There is no prohibition of foreign ownership of delegates, but to the extent that incorporating a subsidiary in Congo is a difficult step, this restriction might dissuade private sector participation.

¹³⁹ *Id.* at art. 30; Decree No. 2017-247 (Jul. 17, 2017), art. 11.

¹⁴⁰ *Id.* at arts. 31, 32.

¹⁴¹ Congo Republic plans to dissolve state power, water utilities, Elion (Reuters) (Feb. 2, 2018), available at <https://www.reuters.com/article/us-congorepublic-utilities/congo-republic-plans-to-dissolve-state-power-water-utilities-idUSKBN1FM2JP>.

¹⁴² See *Revu des réformes de secteur de l'électricité en Afrique*, African Development Bank (2018), figure 5, available at https://www.afdb.org/sites/default/files/documents/publications/power_reforms_report_french.pdf.



separation (creating separate legal entities under the same ownership), functional separation (putting functions of a single entity under separate management), and accounting separation (keeping distinct accounts for different functions of a single firm)¹⁴³ can be considered. Another approach is the effective enforcement of third-party access obligations,¹⁴⁴ which can serve to prevent the vertically integrated firm from leveraging its market power to restrict a competitor's access to infrastructure.

Retail tariffs on electricity are set at levels that are far below the cost of production, and the market experiences shortages and poor quality of service. In addition to the large SOE foothold, the government also intervenes in the energy market through price controls. Wholesale and retail tariffs are subject to price controls, which prevent E²C from covering its costs, leaving it without the resources to invest in the infrastructure necessary to meet increasing demand. Demand has grown rapidly in recent decades. Electricity production increased by 6.7 times (3.3 million MWh vs. 0.5 million MWh) between 1990 and 2017, but such an increase is not enough to keep up with demand. In January of 2021, for example, electricity demand was at about 550MW, and the supply from Congo's main power stations was about 400MW. Because of this excess demand, E²C must practice load shedding—with resulting power outages—in its distribution practices. It is not surprising that supply fails to keep up with demand, because both retail and wholesale tariffs are set by the government at levels far below the cost of production (see Chapter 4 for more details). Below-cost prices can be expected to lead not only to shortages but also to operators providing a far lower quality of service than they would if incentivized by higher, market-based pricing.

The extent and nature of government subsidies to the electricity market are not readily apparent. Given that retail tariffs are below cost, it seems clear that E²C's activities in the electricity sector are being subsidized, but such subsidies are not transparent. Many countries provide subsidies to the electricity sector to foster development or to benefit poorer customers.¹⁴⁵ Subsidies, however, should be based on clearly defined public service obligations and unit costs of service provision. Without such criteria and transparency, it is difficult to know whether the subsidies are justified by their social objectives. It is especially important in attracting the entry of efficient private-sector participants that subsidies (and performance requirements) are clearly understood by potential entrants and can be relied upon to recoup investment.

¹⁴³ See *Restructuring Public Utilities for Competition*, OECD (2001), pp. 18-19. Accounting separation, the weakest form of vertical separation, has no direct effect on competitive behavior, but it may aid regulators in enforcing third-party access because the accounting of the vertically integrated firm may provide information useful in setting access pricing. *Id.*

¹⁴⁴ Third-party access is provided for in Decree No. 2017-248 (Jul. 17, 2017), arts. 11-12.

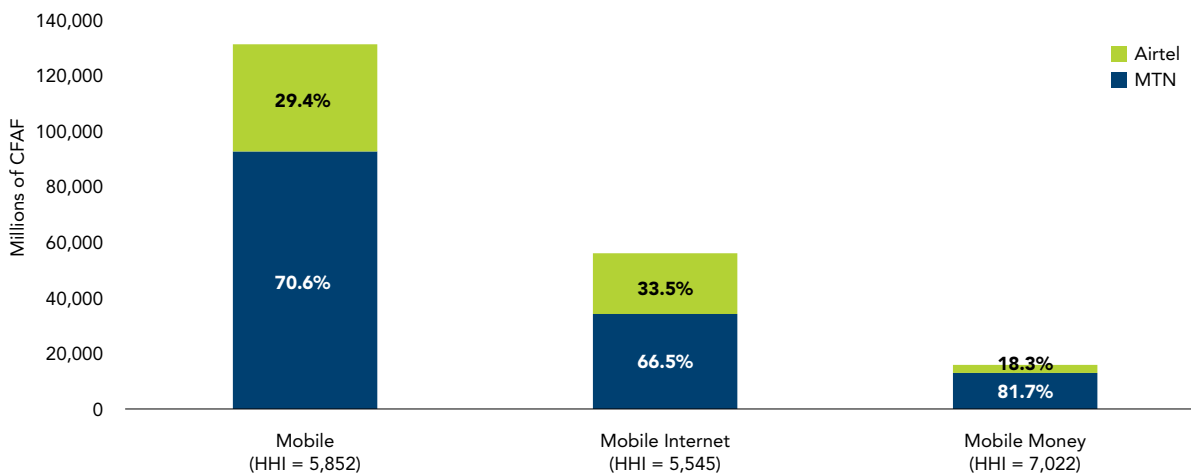
¹⁴⁵ See, e.g., *World Bank Group Support to Electricity Access, FY2000-2014*, WBG (2014), available at https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/Electricity_Access.pdf.

3.3.2 Mobile telecommunications suffer from a lack of competition

The mobile telecommunications market, both mobile and mobile internet along with the related market of mobile money, is highly concentrated. Congo’s market is presently served by just two firms, MTN Congo and Airtel. The largest telecommunications market is mobile telephony, with CFAF 130,903 million in revenue for 2021. The markets for mobile internet and mobile money—while highly important markets as enablers for other sectors of the economy—are small in comparison with CFAF 55,819 and 15,750 million in revenue respectively for 2021.¹⁴⁶ As can be seen in Figure 28, in each of these markets, MTN Congo dominates Airtel, with more than two-thirds share of market revenue. Other end markets in telecommunications are small in comparison to mobile telecommunications. The market for fixed-line telephone is a monopoly of Congo Telecom—the state-owned descendant of the state-owned monopoly in telecommunications.¹⁴⁷ But as of 2020, there were only 17,650 fixed-line subscribers. The internet is accessed almost exclusively through mobile. Fixed broadband is available, but there were only about 28,900 subscribers as of the end of 2021.¹⁴⁸ While high market concentration is not necessarily indicative of a lack of competition, other factors are important to gauge the risks of market distortions, such as high structural and regulatory barriers to entry, including technology features and associated investment costs. Highly concentrated markets can still be competitive if they are contestable.¹⁴⁹ In such markets, incumbent firms face a higher threat of entry, whether the threat is actual or perceived (See Section 4.1 for extended discussion and Annex 4 for an overview of the typical framework for competition analysis of mobile telecommunication sectors).

FIGURE 28
Mobile telecommunication market is concentrated among two operators

Revenue Market Share by Revenue: Mobile, Mobile Internet, Mobile Money, 2021



Notes: HHI is the Herfindahl-Hirschman Index, a measure of market concentration calculated by adding the squares of percentage market share across all market participants. The index is 10,000 for a complete monopoly and goes down toward zero with increased competition. Competition authorities in the United States consider markets with an HHI over 2,500 to be highly concentrated. Horizontal Merger Guidelines 2010; U.S. Department of Justice and Federal Trade Commission (2010). Source: WBG staff calculations based on data from arpce.cg. June 2022.

¹⁴⁶ Data from *Rapport 2021 du marché de l'internet mobile*, ARPCE; *Rapport 2021 du marché de la téléphonie mobile*, ARPCE; *La Grand'Actu du Régulateur* (Newsletter), ARPCE (Dec. 2021), available at <https://www.arpce.cg/rappports>; <https://www.arpce.cg/bulletins-mensuels>.

¹⁴⁷ Congo Télécom, was born from the dissolution of SOTELCO (*Société des Télécommunications du Congo*), itself created after the break-up of the ONPT (*Office National des Postes et Télécommunications*).

¹⁴⁸ *Teleogeography Congo Report*, Teleogeography (Dec. 2021 and Apr. 2022).

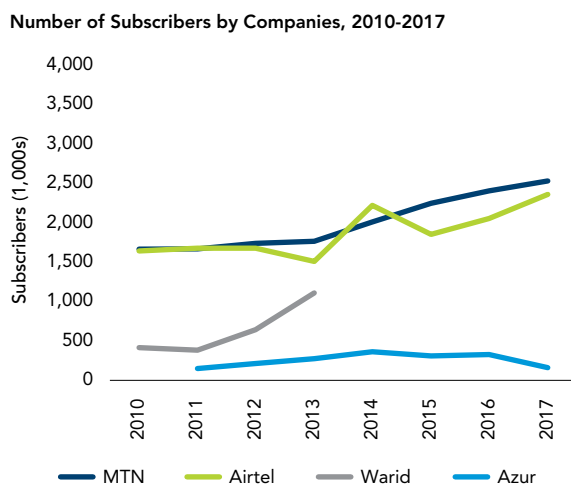
¹⁴⁹ Markets are contestable if there are no sunk costs such that barriers to entry and exit are low and potential entrants have equal access to the relevant technology as incumbents.

The liberalization of the telecommunications sector had initial success in attracting private-sector entrants, and it is only over the last decade that key telecommunications markets have been reduced to duopolies. Congo introduced competition into the telecommunications sector in 1997 (Law No. 14-97), and the national operator Congo Telecom, wholly owned by the state, has been surpassed by private operators. The present duopolists, MTN Congo and Airtel, were first to enter the liberalized market, but they were joined by in 2008 by UAE-based Warid, and in 2010, Equateur Telecom Congo (doing business as Azur) entered as well. As can be seen in Figure 29, Azur never managed to capture much of the market, but Warid was rapidly gaining market share until it was acquired by Airtel in 2014. Azur remained longer, but as of the end of 2017, Azur’s market share had dwindled to about three percent, and by 2020, MTN and Airtel were the only remaining market players.¹⁵⁰

Despite continued growth in the telecommunications market, Congo has somewhat low mobile penetration, a relatively low rate of internet access, and unusually high tariffs for mobile internet.

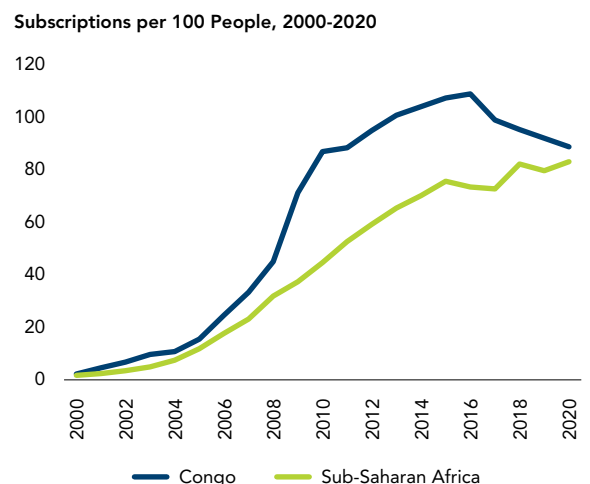
The promising initial results of liberalizing the telecommunication market enabled the rapid growth of mobile use. By 2010, with three firms in the mobile market, mobile telephony penetration was relatively high in Congo. As measured by subscriptions per 100 people, the Congolese mobile market initially grew at a much higher rate than sub-Saharan Africa as a whole (Figure 30). After 2010, however, the growth of the Congolese market fared less well, and by 2020, subscriptions had fallen to about the level of the sub-Saharan Africa average. After the market became dominated by MTN and Airtel, there has been a steady drop in voice subscriptions (Figure 30).

FIGURE 29
Early mobile market competition with four competitors



Source: arpce.cg. June 2022.

FIGURE 30
Mobile telephony penetration has faded after a decade sharp increase

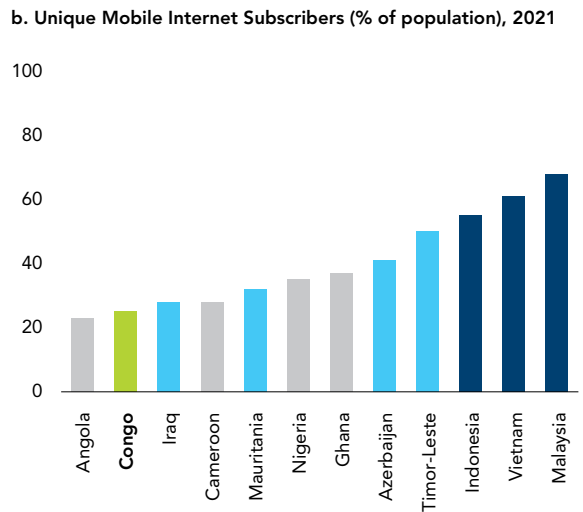
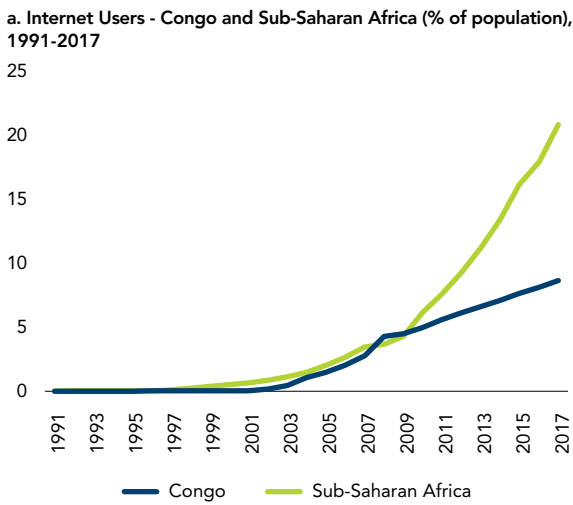


Source: ITU/ICT Database. June 2022.

¹⁵⁰ Warid launches third mobile operator in Congo, Reuters (Jan. 14, 2008), available at <https://www.reuters.com/article/congo-telecoms/warid-launches-third-mobile-operator-in-congo-idUSL147875420080114>. Equateur Telecom Congo launches commercial services, Comms Update (Sept. 16, 2010). Airtel Congo finalizes acquisition of Warid Congo, Comms Update (Jun. 4, 2014) available at <https://www.commsupdate.com/articles/2014/06/04/airtel-congo-finalises-acquisition-of-warid-congo/> Rapport 2017 du marché de la téléphonie mobile, ARCPE, available at <https://www.arpce.cg/upload/publications/Rapport-2017-du-Marche-de-la-Telephoniet-Mobile.pdf>.

Growth in mobile internet also seems to have faltered under the MTN-Airtel duopoly, and prices in that market remain high. Growth in internet use in Congo initially kept pace with the rest of sub-Saharan Africa but then fell behind after 2009 (Figure 31-a). Internet use in Congo remains somewhat low as of 2021 relative to comparator countries, with Congo’s 25 percent of total population exceeding only Angola (Figure 31-b). Tariffs for mobile internet (Figure 32) are high relative to comparator countries. The 2021 price of one GB of data in terms of percentage monthly GNI per capita (3.7 percent) was well above structural peers (2.3 percent), more than three times as high as regional peers (1.2 percent) and more than five times as high as aspirational peers (0.72 percent).¹⁵¹

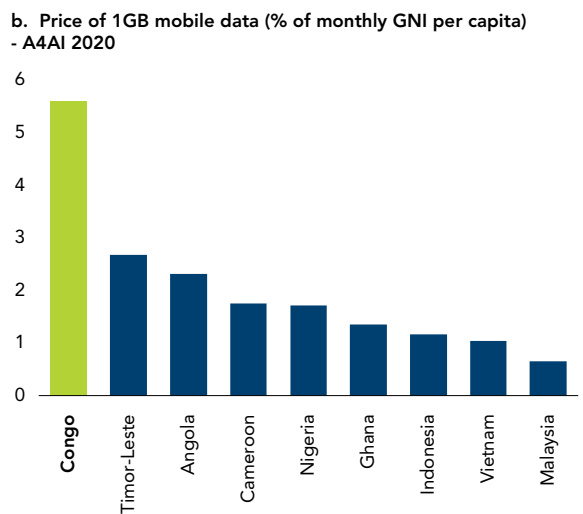
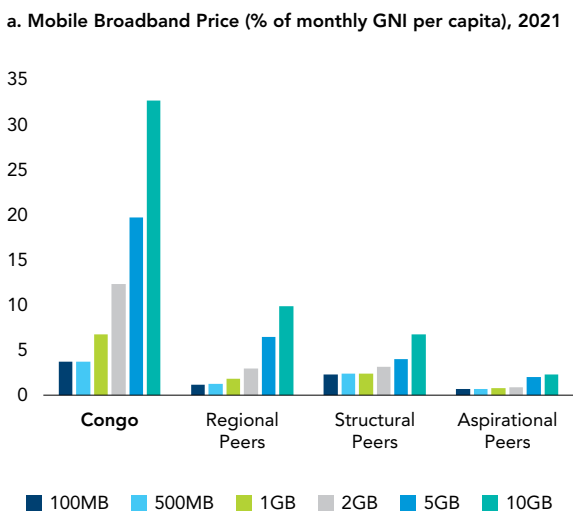
FIGURE 31
Congo lags in terms of internet users



Source: ITU/ICT database. June 2022.

Source: Global System for Mobile Telecommunications. June 2022.

FIGURE 32
The uptake of mobile internet services in Congo remains hampered by high prices



Source: Alliance for Affordable Internet. a4ai.org/2021/mobile_broadband_pricing_usd. June 2022.

¹⁵¹ Mobile Broadband Pricing: Data for 2021, Alliance for Affordable Internet (A4AI), available at https://a4ai.org/extra/baskets/A4AI/2021/mobile_broadband_pricing_gni. A comparison in terms of US\$ yields similar results: the 2021 Congolese price of one GB of data (US\$10.11) was more than three times the price average of regional peers (US\$2.65), and more than twice as high as structural peers (US\$4.85) and aspirational peers (US\$ 3.11).



Competition in the mobile telecommunications market could be enhanced by more effective regulation.

Congo does have a regulatory structure that, if properly applied, could encourage more intense competition. There are signs that the implementation of the third-party access provisions is not sufficiently credible to market players. In 2009, legislation was passed with extensive procompetitive provisions, and with the provision for a sector regulator, Regulatory Agency for Posts and Electronic Communication (*Agence de Régulation des Postes et Télécommunications Electroniques*, ARPCE), to enforce those provisions. Mobile phone interconnection is mandatory. Mobile virtual network operators are allowed, although currently there are none because of the small size of the market. The tariffs for mobile telephony interconnection and rates for international roaming are monitored by ARPCE to ensure firms charge one another at reasonable rates. Congo also requires the operator with significant market power to share essential infrastructure such as fiber optic networks. ARPCE does actively require third-party access to infrastructure, and such access is used by mobile operators. In particular, both MTN and Airtel access the fiber-optic backbone controlled by Congo Telecom. There is some indication, however, that MTN and Airtel are not able to rely on reasonable pricing and conditions for this access because they have both chosen to develop their own lower-speed microwave backbones.¹⁵²

¹⁵² Law 9-2009 (Nov. 25, 2009). 2022 Survey for Congo (following OECD template).

Congo does not provide for mobile number portability. Mobile number portability allows consumers to switch providers while retaining their existing numbers. Portability potentially fosters competition by reducing consumers' switching costs and can thus lower prices. Such a reduction of switching costs could not only increase competition between MTN and Airtel but also encourage the entry of new firms.¹⁵³ It can be difficult to implement a successful mobile number portability system, however, and procompetitive effects may be muted in markets such as Congo where consumers are accustomed to using multiple numbers through multiple SIM cards.¹⁵⁴

While the ARPCE is empowered to enforce many pro-competitive provisions, it is also able to enact controls on retail tariffs and has done so. ARPCE has the authority to regulate tariffs of operators with more than a 25 percent market share in the product at issue or if there is proof that the price charged does not arise from free competition.¹⁵⁵ ARPCE is able to set both minimum and maximum prices, with the stated purpose of preventing cost-subsidization between services.¹⁵⁶ In 2011, ARPCE fixed a minimum tariff for on-net mobile telephone calls and for outgoing international telephone calls. As ARPCE explained it, the price floor resulted in a significant improvement in the market, with profits to operators returning to normal levels.¹⁵⁷ In 2018, with only MTN and Airtel left in the market, ARPCE again set minimum tariffs: CFAF 4 for a megabyte of mobile internet and CFAF 25 for a minute of a mobile voice call.¹⁵⁸ The concern was that prevailing prices were lower than ARPCE's calculations of firms' costs.¹⁵⁹

There are instances where price setting in telecommunications markets is appropriate, but ARPCE's price-setting authority is overly broad. Setting maximum retail tariffs could be appropriate in telecommunications markets where there is no competition to maintain efficient pricing. Regulating access pricing where competitors provide each other with access to essential infrastructure is also necessary to avoid exclusionary behavior. But setting minimum retail tariffs can stifle incentives to compete. There are limited instances in which a company's decision to set a price too low is of competitive concern. Under exceptional circumstances, a dominant company might set a price below cost in order to drive a competitor out of the market. In the instance of ARPCE's minimum retail tariffs, given the unlikelihood that either MTN or Airtel (both with stable and significant market share) could lower prices with the expectation of driving their competitor out of the market, the price floor is likely to result in higher tariffs for consumers with no off-setting benefits.

Congo does have a regulatory structure that, if properly applied, could encourage more intense competition.

Because telecommunications are a complex, network industry, ex-ante regulation may not always be enough to avoid anticompetitive outcomes. A robust national competition enforcement would help foster a competitive environment. The 2014 merger between Airtel and Warid, for example, reduced the market operators to two players and eliminated a competitor with a significant and growing market share (Figure 29). But there is no indication that there was any regulatory oversight that systematically gauged the competitive effects of the merger. An effective competition policy would require both an ex-ante merger review to prevent mergers that would substantially lessen market competition and ex post enforcement against anticompetitive agreements and abuse of dominance. In the absence of an effective competition law framework, sector-specific competition laws could be enacted to be enforced by ARPCE. The Telecommunications Code presently does not provide for ex ante review of the competition effects of a merger or ex-post control of anticompetitive behavior.

¹⁵³ The ARPCE is currently conducting a study on portability of mobile numbers. *2022 Survey for Congo (following an abbreviated OECD PMR template)*.

¹⁵⁴ In Botswana, for example, recently abandoned plans to introduce mobile number portability after a study determined that it was not feasible. *Mobile number portability shelved in Botswana*, Maramwidze (ITWeb Africa) (Apr. 12, 2021), available at <https://itweb.africa/content/GxwQDM1ZXxAqIPVo>. See also *The Impact of Telecommunication Regulatory Policy on Mobile Retail Price in Sub-Saharan African Countries*, Mthobi, Economic Research Southern Africa working paper, (2017) (finding no significant price effect from mobile number portability in sub-Saharan Africa). See also *Assessment of Mobile Number Portability in Nigeria*, Bakare & Kukuchuku, *Intn'l J. of Elect. Comm. and Computer Engineering*, Vol. 9, No. 1 (Jan. 2018).

¹⁵⁵ Decree no. 2015-242 (Feb. 4, 2015), art. 6.

¹⁵⁶ *Id.*

¹⁵⁷ *Observatoires*, ARPCE, available at <https://www.arpce.cg/telephonie-mobile>. The price floor was set by Decision No. 001/ARPCE-DG/DAJI/DEM/11 (Jan. 12, 2011).

¹⁵⁸ *Internet mobile: de nouvelles dispositions tarifaires au Congo*, Agence d'information d'Afrique Centrale (Jun. 2, 2018), <https://www.adiac-congo.com/content/internet-mobile-de-nouvelles-dispositions-tarifaires-au-congo-84189>. The price floor was set by Decision No. 048/ARPCE-DG/DAJI/DEM/2018 (Dec. 28, 2018).

¹⁵⁹ *Id.*

Market growth is potentially dampened by lack of entry. While liberalization of the telecommunications market had initially promising results, market results under the MTN-Airtel duopoly are less impressive. Despite continued growth in the telecommunications market, Congo has somewhat low mobile penetration, a relatively low rate of internet access, and unusually high tariffs for mobile internet. Given the highly concentrated mobile telecommunications markets, facilitation of entry could improve these market outcomes. Previous research has found, for example, that in a sample of 40 African countries, the entry of an additional mobile operator led to a 57 percent increase in mobile subscriptions.¹⁶⁰ It is critical then to ensure that regulatory practices, such as price controls, do not soften the competition between the MTN and Airtel and that regulatory policy is designed and enforced in a manner that encourages possible future entry.

3.4 Current competition rules and competition enforcement are not enough to combat cartels and other anticompetitive practices

Congo does not presently have a comprehensive National Competition Law or a National Competition Authority, although it has taken tentative steps in this direction. As part of a set of the economic reforms in 1994,¹⁶¹ Congo enacted a law on competition which prohibits anticompetitive agreements but addresses neither merger control nor abuse of dominance.¹⁶² This law does not appear to have been systematically implemented to regulate competition, and in any case does not set penalties sufficient to discourage the most serious anticompetitive practices.¹⁶³

The most promising steps in competition law have occurred at the regional level through CEMAC.¹⁶⁴ Formed in 1994, CEMAC enacted a competition law in 1999 and updated it in 2019.¹⁶⁵ Unlike Congo's 1994 law, CEMAC's competition law covers mergers¹⁶⁶ and abuse of dominance,¹⁶⁷ and allows for significant penalties.¹⁶⁸ CEMAC does have its own enforcement authority, the *Conseil Communautaire de la Concurrence (CCC)*¹⁶⁹ but has not yet shown signs of enforcement efforts other than merger control.¹⁷⁰ Although as of 2020, none of the CEMAC member states other than Cameroon had either a national competition authority or a national competition law,¹⁷¹ the CEMAC framework envisions joint enforcement of CEMAC competition law between CCC and national competition authorities. A national competition law would not be redundant, however, because CCC retains exclusive jurisdiction over larger mergers and over abuse of dominance and anticompetitive agreements, where trade between member states is affected.¹⁷²

¹⁶⁰ *Getting Connected: Competition and Diffusion in African Mobile Telecommunications Markets*, Gebreab (WBG working paper) (2002).

¹⁶¹ Law No. 6-94 (Jun. 1, 1994). In 2010, Congo also created the *Direction Générale de la Concurrence et de la Répression des Fraudes Commerciales (DGCRFC)*, but it does not function as a full-blown competition authority. Decree 2010-40 (Jan. 28, 2010).

¹⁶² Law 6-94 (Jun. 1, 1994). There have been recent efforts to reform this law, but no new legislation has been enacted. *Concurrence: le Congo veut se doter d'un cadre juridique*, Agence d'information d'Afrique Centrale, Dec. 13, 2021, available at <https://www.adiac-congo.com/content/concurrence-le-congo-veut-se-doter-dun-cadre-juridique-133136>.

¹⁶³ The maximum fine is CFAF 100 million. Law No. 6-94 (Jun. 1, 1994), art. 26.

¹⁶⁴ Other than the regional competition law discussed here, possible future regional developments will affect competition and competition policy. The contemplated CEMAC unification of services markets would, for the telecommunications market, for example, encourage entry by increasing the size of the market and bring regulation under CEMAC jurisdiction. The African Continental Free Trade Agreement (AfCFTA) may also incorporate a competition protocol. See, e.g., *African Continental Free Trade Area Phase II Negotiations: A Space for a Competition Protocol?*, Gachuiiri (UNCTAD working paper) (2020).

¹⁶⁵ Regulation No. 1/99/UEAC-CM-639 (Jun. 25, 1999), replaced by *Règlement relatif à la concurrence*, Regulation No. 06/19-UEAC-639-CM-33 (Apr. 7, 2019), available at <http://www.droit-afrique.com/uploads/CEMAC-Reglement-2019-06-concurrence.pdf>.

¹⁶⁶ Regulation No. 06/19-UEAC-639-CM-33 (Apr. 7, 2019), title 4.

¹⁶⁷ *Id.* art. 33.

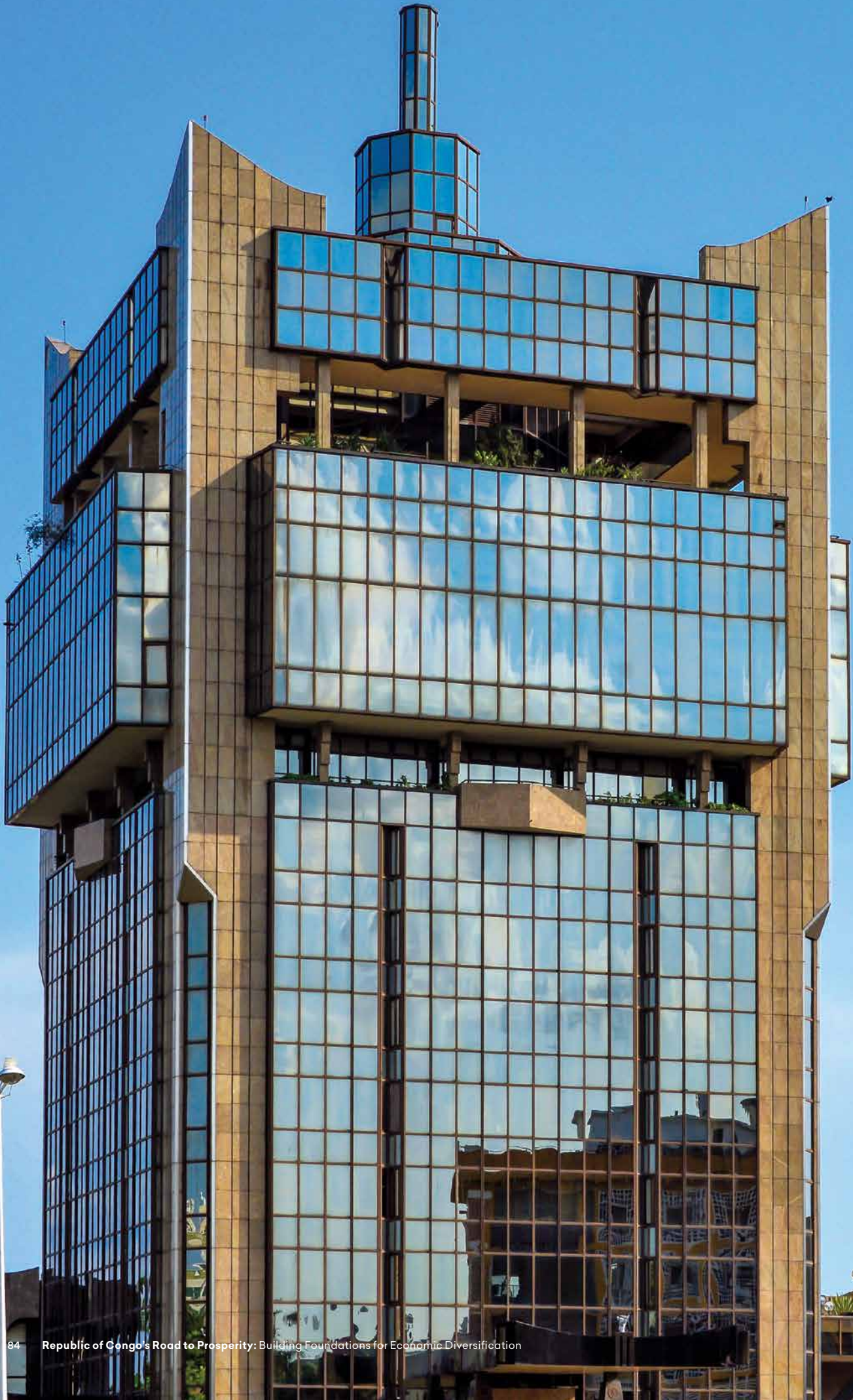
¹⁶⁸ Fines are up to 10 percent of worldwide turnover or 20 percent within CEMAC during the previous year or of 75 percent of the profits gained from the prohibited practice. Fines are doubled for repeat offences. *Id.*, art. 50, 73.

¹⁶⁹ *Id.* arts. 8–18.

¹⁷⁰ CCC made no enforcement efforts at all until 2016, when it started to accept merger proposals. *Merger Control Update*, Mayer Brown (Oct. 2016), <https://www.mayerbrown.com/-/media/files/perspectives-events/publications/2016/10/merger-control-update/files/get-the-full-report/fileattachment/161004-update-antitrust.pdf>.

¹⁷¹ *Africa: Harmonising competition policy under the AfCFTA*, Dawar & Lipimile, *Concurrences*, No. 2 (2020), p. 244.

¹⁷² Regulation No. 06/19-UEAC-639-CM-33 (Apr. 7, 2019), art. 20.



3.5 Policy options to foster competition

The following policy options will be essential to foster competition and spur productivity. Detailed policy recommendations are provided in Table 2.

3.5.1 Enhance private sector entry and ensure a level playing field for private and public operators

Provide a clear economic rationale for State intervention in the market and enhance SOE transparency.

Congolese SOEs do not consistently compete on an even playing field relative to private sector firms. A principle of subsidiarity governing the creation and maintenance of SOEs in the market to limit direct State intervention to the supply of essential goods and services that would not be provided by private agents and based on a clear economic rationale is essential. Enhancing SOE transparency would require: (i) a systematic and transparent approval process, with clear criteria for the granting of state support measures (direct subsidies, loans at below market interest rates, and State guarantees) that takes into consideration any market distortions likely to be caused by such measures, and (ii) a process by which SOE audits are systematically carried out by reputable international auditing firms to minimize risks of cross-subsidization and market distortions.

Promote the implementation of the competitive neutrality principle in Congo's legislation. Key reforms would include: i) introducing an accounting separation between SOEs' commercial and non-commercial activities; ii) adopting clear compensation mechanisms for public service obligations carried out by SOEs; iii) mandating that SOEs earn rates of return comparable to the private sector under similar market conditions; v) ensuring that SOEs do not receive preferential treatment in the application of regulation or the granting of procurement contracts; and iv) avoiding preferential treatment of SOEs through direct subsidies, preferential loans, forgiveness of debts, or other privileges that are not available to the private sector.

3.5.2 Promote pro-competitive regulation in selected sectors: electricity and telecommunications

Electricity. Undertake a regular review of tariff rates to ensure tariffs support the financial viability of participants in the sector. Tariffs need to be set at levels that allow firms to cover their operating costs, reinvest, and maintain or improve quality of service. Ensure transparency in subsidies granted to electricity sector participants and the performance obligations required of them to attract private-sector participation in the production sector and, possibly in the longer term, the distribution sector.

Telecommunication. Consider reducing the role of the State in the telecom sector by ensuring that all of Congo Telecom's activities are based on a strong economic rationale and subject to market discipline. This can be achieved temporarily through management arrangements or permanently through divestment strategies. Guarantee third-party access, in particular to Congo Telecom's fiber optic backbone and submarine cable access, at prices based on costs to ensure better market outcomes for consumers. Review regulation in the telecom sector to deprive ARCEP of the competence to set minimum consumer tariffs.

3.5.3 Strengthen the competition legislative and institutional framework

Modernize competition regulation and establish an independent national competition authority.

Amendments to the Competition Law 6-94 to introduce provisions on merger control and abuse of dominance, as well as fully-fledged competition advocacy powers, with full application at the national level, will help modernize the legal framework. A national competition authority will help strengthen the institutional framework. The government should consider expanding the capacity of DGCRFC¹⁷³ to a fully functioning national competition authority to allow for adequate enforcement of the CEMAC competition law and any national competition law to be enacted. Alternatively, it could set up an independent national competition authority with sufficient resources—including qualified staff, and the power to enforce the competition law. The authority could also have an advocacy role to promote competition by influencing government policy and building public awareness on competition issues.

TABLE 2
Detailed Recommendations to Foster Competition

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Enhance private sector entry and ensure a level playing field for private and public operators		
<ul style="list-style-type: none"> Introduce a principle of subsidiarity governing the creation and maintenance of SOEs in the market to limit direct State intervention in the market to the supply of essential goods and services that would not be provided by private agents and based on a clear economic rationale. Consider charging the national competition authority—if such an authority is created—with the task of review of the creation of SOEs and of the scope of SOE economic activities. 	DGPP	MEDIUM-TERM
<ul style="list-style-type: none"> Institute a systematic and transparent approval process, with clear criteria for state support measures (direct subsidies, loans at below market interest rates, and sovereign debt guarantees), that takes into consideration any market distortions likely to be caused by such measures. Consider charging the national competition authority—if such an authority is created—with the task of reviewing all significant grants of state aid. (See Annex 1 for the example of Moldova.) 	DGPP	MEDIUM-TERM
<ul style="list-style-type: none"> Ensure that SOE audits are systematically carried out by reputable international auditing firms to ensure transparency of SOE operations and minimize risks of cross-subsidization and market distortions. 	DGPP, CNC	SHORT-TERM
<ul style="list-style-type: none"> Implement competitive neutrality principles in Congo's legislation. Key reforms would include: <ul style="list-style-type: none"> » introducing an accounting separation between SOEs' commercial and non-commercial activities; » adopting clear compensation mechanisms for public service obligations carried out by SOEs; » mandating that SOEs earn rates of return comparable to the private sector under similar market conditions; » ensuring that SOEs do not receive preferential treatment in the application of regulation or the granting of procurement contracts and; » avoiding preferential treatment of SOEs through direct subsidies, preferential loans, forgiveness of debts that are not available to private sector. 	DGPP, CNC	MEDIUM-TERM

¹⁷³ Stands for Directorate General for Competition and the Repression of Commercial Fraud (*Direction Générale de la Concurrence et de la Répression des Fraudes Commerciales*, DGCRFC)

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Promote pro-competitive regulation in selected sectors: electricity and telecommunication		
<ul style="list-style-type: none"> Institute a regular review of tariff rates for electricity to ensure market discipline, with a process that ensures tariffs are reflective of the costs of efficient firms, and thus ensure financial viability of participants in the sector. To the extent that increased consumer tariff rates are contrary to social aims of the State, consider instituting focused social tariffs allowing reduced rates for the poor and vulnerable rather than maintaining below-cost tariffs for the entire market. 	Ministry of Energy, ARSEL	SHORT-TERM
<ul style="list-style-type: none"> Ensure clarity and transparency of subsidies granted to electricity sector participants and the performance obligations required of them with the view to attracting private-sector participation in the production sector and, possibly in the longer term, the distribution sector. 	Ministry of Energy (through legislation)	MEDIUM-TERM
<ul style="list-style-type: none"> Consider reducing the role of the state in the telecom sector (either temporarily through management arrangements or permanently through divestment strategies) by ensuring that all of Congo Telecom's activities are based on a strong economic rationale and subject to market discipline. 	Ministry of Telecommunications and Digital Economy, ARPCE	MEDIUM-TERM
<ul style="list-style-type: none"> Ensure that third-party access, in particular to Congo Telecom's fiber optic backbone and submarine cable access, is regulated in a transparent manner with access prices being determined based on costs in order to ensure better market outcomes for consumers. 	Ministry of Telecommunications and Digital Economy, ARCPE	MEDIUM-TERM
<ul style="list-style-type: none"> Review regulation in the telecom sector that provides ARCPE with the ability to set minimum prices on consumer tariffs. In the event that ARCPE retains the ability to set minimum prices on consumer tariffs, ensure that this ability is only used sparingly, only in instances where below-cost pricing threatens to drive competitors from the market. 	Ministry of Telecommunications and Digital Economy	SHORT-TERM
Strengthen the competition legislative and institutional framework		
<ul style="list-style-type: none"> Amend the Competition Law 6-94 by including provisions on merger control and abuse of dominance as well as fully-fledged competition advocacy powers for any future national competition authority, with full application at the national level. 	DGCRFC, Ministry of Commerce	SHORT-TERM
<ul style="list-style-type: none"> Expand capacity of DGCRFC to a fully functioning national competition authority to allow for adequate enforcement of the CEMAC competition law and any national competition law to be enacted. Alternatively, set up an independent national competition authority with sufficient resources—including qualified staff. 	DGCRFC, Ministry of Commerce	SHORT-TERM



CHAPTER 4

Boosting Productivity through Digital Technology and Improved Access to Electricity

Higher productivity, the basis for sustained job creation and stronger and more equally distributed economic growth, can derive partly from an accelerated digital transformation and improved access to reliable electricity service. Congo's digital infrastructure, especially broadband internet and policies to accelerate the availability of affordable broadband access as well as the supply of digital skills, is key to unleashing the full potential of the digital economy in Congo. A second crucial element is improving access to electricity, addressing issues with connections, reliability, and the cost of self-generation, as well as prospects for private participation, to bolster the productivity of Congo's firms.

4.1 Accelerating productivity through digital transformation

4.1.1 Digital technologies and why they matter for Congo's productivity and economic growth

Digital technologies, from computers to smartphones, continue to reshape economies, permeating virtually every sector and aspect of daily life. 'Digital technology' is a broad term that refers to all digital or computerized devices. Those devices have now changed the way people learn, work, trade, socialize, produce goods, access public services and access information. As highlighted in the World Bank's 2016 World Development Report on Digital Dividends¹⁷⁴ and underscored by the 2020 and 2021 volumes of the WBG Africa Pulse reports, digital transformation is an important lever for successful economic transformation that generates higher quality jobs as well as productivity and income gains.

Broadband technology and digitalization are contributors to productivity, economic growth and income gains at several levels. There is common agreement that: (i) there is a "critical mass" effect which means that broadband will make a higher contribution to economic growth in countries that are already adopting this technology; (ii) adoption of digital technologies by enterprises can improve the efficiency of business processes (e.g., marketing, inventory optimization, and streamlining of supply chains) and reduce various types of costs (e.g., search, replication, transport and monitoring costs as well as networking and organization costs), leading to higher productivity and higher sales;¹⁷⁵ (iii) ICT services exhibit high productivity compared to other services subsectors, with the highest levels in software programming and consulting as well as telecommunications.¹⁷⁶ They accelerate productivity gains by introducing new consumer applications and services (e.g., new forms of commerce and financial intermediation, utility and tax payments).¹⁷⁷ Indeed, countries and regions with vibrant innovation ecosystems tend to increase firms' capacity to acquire, manage, and apply new knowledge to change or introduce new products and processes, resulting in higher productivity rates.

The Government of Congo is committed to advancing digital transformation. Digital transformation is a priority area of intervention for Congo, whose vision is described in a 5-year Digital Economy Strategy ("Vision Congo Digital 2025") that is embedded in the new National Development Plan (PND 2022-2026). The Ministry of Posts, Telecommunication, and Digital Economy (*Ministère des Postes, des Télécommunications et de l'Économie Numérique*, MPTEN) is leading the implementation of the national digital transformation agenda, which revolves around three main pillars: (i) people-centric digital services (e-citizen), (ii) support to the private sector (e-business), and (iii) acceleration of digital government service uptake.

¹⁷⁴ The World Bank's "World Development Report 2016: The Digital Dividend" illustrates how the development of the Digital Economy is a powerful driver of global growth while promoting social inclusion, better use of resources, and the development of innovation.

¹⁷⁵ Goldfarb, Avi, and Catherine Tucker. 2019. "Digital Economics." *Journal of Economic Literature*, 57 (1): 3-43.

¹⁷⁶ Nayyar, Gaurav; Hallward-Driemeier, Mary; Davies, Elwyn. 2021. *At Your Service? : The Promise of Services-Led Development*. Washington, DC: World Bank. ©World Bank.

¹⁷⁷ Cirera, Xavier; Maloney, William F. 2017. *The Innovation Paradox : Developing-Country Capabilities and the Unrealized Promise of Technological Catch-Up*. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/28341> License: CC BY 3.0 IGO

Driven by the five-year Digital Economy Strategy “Vision Congo Digital 2025,” many reforms and programs have been launched. These reforms aim to: (i) reinforce the digital infrastructure (including terrestrial fiber links to connect to neighboring countries through the African Development Bank’s Central Africa Fiber-Optic Backbone project, public data centers, the Google-Cloud project, and the 2Africa submarine cable); (ii) strengthen the legal and regulatory environment to build trust and favor competition (e.g., concession of the fiber optic network of the electricity company, new public-private partnership (PPP) law, adoption in 2019 of laws on personal data protection and electronic transactions and on cybersecurity in 2020); and (iii) improve coverage (through the Electronic Communications Universal Access and Service Fund, *Fonds pour l’Accès et le Service Universels des Communications Électroniques*, FASUCE) where no infrastructure exists) and affordability (exemption from customs duties and taxes for a period of two years for cell phones, electronic tablets, computers and electronic payment terminals).

As a result, the ICT sector is relatively well developed in Congo and already represents a significant part of the economy, but it has not yet achieved its full potential (Box 8). According to the telecom regulatory agency, ARPCE, the ICT sector (telecom, business management tech, logistics tech, e-commerce and FinTech) contributed about three percent of Congo’s GDP in 2021.¹⁷⁸ For instance, mobile operators generate a turnover of US\$337 million,¹⁷⁹ and the sector represents at least six percent of private sector employees¹⁸⁰ and a significant number of indirect jobs in the informal sector (such as resellers of recharge cards, telephone booths, hardware maintenance and repair staff, and electricians).

BOX 8

Impact on growth of increased mobile broadband penetration

A recent study from the International Telecommunication Union (ITU) focused specifically on Sub-Saharan Africa and measured the impact of broadband, digital transformation, and policy and regulatory frameworks on growth in the continent. It analyzed the economic contribution of broadband and digitization between 2010 and 2017 for 34 countries in the Sub-Saharan Africa region, including Congo. This ITU study identified several levers that have direct or indirect impacts on growth in African countries:

- **Mobile broadband has a significant impact on GDP growth in Africa**
 - » An increase of ten percent in mobile broadband penetration yields a 2.5 percent increase in GDP per capita.
- **Affordability remains a key enabler for the adoption of the mobile broadband technology in Africa:**
 - » A ten percent drop in prices will boost adoption by more than 3.1 percent.
 - » Increasing average disposable income (proxied by GDP per capita) by ten percent yields 2.1 percent more fixed broadband adoption.

When applied to Congo, increasing unique mobile broadband penetration by 20 points (from 25 percent to 45 percent) is estimated to increase GDP per capita by five percent, which is equivalent to about US\$509 million in additional GDP.

Source: ITU (2019), Economic contribution of broadband, digitization and ICT regulation: Econometric modelling for Africa. <http://handle.itu.int/11.1002/pub/8136517c-en>

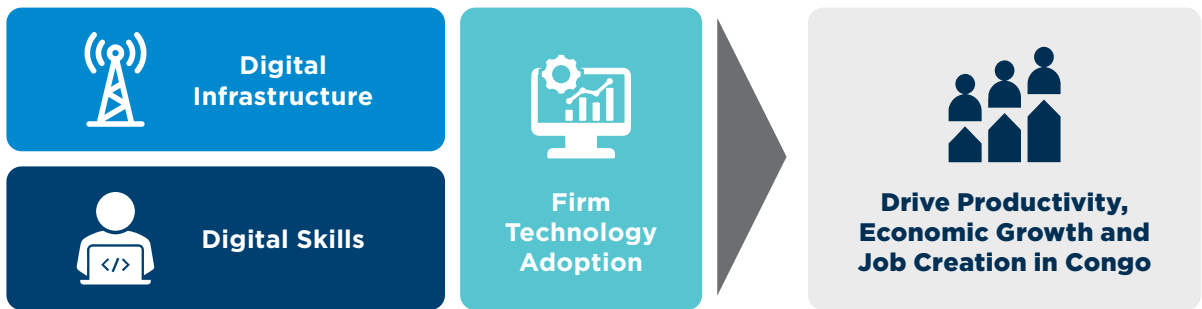
¹⁷⁸ Reported by ARPCE, 2021.

¹⁷⁹ GSMA, 2021.

¹⁸⁰ Digital Economy Development Strategy (Congo Vision Digital 2025, April 2019).

Congo is marked by recent significant progress in the deployment of broadband connectivity, but limited policy actions have been taken so far to accelerate the adoption of digital technologies and digital inclusion in the country. Since its inception, several reforms and government programs have been launched and produced results, notably in terms of digital infrastructure deployment and internet broadband affordability as well as reinforced and more complete legal and regulatory environment to build a digital economy and improve trust. While ICT seems to emerge as the fastest growing sub-sector in Congo, adoption of digital tools and services among micro, small and medium enterprises in Congo has largely been muted, and their participation in the digital economy is hampered by structural endogenous and exogenous issues (see analysis in Section 4.1.4). The potential gains of digital transformation will depend on Congo’s success, *inter alia*, in: (i) making the internet universally accessible and affordable (boosting connectivity), (ii) strengthening skills that allow individuals, entrepreneurs, and public servants to seize opportunities in the digital world; (iii) making regulations that create a vibrant business climate and let firms (including informal ones) leverage digital technologies to compete and innovate. This framework for analysis is captured in Figure 33, simplifying the process of digital transformation into the improvement of digital infrastructure, the strengthening of digital skills, and the promotion of technology adoption by firms.

FIGURE 33
Digital transformation as a key driver for productivity, economic growth and job creation



Source: World Bank staff.

4.1.2 Digital infrastructure in Congo

As in the rest of Africa, people in Congo access the internet mainly from their mobile phones. Mobile coverage improved significantly in Congo over the past five years, placing Congo among the best countries in the region. This has been made possible by its rapid urbanization, with 70 percent of the population living in the urban areas of Brazzaville, Pointe-Noire and the small towns in between. 3G and 4G coverage reached 88 percent and 84 percent of the population respectively by January 2022.¹⁸¹

While the geographical reach of mobile broadband networks has significantly increased in recent years, uptake of mobile high-speed internet services remains hampered by the level of prices. Even though mobile broadband prices have significantly dropped over the past few years, mobile broadband remains expensive. In 2020, the average retail price of a 1GB data plan was 5.6 percent of the average monthly income of a Congolese, far from the “1 for 2” measures for affordable internet (where the price of 1GB mobile data is at two percent or less of average monthly income) and much more expensive than most of its peers (see Chapter 3, Figure 32). The Herfindahl-Hirschman Index¹⁸² of the mobile market, which measures its competitiveness, scored at

¹⁸¹ According to Telegeography, in January 2022, MTN covered 93 percent of the population in 2G, 87 percent in 3G and 70 percent in 4G while Airtel covered 90 percent in 2G, 88 percent in 3G and 83 percent in 4G.

¹⁸² The Herfindahl-Hirschman Index (HHI) is used to determine market competitiveness. A market with an HHI of less than 1,500 is considered a competitive marketplace, an HHI of 1,500 to 2,500 is moderately concentrated, and an HHI of 2,500 or greater is highly concentrated.

5,104 in 2021 with a negative trend over the past ten years (and 3,344 in 2012).¹⁸³ This weak competition in the mobile market (with only two main mobile network operators: Airtel and MTN) combined with Congo Telecom's dominant position on the national fiber backbone translates to below average mobile adoption and usage, with unique mobile users equal to just 48 percent of the population and unique mobile internet users equal to just 25 percent (see Chapter 3, Figure 31-b).

Congo fares far less well on fixed broadband, with a very low penetration rate of households. With 28,900 fixed broadband internet subscribers (as of December 2021 according to Telegeography), representing a penetration rate of 2.2 percent of households (compared to 8.9 percent average across Sub-Saharan Africa), Congo has low usage rates. Dominated by the state-owned incumbent Congo Telecom, the fixed broadband market has been hampered by poor availability, prohibitive costs, and slow installation of fixed line services.

The arrival of mobile money offers by mobile operators, with the support of the Government of Congo and the Bank of Central African States (*Banque des États de l'Afrique Centrale, BEAC*), has revolutionized the sector and greatly increased financial inclusion in Congo. The bank account penetration rate in Congo remains low (with the extended bank account penetration rate including microfinance networks estimated at 33 percent of the 15+ population in 2018). The COVID-19 pandemic exerted strong positive effects on the development of Mobile Money in Congo: the number of active mobile money accounts has increased from 912,000 in December 2018 to 2.7 million as of August 2021, representing a penetration rate of 50.2 percent of the population. Usage is relatively high as well, with an average of 21 transactions per user per month and an average monthly revenue per user of CFAF 527 (equivalent to US\$ 0.9), but the average transaction value remains very low at CFAF 4,303 (the lowest of all CEMAC countries) (Table 3). The take-off of mobile money in Congo is expected to have a positive impact on growth, by facilitating trade and improving access to credit. Today, mobile money has a significant positive impact on jobs in Congo, with 41,000 active mobile money agents registered as of August 2021. Public entities, despite having a very strong potential for encouraging electronic transactions, have little presence to date in the mobile money ecosystem. Between July and December 2020, just 1,325 electronic payments were made to pay electricity bills in Congo, while 286,000 customers used mobile money to pay for their monthly subscription to the Canal+ package.¹⁸⁴

TABLE 3
Distribution of electronic money transactions in CEMAC countries in 2020

	Cameroon	Central African Republic	Republic of Congo	Gabon	Equatorial Guinea	Chad
Average transaction value (CFAF)	15,075	24,140	4,303	11,206	62,745	10,830
Number of active accounts	8,453,605	57,922	2,463,621	896,967	6,213	29,267
Number of active accounts as % of total population	31.8%	1.2%	44.6%	40.3%	0.4%	0.2%

Source: BEAC (Bank of Central African States) - Electronic money payment services in CEMAC in 2020. June 2022.

¹⁸³ From GSMA.

¹⁸⁴ ARPCE, 2020, White Paper on Posts, Telecommunications and the Digital Economy.

4.1.3 Investing in people: foundational and digital skills

Congo faces persistent human development challenges with rising unemployment. With unemployment rising to 22.8 percent¹⁸⁵ and youth unemployment even higher (with 31.7 percent aged 10-24 years), digital skills become even more important, with the potential for creating and filling productive and sustainable jobs. Despite its achievements in education, the country faces challenges linked to the quality of learning and educational attainment, contributing to a high unemployment rate amongst youth (Table 4). Combined with the learning gap, this educational shortfall impedes the acquisition of digital skills essential for the labor market. Finally, lack of digital skills is identified as the biggest barrier for consumers in Sub-Saharan Africa to the adoption of mobile internet services before affordability.¹⁸⁶

TABLE 4
Participation in education and employment

Key human capital and employment indicators	Republic of Congo
Literacy rate (% of people ages 15 and above)	80.3% (2018, UNESCO)
Unemployment (% of total labor force)	22.8% (2020, ILO)
Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate)	42.6% (2020, ILO)

Source: ILO, UNESCO, UNDP. June 2022.

Congo needs to boost the supply of digital skills at all levels (basic, intermediate, advanced, and highly specialized) through formal education and equip youth with employable in-demand skills (Figure 34-a).

Consultations with various stakeholders (i.e., digital incubators, consulting firms, and entrepreneurship associations) reveal a mismatch between the digital skills acquired through formal education and those sought by employers and firms, which often result in unemployment in the ICT sector. There are no foundational digital skills-related courses in the curriculums at primary and secondary levels, where acquiring such skills at an early age would build the foundations to develop more intermediate and advanced skills and later strengthen and specialize as a professional career. Accurate and timely data on existing digital skills adoption amongst teachers and students, as well as in-demand skills by industry is nonexistent. Such a data gap makes it difficult to ascertain the level, quality, and availability of skills in the labor market and address rising youth unemployment, particularly in light of COVID-19 pushing many businesses to go digital. Additionally, science, technology, engineering, and math (STEM) education has a critical role to play in addressing unemployment amongst youth. In 2017, 15 percent of the total graduates in tertiary education were from STEM fields, compared to Rwanda (12.9 percent in 2019), Kenya (16 percent in 2016), and Ghana (16.4 percent in 2019) among others (Figure 34-b). However, progress toward gender diversity and inclusion is lagging, with only 20.8 percent of students enrolled in STEM fields being female compared to 79.2 percent of male students in 2017.¹⁸⁷

Most primary and secondary schools are constrained by the lack of ICT equipment, the high cost of internet service, and energy.

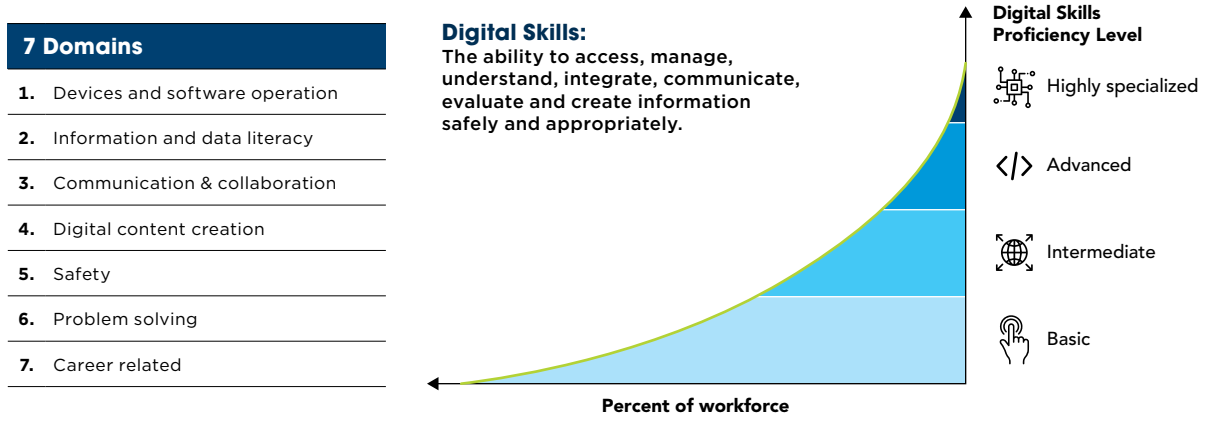
¹⁸⁵ World Bank, 2020. World Bank Data: Unemployment, total (percent of total labor force) (modeled ILO estimate - Republic of Congo. <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=CG>

¹⁸⁶ GSMA, 2016. Connected Society: Consumer Barriers to Mobile Internet Adoption in Africa. <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/07/Consumer-Barriers-to-mobile-internet-adoption-in-Africa.pdf>

¹⁸⁷ UNDP, 2020. Human Development Reports. The Republic of Congo. <https://hdr.undp.org/en/countries/profiles/COG>

FIGURE 34
Insufficient supply of digital education and graduates with STEM background is a constraint for digital skills development

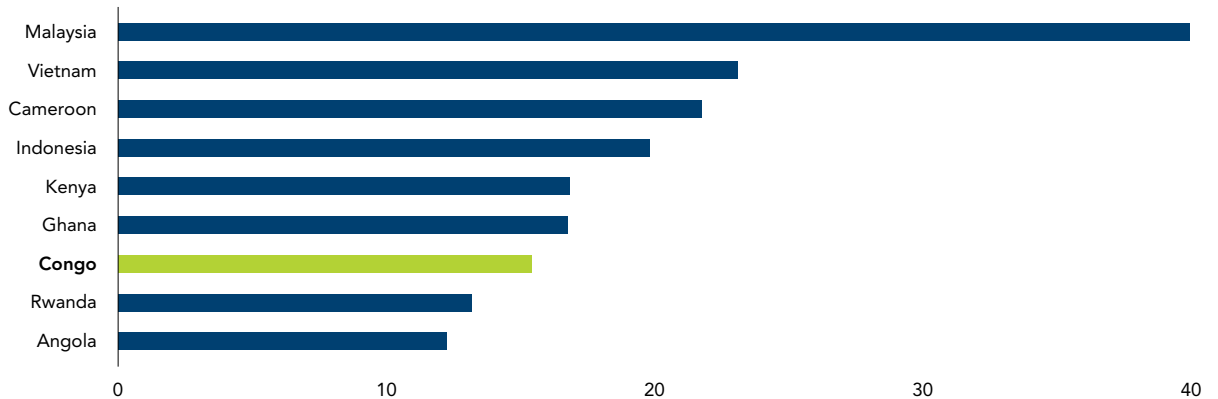
a. Digital Skills Framework for general workforce and population – 7 competencies and 4 proficiency levels



Source: Bashir, S. (2020).

Based on European e-Competence Framework 3.0 (2014), <http://www.ecompetences.eu>

b. Percentage of graduates from STEM programs in tertiary education between 2010-2019*



Source: Based on the UNESCO Institute of Statistics, 2019. Indicator: Percentage of graduates from tertiary education graduating from Science, Technology, Engineering, and Mathematics programs in tertiary education, both sexes (percent). *2010-2019. Data refers to the most recent year available during the period specified. June 2022.

A large basic digital literacy gap still prevents a sizable part of the population from adopting digital technology. As of 2018, only 11.1 percent of the population of Congo reported using computers compared to 35.5 percent in Gabon (Figure 35).¹⁸⁸ While the National Education Sector Strategy (2021-2030) acknowledges the importance of utilizing ICT tools in learning, there is still no inclusion of digital skills courses in the formal education system. Efforts to train trainers are fragmented and lack a structured nationwide initiative and framework. Programs such as China Funds-in-Trust training 250 teachers in primary, secondary, and technical and professional education with ICT and ICT for education¹⁸⁹ would be a starting point for a nationwide program, leveraging already an existing digital skills training framework (i.e., UNESCO’s commonly adopted ICT Competency Framework as used in Nigeria¹⁹⁰ and Tanzania¹⁹¹). Kenya provides a useful example of how to promote digital literacy (Box 9).

¹⁸⁸ OECD, 2021 based on ITU World Telecommunication / ICT indicators Database. CUA/OCDE (2021), Africa’s Development Dynamics: Digital Transformation for Quality Jobs, CUA, Addis Ababa/Éditions OCDE, Paris.

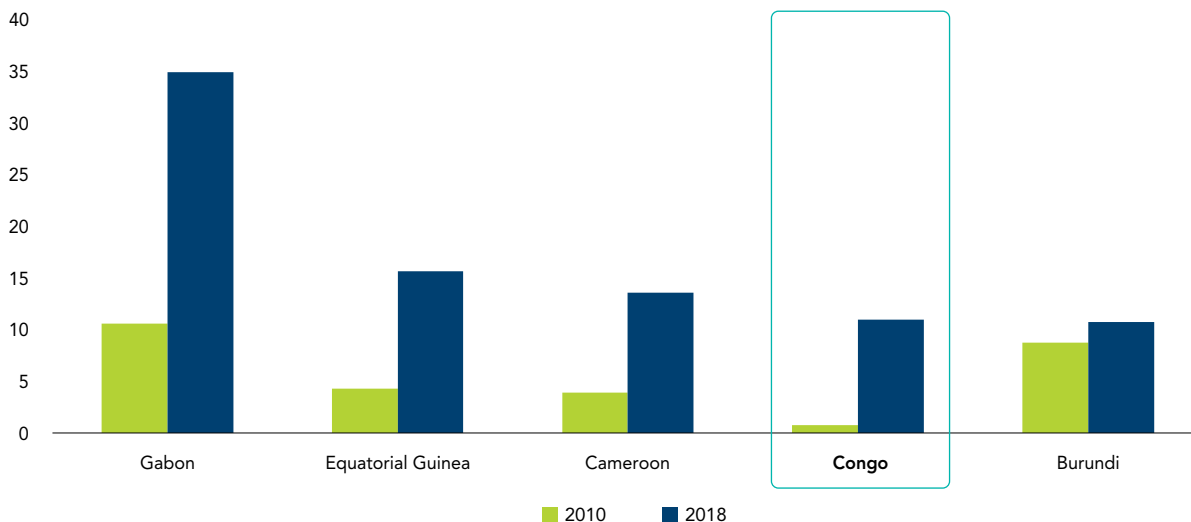
¹⁸⁹ UNESCO, 2017. UNESCO China Funds in Trust Project Phase II (2017-2018).

¹⁹⁰ UNESCO, 2021. Nigeria identifies priority areas for Open Education Resources.

¹⁹¹ Ministry of Education and Vocational Training of Tanzania, 2015. ICT Competency Standards for Teachers in Tanzania.

FIGURE 35
Congo’s digital literacy gap is a barrier for digital adoption

Use of computer per 100 inhabitants (%), 2010-2018



Source: OECD, 2021. Africa’s Development Dynamics: Digital Transformation for Quality Jobs. June 2022.

Availability of ICT infrastructure and equipment is a recurring problem in Congo. Most primary and secondary schools are constrained by the lack of ICT equipment, the high cost of internet service, and energy. In 2018, the proportion of primary and secondary schools with access to computers for pedagogical purposes was only 12.2 and 25.3 percent, respectively.¹⁹² The Government is preparing to launch a program, “*cartable numérique*”, which aims to provide connectivity and ICT tools to all schools, a nationwide digital platform, and a set of interactive and open-source pedagogical content to promote the use of ICT tools digital skills. Additionally, 16 secondary schools and high schools have been connected through the universal service fund (FASUCE) to the internet and received fully equipped multimedia rooms. Only a handful of multimedia rooms are available at the University Marien Ngouabi and the University Denis Sassou Nguesso. Connecting universities to high-speed broadband was attempted in 2017 under the African Development Bank’s Central Africa Fiber-Optic Backbone project, where 11 faculties of the University Marien Ngouabi have been connected. However, due to a lack of annual funding and the absence of affordable service rates agreed upon with the service providers, the connection to the internet has not been sustained, leaving the faculties yet again unconnected. Finally, there is no National Research and Education Network dedicated to fulfilling the connectivity, research and development needs of higher education institutions.

The supply of advanced and specialized digital skills training is driven by the private sector, concentrated in Brazzaville and Pointe-Noire. Private sector actors play a key role in filling the void left by the formal education system. Many incubators and non-governmental organizations (i.e., *Yékolab*, *Start Lab*, *Kosala*, *Club Congo France Numérique*, *PRATIC*, *PUITS/Osiane*, *CNEUF*, *BantuHub*), located in Brazzaville and Pointe-Noire, partner with the Government to support digital skills development, but are often overwhelmed by the number of applicants and have limited capacity to fill the nationwide digital skills gap. There are too few highly specialized degree programs in technology/ICT available in the public higher education system, while private sector actors fill the gap with short-term training, boot camps, and mentorship programs. The University Marien Ngouabi stands as the country’s main higher education institution, followed by Denis Sassou Nguesso University. The latter hosts the first Center for Research in Artificial Intelligence in Africa and enrolls students in a bachelor’s in computer science program. However, the challenge of reaching the critical mass of talents with in-demand digital skills would persist without a strong grasp of foundational and advanced skills (including literacy, digital fluency, numeracy).

¹⁹² UIS, 2022. UIS Statistics (unesco.org)

BOX 9

Spotlight on Kenya's Digital Literacy Program



Led by the Ministry of ICT, Innovation and Youth Affairs, the Digital Literacy Program (DLP) (also known as DigiSchool) is designed to introduce digital technologies to primary school children through training programs for teachers and trainers, provision of ICT tools and broadband connectivity, and digitized education content materials and curriculum. To date, the program has equipped over 20,000 primary schools. The impact of the Program has already started showing positive results, with teachers reporting improvement in children's engagement, reduced absenteeism, enhanced digital skills amongst teachers, and raised Kenya's global profile as an ICT hub.

The Presidential Digital Talent Program. The public and private partnership plays a key role in Kenya in building a critical mass of highly specialized talent pool. The Ministry of ICT, Innovation, and Youth Affairs launched a 12-month internship program with training, mentorship, and incubation for graduates from ICT and engineering fields. Over 1,200 graduates have been trained and 400 trainees have been selected contribute to the Digital Literacy Program to train 20,000 Kenyans in basic digital skills.

Ajira. Launched by the Ministry of ICT, Innovation and Youth Affairs, the program offers basic training, mentorship, and advisory services. The project targets youth with little to no experience in online jobs and equips them with basic soft and digital skills across five implementation locations. Upon successfully completing the training, the participants would transition to a mentorship program to enhance their skills, exploring access to online jobs through its platform and resources.

4.1.4 Adoption of productivity technologies by Congo's firms

Most firms in Congo have adopted the key technologies (mobile phones, computers, smartphones, and the internet), but small firms lag in adoption. Mobile phones, computers, and smartphones are widespread, while access to the internet is somewhat more limited, because internet services costs are high in Congo, reaching on average up to 20 percent of total expenses for the smallest firms (one to ten employees). According to firms surveyed about their adoption of technology (Box 10), 18 percent of total revenues in 2021 (Figure 36-b) were spent on investment in information and communication technologies (acquisition of ICT equipment, software, and access to the Internet). 100 percent of the surveyed firms provide computers to at least half of their employees, and 80 percent provided smartphones or tablets. The main connection type for the surveyed firms is DSL (digital subscriber line) or fiber for 70 percent of them, and the rest use mobile internet or dial-up internet connectivity. However, the quality of service provided by telecommunication operators is considered unsatisfactory by firms. In particular, the poor quality of network deployment and operation, frequent outages, and slow connections are to blame. The use of websites is, however, still limited, with only 50 percent of the surveyed firms making use of them, while 80 percent of surveyed firms use social media (WhatsApp being the most used, and then Facebook, Twitter, Instagram, and LinkedIn).

BOX 10

Firm Adoption of Technology (FAT) survey in Congo

A simplified FAT survey was conducted in Congo during March-April 2022 by the World Bank in collaboration with the Ministry of Digital Economy, INS-Congo, the Ministry of Finance, *Chambre de Commerce Pointe-Noire* (CCIAM-PNR), UniCongo (*Union Patronale et Interprofessionnelle du Congo*), UNOC, Kosala and DSI-Club Congo. This survey on technology adoption by firms collected quantitative and qualitative data on a sample of just over 40 firms (across Brazzaville, Pointe-Noire, Sangha, Lékoumou and Bouenza), to better understand the major constraints to technology adoption and their current use of technologies. Only formal firms and those connected with internet were able to respond to the survey.

The FAT survey (43 questions) was developed because despite widespread discussion about digital and complementary technologies, information on the actual technologies used by firms is surprisingly scarce, particularly for developing countries. The data for Congo aims to shed new light on where Congolese firms lie on the technology adoption spectrum, the variation across firms, and the major constraints to technology adoption.

The surveyed firms were: (i) 15 percent from the agriculture sector, 15 percent from the manufacturing sector, and 70 percent from the services sector; (ii) two-fifths very small firms (1 to 10 employees), one-fifth small firms (10 to 20 employees), one-fifth are medium size firms (21 to 99 employees), and one-fifth large firms (over 100 employees).

For general business functions common to all types of firms, adoption of emerging technologies is still low, except for standard software for back-office tasks.

Except for a small share of firms, Congolese enterprises still mostly use manual procedures and pre-digital technologies to perform general or sector-specific business functions. Even though some firms are adopting more sophisticated technologies in a given business function (e.g., digital payment methods, enterprise resource planning systems), these are not the most used technologies by the firm or by its customers. Only about one-third of surveyed firms use specialized management software tools such as inventory/point-of-sale software and advanced management tools such as enterprise resource planning software systems). For most micro, small, and medium enterprises, methods for production planning functions are by hand, and only a small share of them use standard computer software. The most common method of payment is still cash or check, although 25 percent of surveyed firms report using online platforms for sales and payments (e.g., online banking, mobile wallet, PayPal, or similar App-based payment service). Only a few firms appear to be diversifying their payment methods using multiple sources, but a very low share of transactions occur through these methods. Only a few Congolese firms have a digital transformation strategy to drive a higher level of productivity and invest in more autonomous technologies (such as cloud computing, robots, 3D-printers, artificial intelligence, or big data analytics), or customer relationship management tools. Solutions related to cloud computing, mobility and enterprise social networks are still often marginal outside the technology, media, and telecom sectors. During the COVID-19 pandemic, large firms report having invested in new digital solutions (e.g., cloud services, video-conference systems, and various collaborative online tools) in the initial months of the crisis while small firms did not do so.

Marketing is still conducted primarily face-to-face, while sales are predominantly conducted at the establishment's premises or by phone.

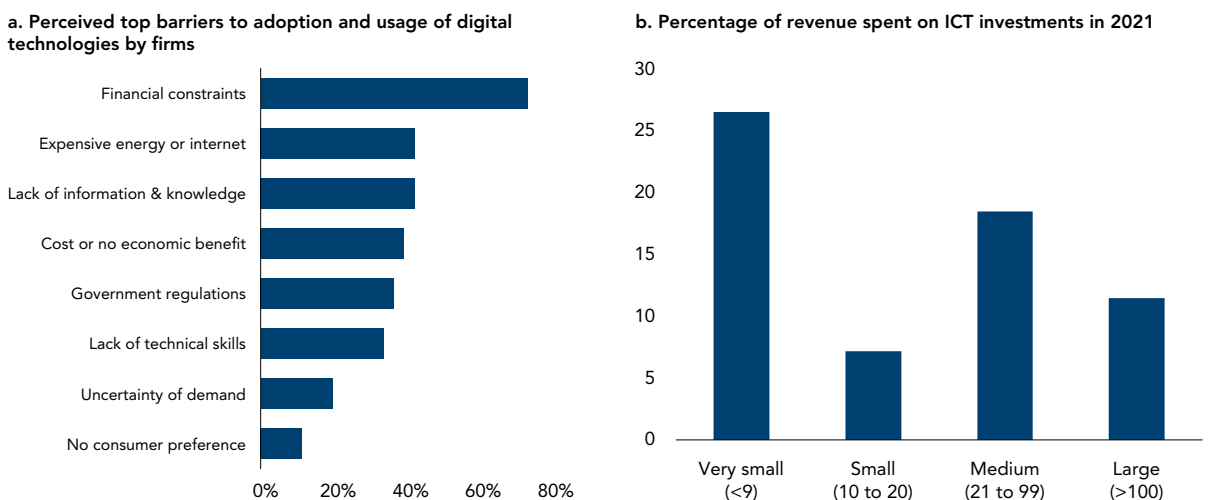
Around 75 percent of surveyed firms report using the internet (e.g., Facebook, WhatsApp, or other social media) from time to time to better understand their customers for marketing purposes and one-third of them to diversify their sales opportunities by reaching new markets. The main methods for marketing reported remain face-to-face or by phone. Only 50 percent of the firms think that a digital online presence makes them more competitive. Yet digital-oriented merchants have been far more resilient in the COVID-19 pandemic, compared with firms that operate mainly offline businesses. Notably, the

high cost of digital-related sales services and numerous digital security incidents prevent small entrepreneurs from considering online platforms as an important sales channel. Whether small or large, very few companies today receive orders placed online (via social networks, company websites, e-commerce platforms, mobile applications, and other means). As a matter of fact, e-commerce has not taken off in Congo due to many structural reasons (e.g., cost and reliability of logistics and customs services, the absence of a postal addressing system, a deep-rooted culture of face-to-face interaction, low trust in electronic transactions, and the limited number of internet exchange points between different access providers).

Most surveyed firms have a workforce with the necessary technological and technical skills to harness the potential of digitalization for their productivity and growth. Half of the surveyed firms responded that the use of the internet has enabled them to upgrade the skills of their employees. Surveyed firms (totaling about 4,500 permanent employees) reported that on average 50 percent of all employees (of whom 30 percent are women) have basic digital skills. Yet nearly 60 percent of surveyed firms report that they have in-house expertise (not necessarily certified) to develop, customize or significantly modify any computer hardware or software. According to the data collected, firms report that 30 percent of their workers (only 20 percent of whom are women) have advanced or specialized digital skills (most of them were trained overseas), but their competencies are not fully utilized. The digital skills most in demand by surveyed firms improved basic digital literacy (use of digitally controlled devices, use of the internet, communication through ICT, or use of Microsoft Office software), as well as digital marketing, social network development, and content management. Next in line are skills for technical information technology (IT) support and data storage techniques as well as cybersecurity (management, organization and risk management, data protection). To some extent, skills in data analysis, Big Data, artificial intelligence (Machine Learning), web and/or mobile application development and design, or information systems development, ERP, are also desired, but are not the most in-demand by the firms surveyed, except for firms specializing in ICT or in extractive activities (especially for the use of disruptive technologies).

Firms report that difficulty in obtaining financing is the main obstacle to adopting and using new digital technologies. The next greatest barriers (Figure 36-a) reported are equally distributed as follows: cost of electricity and/or internet connection and lack of information about what technologies to adopt. Indeed, the greatest barrier faced by firms of all size groups is financial, with around 70 percent of surveyed firms reporting that this is a top obstacle, especially in times of crisis (such as the COVID-19 pandemic). The lack of equity, capital, cash flow, or budget for investments is a real brake on firms and startups planning to invest in digital technologies or take advantage of technology services.

FIGURE 36
Firms’ financing constraints are the main barrier to digital adoption



Source: World Bank, findings from rapid Firm Adoption of Technology (FAT) survey among 44 firms in Congo, April 2022. June 2022.

Like the wider private sector, Congo’s digital entrepreneurship ecosystem remains nascent, and while investment in tech-based startups is on the rise, there is limited support for these firms beyond an incubation stage.

A limited number of tech startups have been pushing the envelope on innovation and generating excitement around the sector. COVID-19 has increased the value of FinTech, e-logistics, e-commerce, and e-health. Recent efforts by the government through a small and medium enterprise (SME) guarantee fund, the Guarantee and Support Fund (*Fonds d’impulsion de garantie et d’accompagnement*), or local incubators through participatory financing mechanisms to partially bridge the financing gap are positive trends, but there remains a need to secure long-term business investors for important seed and follow-on fundings. Congolese startups raised US\$1 million in 2021 from investment funds and other venture capital firms, as opposed to Senegalese startups, who reached US\$353 million in 2021 (a large boom since their startup act adoption in 2019).¹⁹³ Today, local incubators are concentrated in Brazzaville and do not have a sustainable strategy for graduating enterprises from incubation and acceleration programs. Bottlenecks in the business enabling environment and gaps in enabling inputs, such as the inaccessibility of appropriate growth-oriented financing or the limited supply and pipeline of digitally skilled talent, present further hurdles to the expansion of digital entrepreneurship. More specific to Congo, local digital businesses could explore developing software and other technologies for the mining, agricultural, and tourism sectors (see Box 11 for examples in peer countries).

BOX 11

Development of digitalized productive value chain – spotlight on Botswana



Digitalization can address the structural challenges of a country like Congo, particularly in the productive sectors of mining, timber and cash crops (sugar cane, palm oil, coffee and cocoa, rubber, among others). Mines are increasingly using advanced software and digital solutions, including drones, to locate diamonds and optimize mining processes as well as grade diamonds. For instance, Debswana Diamond Mining Company, the joint venture between the Government of Botswana and De Beers, is an advanced IT user with 4IR integrated across its operations and supply chain to include extensive digitalization of operations, where the use of advanced technology has made it possible to operate a “no touch” mine, eliminating the need for any manual handling in the processing of the diamonds. This involves the use of big data, real-time data capture, sensors, IoT, wearable devices for maintenance and operator safety, integrated remote operating centers, blockchain technology, etc. Debswana is already using e-commerce platforms to do business, including SAP, Ariba, and eTravel and has significant experience and expertise in information security management. These advanced technologies are behind what has made Botswana’s diamond mining industry a powerhouse in global rough diamond production and Botswana’s largest foreign income earner with a relatively small number of staff and safe working conditions.

Sources: United Nations Conference on Trade and Development (UNCTAD) (2021)

¹⁹³ Partech (2021), 2021 Africa Tech Venture Capital Report. <https://partechpartners.com/2021-africa-tech-venture-capital-report/#section1>.

4.1.5 Policy options: how Congo can drive technological transformation for better productivity?

The following policy priorities would activate the levers identified above, thus removing constraints on the development of the digital transformation in Congo and enabling the expected dividends of digital technology to be realized. Detailed policy recommendations are provided in Table 5.

Multiple actions will help enhance the availability of affordable broadband access for firms. The government should favor infrastructure sharing to lower costs of deployment and foster competition. Players with dominant market position should be identified, and access to their key infrastructures should be regulated. Strengthening competition in the digital sector, especially fiber optic wholesale market and the international submarine cable will improve affordability of digital services (see Chapter 3). It is also essential to better regulate PPPs to benefit from better cooperation between the public and private sectors. The recent creation of a Ministry and the new law dedicated to PPPs are clearly significant progress, but it is essential to quickly prepare implementing decrees to the new PPP law. Adequate legislation would not only allow for the identification of successful projects, but also for the effective and transparent management of these projects, while ensuring that the development objectives are met and that investors are satisfied. Finally, reviewing the fiscal and parafiscal policy of the digital sector will help reconcile the revival of the sector (and its socio-economic impacts in terms of socio-economic inclusion) with the constraints imposed by the balance of public finances.

Trust in digital payments and digitalization of public services are essential to increase usage of digital financial services, which, in turn, can improve firms' productivity. Digital payments help reduce operating costs and time. It is therefore essential to strengthen trust and confidence in digital payments and financial services by developing new regulations for better payment infrastructure development and user protection to digital payment methods (aligned with CEMAC regulation). Specific actions include standardizing complaint and dispute resolution procedures; and adopting mechanisms such as escrow accounts and trusted third party labels. Digitalization of public services is another factor that reduce costs, time, and improve productivity of both private and public sectors. Digitalization of G2P (Government-to-People), G2G (Government-to-Government) and P2G (Person-to-Government) payments (e.g., public utility payments, tax payments, social transfers, government wages) will accelerate productivity, financial inclusion, women's economic empowerment, and government fiscal savings.

A multi stakeholders' approach will be necessary to improve the supply of digital skills to close the digital skills supply-demand gap. The broader government objective should be to adopt and implement an education sector ICT policy and framework following the internationally recognized global frameworks for digital skill development (from basic to advanced). In this regard, integrating digital skills courses as cross-cutting subjects in the formal education system would be instrumental in developing such skills from an early age, as well as leveraging private sector involvement in technical and vocational education and training) and in tertiary education. Fostering collaboration between research institutes, universities, and the private sector actors through research and development centers focusing on digital solutions (particularly in data management, user experience design, cloud computing, and emerging technologies) is equally important. Addressing the existing skills supply and demand gap in the labor market would require a robust skills gap analysis, followed by digital skills training programs with certifications, and digital platforms to boost employment (e.g., job matching platforms, talent management boards, skills orientation services). Finally, it is essential to ensuring sustainable financing for digital skills development training models (digital academies, bootcamps, digital labs, etc.) and digital connectivity within training facilities and universities, in partnership with public institutions, the private sector, and non-government actors.

A multi-level approach to policy is essential to improve the enabling environment for digital technology adoption and for high growth technology-enabled businesses. The government needs to design and enforce key policies and regulation for business climate improvement overall, for better access to finance and public procurement for SMEs, and for start-up innovation. New policies include business-enabling regulation, application of the startup act and anti-corruption framework, possible tax relief policies for ICT and for research

and development, government-backed partial credit guarantees, crowdfunding platforms, and regional harmonization to African Continental Free Trade Area (AfCFTA) and CEMAC regulations. Modernization of key public services such as the postal sector, trade and customs, and business registration can improve the uptake of digitalization initiatives, accelerate e-commerce development, and spur technology-enabled business creation. Support for customized firms/worker training programs can improve adoption and use of digital technologies (including collaborative digital platforms for local ecosystems, operational research and data analytics, digital business and entrepreneurship support, reskilling and skills development programs, innovation contests, and grants funding schemes) especially if targeted to smaller firms and productive sectors such as manufacturing and agribusiness as well as technology-intensive sectors.

TABLE 5
Detailed Recommendations to Accelerate Digital Transformation

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Enhance the availability of affordable broadband access		
<ul style="list-style-type: none"> Strengthen competition in the fiber optic wholesale market and the international submarine cable market (see Chapter 3) to improve affordability of digital services. 	ARPCE (Telecoms Regulator), Ministry of Posts, Telecommunications and Digital Economy (MPTEN)	SHORT TO MEDIUM-TERM
<ul style="list-style-type: none"> Favor infrastructure sharing to lower costs of deployment. Players with dominant market position should be identified, and access to their key infrastructures regulated. 	ARPCE, MPTEN, Ministry of Equipment and Public Works	SHORT-TERM
<ul style="list-style-type: none"> Prepare implementing decrees to the new PPP law to ensure its implementation and benefit from better cooperation between the public and private sectors. 	Ministry of PPPs, MPTEN	SHORT TO MEDIUM-TERM
<ul style="list-style-type: none"> Review the fiscal and parafiscal policy of the digital sector to reconcile the revival of the sector with the constraints imposed by the balance of public finances. 	MPTEN, Ministry of Finance, Ministry of Plan and Economy	SHORT TO MEDIUM-TERM
Increase use of digital financial services		
<ul style="list-style-type: none"> Strengthen trust and confidence in digital payments and financial services by developing new regulations for better payment infrastructure development and user protection to digital payment methods (aligned with CEMAC regulation). 	BEAC, Ministry of Finance, MPTEN, Commercial Banks, <i>Direction Générale de la Concurrence et de la Répression des Fraudes Commerciales</i> (DGCRF)	SHORT TO MEDIUM-TERM
<ul style="list-style-type: none"> Digitalize G2P, G2G, and P2G payments (e.g., public utility payments, tax payments, social transfers, government wages and other expenses) to reduce costs and improve productivity. 	DGDEN, MPTEN, ARPCE, Ministry of Finance, Public Utilities SOEs (E ² C, SOPECO, SNDE, Congo Telecom, and others), mobile money operators	MEDIUM-TERM

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Improve digital skills supply through a multi stakeholders' collaboration		
<ul style="list-style-type: none"> Implement an education sector ICT policy and framework following the internationally recognized global frameworks for digital skill development (from basic to advanced) by: <ul style="list-style-type: none"> » integrating digital skills courses as cross-cutting subjects in the formal education system. » leveraging private sector involvement in technical and vocational education and training and tertiary education. 	<p>DGDEN, Ministry of Primary and Secondary Education, Ministry of TVET, Public and Private Training Institutes</p>	<p>SHORT TO MEDIUM-TERM</p>
<ul style="list-style-type: none"> Foster collaboration between research institutes, universities, and the private sector actors through research and development centers focusing on digital solutions. 	<p>DGDEN, Ministry of Higher Education, public universities, private training providers, major industries, incubators, high tech centers</p>	<p>MEDIUM-TERM</p>
<ul style="list-style-type: none"> Conduct a robust skills gap analysis, followed by digital skills training programs with certifications, and digital platforms to boost employment. 	<p>MPTEN/DGDEN, Ministry of Higher Education, Congo Agency for Employment (ACPE), Ministry of Industry, private sector associations</p>	<p>SHORT TO MEDIUM-TERM</p>
<ul style="list-style-type: none"> Ensure sustainable financing for digital skills development training models and digital connectivity within training facilities and universities, in partnership with public institutions, the private sector, and non-government actors. 	<p>MPTEN, DGDEN, Ministry of Higher Education, Universities, Training Institutes, broadband providers/ISPs, local telecom providers, ARPCE</p>	<p>MEDIUM-TERM</p>
Improve the enabling environment for digital technology and for high growth technology-enabled businesses		
<ul style="list-style-type: none"> Design and enforce key policies and regulation for business climate improvement, better access to finance and public procurement for SMEs and for start-up innovation. Key polices include for instance: <ul style="list-style-type: none"> » application of the startup act and anti-corruption framework; » possible tax relief policies for ICT and for research and development; » government-backed partial credit guarantees, crowdfunding platforms; » regional harmonization to the AfCFTA and CEMAC regulations. 	<p>MPTEN, DGDEN, Ministry of Finance, Ministry of Plan, ARPCE</p>	<p>MEDIUM-TERM</p>
<ul style="list-style-type: none"> Modernize and re-adapt key public services and administration (e.g., cross-border trade and customs facilitation to accelerate e-commerce development, re-adaptation and digitization of key Government-to-Business (G2B) administrative procedures for business registration). 	<p>MPTEN, DGDEN, Ministry of Civil Service, SOPECO, Ministry of Finance, ACSI, BEAC, Ministry of Plan, Ministry of Special Economic Zones, Private Sector, Ministry of Transport, Ministry of Justice, Ministry of Commerce, Ministry of MSMEs</p>	<p>SHORT-TERM</p>
<ul style="list-style-type: none"> Institutionalize technology upgrading plans and customized firms/worker capability support programs for better adoption and use of digital technologies, targeting smaller firms and productive sectors such as manufacturing and agribusiness as well as technology-intensive sectors. 	<p>MPTEN, DGDEN, Ministry of MSMEs, private sector associations, local industry, multinationals, Ministry of Higher Education, training institutes</p>	<p>SHORT TO MEDIUM-TERM</p>

Note: Ministry of TVET is Ministry of Technical and Vocational Education and Training. Ministry of MSMEs is *Ministre des Petites et Moyennes Entreprises, de l'Artisanat et du Secteur Informel* (Ministry of Small and Medium Enterprises, Handicrafts and the Informal Sector).

4.2 Accelerating productivity through improved access to electricity

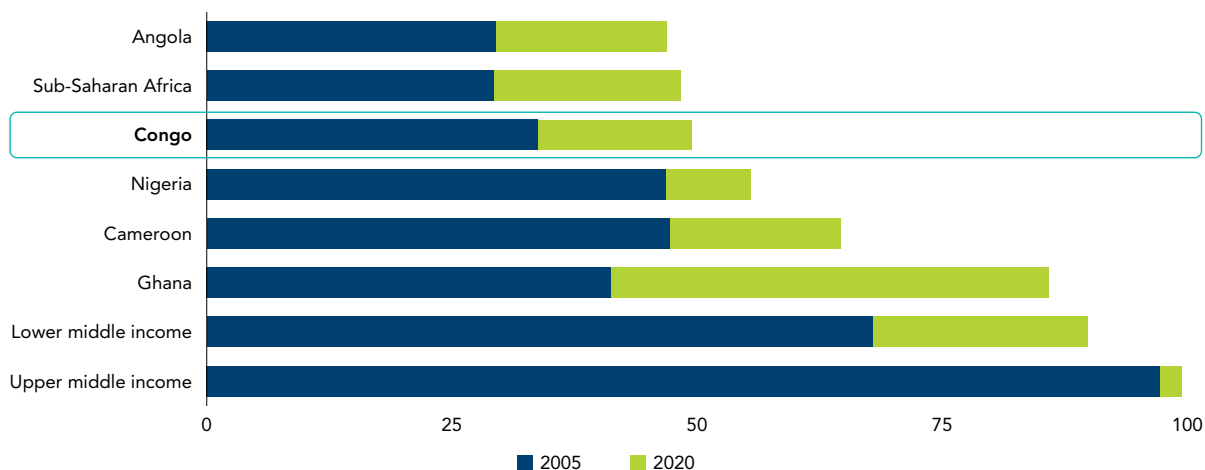
4.2.1 How much access to electricity do Congolese firms have?

As in the rest of Africa, firms in Congo face challenges related to electricity, the most notable being the time and cost to get connected to the grid. Congolese firms must contend with difficulty in securing access to the grid outside of the main cities of Brazzaville and Pointe-Noire. Both the time and the cost of a new connection are prohibitive, suggesting that it could be an important barrier for most smaller firms. The quality of service is also unreliable, and, as a result, firms outside the main cities will (like many other firms across Sub-Saharan Africa) resort to costly self-generation.

Firms outside urban areas struggle to get an electricity connection, and even urban firms face uncertain access. According to the World Bank World Development Indicators, in 2020 only 49.5 percent of the Congolese population had access to electricity. In urban areas where 64 percent of the Congolese live, mainly in Brazzaville and Pointe-Noire, the electrification rate is 66 percent, while only 14.8 percent of the rural population has access to electricity. Despite significant domestic energy resources, access to electricity in Congo is lower than three of its four regional peers, having only a marginally better access rate than Angola at 46.8 percent (Figure 37).

FIGURE 37
Access to electricity is relatively low in Congo

Access to electricity (% of population)



Source: WDI 2020. June 2022.

Firms located outside of urban areas face great difficulties in getting an electricity connection. Because of the country’s low population density, any extension of the grid is complicated and costly. Amongst its regional peers, Congo has the lowest population density with only 16 people per square kilometer. It is, in part, because of this that much of the population outside of the major urban centers in the Brazzaville – Pointe-Noire axis lacks access to electricity. Only six of the 4,382 localities without access to electricity have a population of more than 5,000 inhabitants.¹⁹⁴ This means that firms in non-urban environments, often engaged in agribusiness such as rice de-husking, face even more difficulty in getting access to electricity without resorting to costly-self generation than in Congo’s urban areas.

¹⁹⁴ World Bank staff analysis.



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To get a new electricity connection, firms must face a long wait and significant costs. Amongst its peers and despite a similar number of procedures, it takes longer and is costlier to benefit from an electricity connection in Congo. Recent surveys indicate that Congo has a less efficient connection process than the Sub-Saharan African average (Table 6). The cause for a longer time and higher cost of connection in Congo, according to the 2020 World Bank survey, was the need for the firm to hire a licensed electrical contractor, who purchases the material and conducts the external connection work. This procedure requires 120 days, accounting for approximately 89 percent of the total time to obtain a connection, and costs CFAF 58 million (or US\$95,000).¹⁹⁵ By comparison, in Cameroon, the highest cost in the process consists of hiring an authorized supervision agency (only when the surface of the business exceeds 400 m²) and costs CFAF 3 million (or US\$5,000). Although the survey number for Congo may somewhat exaggerated, nevertheless, this data suggests the cost of connecting could well be prohibitive for many smaller firms in Congo.

TABLE 6
Getting a new electricity connection takes more time and costs more than in peer countries

Country	Peer	Time (days)	Procedures (number)	Cost as % of income per capita
Congo	-	134	6	5,569.3
Nigeria	Regional	110	7	296.4
SSA Average	-	109.6	5.2	3,178.5
Angola	Regional	97	7	623.3
Timor-Leste	Structural	93	3	1,255.7
Botswana	Aspirational	77	5	251.5
Mauritania	Structural	67	5	3,929.3
Cameroon	Regional	64	4	1,470.7
Ghana	Regional	55	4	632.0
Azerbaijan	Structural	41	7	125.7
Indonesia	Aspirational	32	4	233.8
Vietnam	Aspirational	31	4	994.2
Malaysia	Aspirational	24	3	25.6

Source: World Bank, 2020. June 2022.

¹⁹⁵ It was noted by the World Bank report for Congo that such a high cost of connection in the region were because often the customer had to pay to import a transformer and other materials (for the type of capacity analyzed in the report, of 140 kVA). The exact cause for such a high cost must be studied further.

Firms suffer from unreliable electricity service. As a result of limited and uncoordinated investment into its infrastructure, the country has the least reliable electric supply system among peer countries, which in turn negatively affects the private sector (Table 7). In 2021, there were 54 blackouts across Brazzaville and Pointe-Noire.¹⁹⁶ For firms, power outages are a common occurrence. A recent survey of 44 firms in Congo indicated that power outages were a daily occurrence for many respondents, with generally one to three outages per day lasting from a few minutes to one-to-three hours.¹⁹⁷

TABLE 7
Congo has the least reliable supply and least transparent tariff among peers

Country	Peer	Reliability of supply and transparency of tariff index (0-8)
Malaysia	Aspirational	8
Azerbaijan	Structural	7
Vietnam	Aspirational	7
Indonesia	Aspirational	6
Ghana	Regional	4
Angola	Regional	2
SSA Average	-	1.6
Botswana	Aspirational	0
Cameroon	Regional	0
Congo	-	0
Mauritania	Structural	0
Nigeria	Regional	0
Timor-Leste	Structural	0

Source: World Bank, 2020. June 2022.

Many firms still rely on costly self-generation. Given the unreliable supply of electricity, many firms need to supplement their connection to the electricity grid with self-generation. Of firms recently surveyed, the large majority responded that they used the electricity grid for their primary energy supply, but an equally large number responded that they used a diesel generator as a secondary source. Furthermore, these surveyed firms indicated that the cost of electricity represented some ten to 20 percent of their operating costs.¹⁹⁸ This high cost is not surprising given that the cost of self-generation is estimated to be almost three times more than current tariff rates. It can be estimated that firms in Congo pay approximately US\$ 0.27/kWh when using generators.¹⁹⁹ This is almost three times more than the current tariff charged by E²C and slightly less than twice the cost of the estimated cost-recovery tariff. However, a more rigorous study is needed to obtain more precise data on the consumption of diesel needed to power Congolese generators as well as the cost of diesel fuel in different localities.

¹⁹⁶ E²C, 2021.

¹⁹⁷ World Bank, 2022b. This is a generalization of the statements made by those surveyed but, given the qualitative nature of the response and limited sample size, it is not a statistically representative finding.

¹⁹⁸ World Bank, 2022b.

¹⁹⁹ Calculated using the approximation that one liter of diesel generates 3.3kWh of energy (Sustainability Exchange, 2022), and 1 liter of diesel costs 90 cents (WDI, 2022). Therefore, 90 cents divided by 3.3kWh = US\$ 0.272 per kWh.

4.2.2 The current context of the electricity sector explains the difficulties faced by firms

Congo has been facing substantial and growing electricity shortages, but the country is endowed with significant untapped hydropower resources. Of Congo's installed electricity generation capacity of 756 MW (of which 231 MW from hydro, 484 MW from gas, and 41 MW from oil), only 553 MW is available due to lack of investment and poor maintenance (160 MW hydro, 378 MW gas and 15 MW oil) while peak demand was estimated at 600 MW in 2020. This demand is expected to continue to grow rapidly and steadily, estimated by ten to 20 percent per year. Against this rising demand, Congo's hydroelectric potential is estimated at 14,000 MW of which only 1.5 percent has been exploited to date. The Government of Congo is considering upgrading capacity to meet this growing demand, including the Sounda hydroelectric project (600 MW), Chollet hydro (300-600 MW), Mourala hydro (100 MW), and the rehabilitation of existing hydroelectric plants as well as a new gas-fired power plant.²⁰⁰ These are still at the early stages of planning, with financing yet to be recruited.

Despite past attempts at reform, the sector remains constrained by limited coordination and oversight, discouraging private investment. Planning capacity within the sector has been uncoordinated, and investments across the sector have not resulted in any tangible improvement in the level of service in recent years. A Generation and Transmission Master Plan was prepared in 2016 but never fully implemented. In addition, over US\$2 billion has been invested over the past decade by government and private enterprise in generation assets and the transmission and distribution network without any tangible improvement in quality of service.²⁰¹

The country has recently set out its ambitions to reform the sector, placing an emphasis on the unbundling of the sector and the participation of the private sector to improve performance. The sector is governed by the 2003 law on electricity which decreed the liberalization of the electricity sector, the creation of new agencies (regulator, rural electrification agency) and allowed for private sector participation. However, it was only in 2017 that several decrees were approved to operationalize this law. In 2018, at the initiative of the Government, the then national electricity company, *Société Nationale d'Electricité*, (responsible for the generation, transmission and distribution of electricity) was dissolved, and a state-owned asset company, *Energie Electrique du Congo* (E²C), was created in its stead. E²C is a public limited company under OHADA law and operates the service on a transitional basis, pending eventual participation by the private sector as part of an unbundling of the sector.²⁰²

These reforms included the creation of a regulator to support entrance by the private sector to improve the quality of service. This ambition to open the sector up to competition led to the establishment of a regulator, the *Agence de Regulation du Secteur de l'Electricité* (ARSEL). As the regulator, ARSEL's main mission is to regulate, control and monitor the activities of operators in the sector and to arbitrate disputes between them. However, crucially, it is still subordinated to the Ministry of Energy (*Ministère de l'énergie et de l'hydraulique*), arguably impacting its ability to regulate the sector in an impartial and objective manner.²⁰³ Most notably, it has not yet acted in the other area of importance for a regulator—that of tariff setting, which is critical in promoting the financial viability of any electricity sector which in turn may attract private investment.

The Government intends to encourage private sector participation, in particular in distribution and generation, so that competition can improve performance. Until recently there was no dedicated PPP legal framework or unit, which could be a cause for uncertainty for investors.²⁰⁴ This might explain the difficulty the country has had in concluding concession agreements for generation projects in the recent past.²⁰⁵ The new PPP law could facilitate such agreements. It is therefore essential for the government to prepare its implementing decrees.

²⁰⁰ World Bank staff analysis.

²⁰¹ World Bank staff analysis.

²⁰² Unbundling is the creation of different companies across the energy sector value chain from an existing monopoly with the aim of improving electricity service and reduce costs through improved management and competition, sometimes—as is the ambition of Congo—through private sector participation.

²⁰³ World Bank staff analysis.

²⁰⁴ PPP Knowledge Lab - <https://pppknowledgelab.org/countries/congo-republic>

²⁰⁵ World Bank staff analysis.

The sector is financially unviable, preventing re-investment that could improve the quality of service for firms. The poor quality of electricity supply stems in large part from the financial distress in which the sector finds itself. As a result of the limited financial flows within the sector, there is little re-investment into its infrastructure to increase the number of connections or towards operations and maintenance, which in turn results in a poor quality of service.²⁰⁶

E²C is heavily indebted with debt of approximately US\$111 million in 2021, only slightly less than its turnover of US\$121 million.²⁰⁷ In 2016, E²C inherited the US\$421 million obligations of its precursor, Société Nationale d'Electricité. This included nearly US\$210 million of arrears to the *Centrale Electrique du Congo* (CEC), an independent power producer (IPP), representing 70 percent of national electricity production. E²C and its predecessor relied heavily on government subsidies through direct budget support or other arrangements, including the securitization of payment for energy purchases from CEC. This was allegedly undertaken through an agreement between the government and ENI (the Italian oil company that is a private shareholder of the CEC along with the Government) to reduce levies on its Congolese oil production.²⁰⁸

Power is sold at a loss to customers as the tariff does not reflect the real cost of electricity. The current tariff as April 2022 is CFAF 51/kWh (US\$0.091 /kWh) and has not changed since 1994.²⁰⁹ By contrast, the cost of electricity was estimated in a 2015 study²¹⁰ at around CFAF 92/kWh (US\$0.16/kWh). Further compounding this shortfall, technical losses in 2016 were estimated at around 52 percent (the average acceptable loss level across Sub-Saharan Africa is about 20 percent), and only 73 percent of bills were recouped. In addition, contrary to standard practices, the tariff for Medium Voltage clients (such as larger industrials) is lower than Low Voltage customers (households and smaller businesses). As these Medium Voltage customers are often larger firms, they are most likely to be able to pay for the real cost of power.²¹¹

In addition to the low tariffs, cost recovery is eroded by the fact that many customers, including firms, are not charged according to their consumption. While E²C launched a campaign to supply their customers with meters, this has had limited results. According to documentation on inventorying losses and installing meters, around half of the customers are not metered and therefore are charged flat rates regardless of their energy consumption.²¹² It should be noted that of 41 recently surveyed firms, 26 responded that their electricity consumption was metered, and ten that they were billed on a flat rate.²¹³ This finding, while not statistically representative, provides anecdotal support for the importance of E²C to increase the metering of its customers to accurately recoup a larger share of its costs.

Furthermore, the national utility has a disproportionately large salary cost relative to its assets under management. Salaries represented 27 percent of the company's operating costs in 2016 (compared to around ten to 20 percent in countries such as Senegal, Mali, Côte d'Ivoire and Burkina Faso) with a ratio of 117 customers per employee (compared to 490 in Senegal).²¹⁴ Compounding this, the 340 workers hired by E²C in 2021 for the inventory of subscribers and the installation of meters were hired permanently, increasing the proportion of salary costs within the total operational expenditures of the company.²¹⁵ According to a 2016 assessment of financial viability of African utilities, these staff costs were the third highest of the 36 surveyed countries in Africa after The Gambia and the Central African Republic (31 percent and 36 percent of operational expenditures respectively) (Figure 38).²¹⁶

²⁰⁶ World Bank staff analysis.

²⁰⁷ <https://www.finances.gouv.cg/sites/default/files/documents/CCA%20Rapport%20v2.4.pdf>, pp40

²⁰⁸ World Bank staff analysis.

²⁰⁹ World Bank staff analysis.

²¹⁰ Artelia, 2015.

²¹¹ World Bank staff analysis.

²¹² E²C, 2021.

²¹³ World Bank, 2022b.

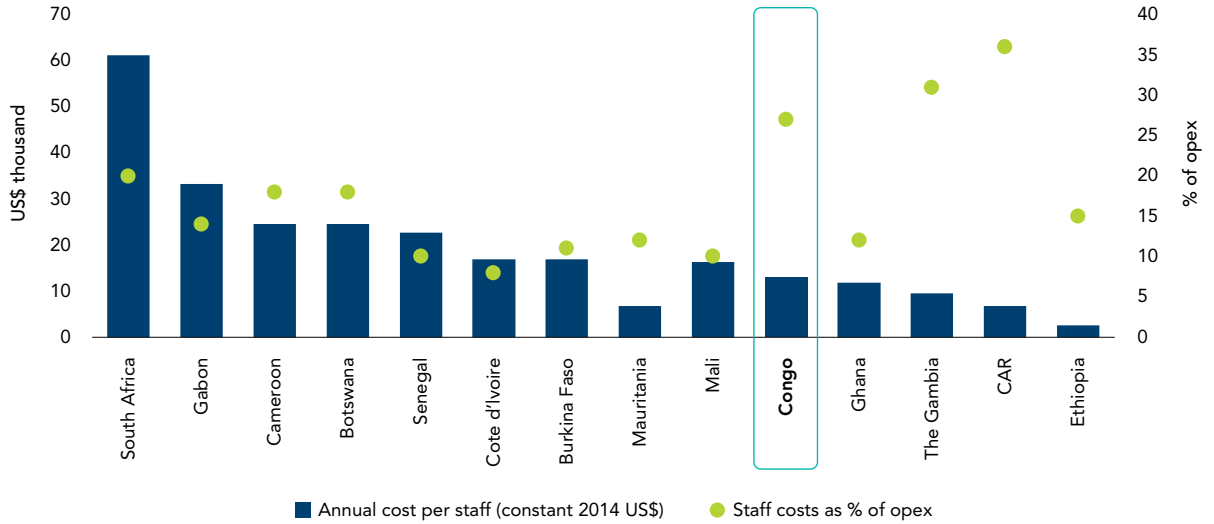
²¹⁴ Trimble et al., 2016.

²¹⁵ World Bank staff analysis.

²¹⁶ Trimble et al., 2016.

FIGURE 38
Congo had one of the highest staff costs as a percentage of operational expenditures

Staff costs across African utilities



Source: Adapted from Trimble et al, 2016. June 2022.

4.2.3 Potential avenues of reform in the electricity sector to improve firm-level productivity

International experience suggests that a long-term approach is required to achieve a reliable power supply through considerable capital investments in the power system as well as institutional and governance reforms in the sector. The following policy options can improve quality of service for firms and reduce barriers to benefits from electricity access, thereby improving firm-level productivity (see Table 8 for detailed recommendations).

To improve the financial viability of the sector, which would support re-investment to improve the quality of service for firms, the current tariff regime in the Congo needs to be reviewed. This tariff has not been revised since 1994 and does not reflect the true cost of electricity today, therefore penalizing E²C as well as other actors upstream in the sector. Some preliminary work has already been undertaken which could inform the Government as to how a financial equilibrium could be achieved,²¹⁷ but an updated and thorough review of the cost of power across the value chain needs to be undertaken. The Government has already indicated that it is open to clarifying revenue requirements for sector actors.²¹⁸ Any adjustment of tariffs is, of course, a sensitive matter, but one that should at least be studied. Ultimately the decision on how much to charge customers remains a political and sovereign decision of Congo, but at the very least, a review of the tariff regime should clearly identify the true cost of power across the sector and therefore clearly identify how much any subsidy should amount to. This would leave no doubt as to what is owed to whom and help promote financial viability for the sector. The caveat, however, is that it is essential—in the interest of supporting the most vulnerable population—that any change in the tariff regime does its utmost to avoid increasing the burden on the poorest clients.

²¹⁷ Artelia, 2015.

²¹⁸ Ministère de l'énergie et de l'hydraulique, 2021.

The operational and financial situation of E²C is in urgent need of redress to enable it to deliver a more reliable service to its customers—including firms. Improved financial viability is key to attracting the private sector participation that the government hopes will improve the sector. Financial viability for E²C could be achieved by: i) increasing the proportion of metered customers vs. those paying a flat rate; ii) conducting an operational review to identify options for reducing overstaffing; iii) introducing digital tools such as Enterprise Resource Management software, SCADA (supervisory control and data acquisition) systems, and other measures that could improve the operational effectiveness of the utility; iv) reinforcing staff in areas such as maintenance, studies, planning or the execution of projects; and v) extending the distribution network and last-mile connections to increase the number of customers (and therefore the revenue base).

Strengthen the legal and regulatory framework to support the sector and encourage investment. Reinforce the capability of ARSEL to regulate the sector, allowing it to set tariffs and regulate the market objectively and independently as well as to enforce performance standards to the benefit of customers, including firms. Given the need to review the tariff regime and introduce transparency in the tariff-setting process, ARSEL requires capacity, for example through knowledge exchange with other regulators. Furthermore, international experience shows that an independent energy regulator is essential for governments to promote an efficient and reliable energy sector.²¹⁹ The Government could explore the option of revising the legal status of ARSEL as an agency independent of government intervention. Ultimately, a better-regulated sector will work in the interest of firms connected to the grid by ensuring their electricity service meets a minimum level of reliability and that tariffs are fixed in a fair and transparent manner.

Support institutional reforms that could attract private investment, to promote competition, improve performance and meet growing demand, therefore improving the quality of service for firms. In line with the Government's ambitions of bringing in private sector participation,²²⁰ the power sector requires further reform efforts to create a legal and institutional environment conducive to private sector participation. This would provide a clear framework for independent generation through IPPs as well as for non-grid connected infrastructures like mini-grids. IPPs would help meet the growing demand for electricity, and the entry of private sector participation elsewhere (if managed correctly) could also help improve performance standards.

Invest in infrastructure and activities to increase the number of firms that could benefit from access to a reliable and affordable source of electricity. Reducing the cost and time of a new connection would increase firms' competitiveness. Given the indication in the World Bank's assessment of 2020, that the cost of a connection would be prohibitive for many businesses, measures should be taken to assess the options available to reduce the cost and streamline the process. For example, it is not clear if the prohibitive cost and time for the licensed electrical contractor (Step 3 of the connection procedure) is the result of a lack of qualified technicians, the elevated cost of materials and services to install the connection, or because of a state of low-equilibrium market dynamics. A study of the current process and comparison to other peer countries could help identify the drivers of the high cost and inform options for making electricity connections more affordable.

Improve the reliability of the network and, therefore, the reliability of the electricity service to firms by investing in new or rehabilitated transmission and distribution infrastructure. Given the lack of investment in the transmission and distribution network, one avenue could be mobilizing financing from development finance institutions (including the World Bank) and the private sector, specifically towards rehabilitation or upgrades. This would help improve the quality of service, increase the number of connections, and reduce technical losses. In 2018, activities in grid rehabilitation, the installation of meters, and new connections, as well as US\$10 million were cancelled under the last electricity project of the World Bank (PEEDU) (P106975) to rehabilitate the electricity infrastructure in Brazzaville and Pointe-Noire due to the unavailability of Government counterpart funding.²²¹ These activities could resume within a framework of another World Bank operation.

Support access to electricity initiatives to enable firms outside of urban environments to be able to electrify their activities without having to resort to costly self-generation. Given the low electricity access rates in rural areas, firms are constrained to urban areas if they want to electrify their activities without resorting to self-

²¹⁹ Cubbin and Stern, 2006.

²²⁰ World Bank staff analysis.

²²¹ World Bank. 2022. PEEDU (P106975) Implementation Completion Report.

generation. Mini-grids present a viable solution for some of the larger agglomerations of populations such as the larger townships that are yet to be electrified, and project structuring and auctions could be undertaken (on the back of the legal and regulatory reforms previously discussed), similarly to the African Development Bank’s Green Mini-Grids program in the Democratic Republic of Congo or the IFC’s Scaling Solar program in Zambia or Ethiopia. For firms in even smaller population centers, solar home systems could be distributed (through grants or subsidies) to households (including those out of which firms are run) as has been done in Bangladesh or through the Regional Off-Grid Electricity Access Project in the Sahel region of Africa.

TABLE 8
Detailed Policy Avenues to improve Access to a Reliable Electricity Service

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Improve the financial viability of the sector to allow for reinvestment and improved quality of service		
<ul style="list-style-type: none"> Review the current tariff regime (see chapter 3). 	ARSEL	SHORT-TERM
<ul style="list-style-type: none"> Ensure that any adjustment (if any) in the tariff regime protects the most vulnerable clients. 	Ministry of Energy, ARSEL	MEDIUM-TERM
<ul style="list-style-type: none"> Redress the operational and financial situation of E2C by: <ul style="list-style-type: none"> increasing the proportion of metered customers; introducing digital tools such as SCADA systems; reinforcing staffing in areas such as maintenance, studies, planning or the execution of projects; and extending the distribution network and last-mile connections. 	E2C	SHORT TO MEDIUM-TERM
Strengthen the legal and regulatory framework to support the sector and encourage investment		
<ul style="list-style-type: none"> Reinforce the capability (through capacity-building and South-South knowledge exchange with other regulators, for instance) and independence of ARSEL to effectively regulate the sector. 	Ministry of Energy, ARSEL	SHORT-TERM
<ul style="list-style-type: none"> Provide a clear framework for independent generation through IPPs and for non-grid connected infrastructures like mini grids. 	Ministry of Energy, ARSEL	SHORT TO MEDIUM-TERM
Invest in infrastructure and activities to increase the number of firms that could benefit from access to a reliable and affordable source of electricity		
<ul style="list-style-type: none"> Undertake a study of the current process to get a new connection to assess options available to either reduce the cost or streamline the process. 	Ministry of Energy, ARSEL	SHORT-TERM
<ul style="list-style-type: none"> Mobilize financing for investment in new or rehabilitated transmission and distribution infrastructure. 	Ministry of Energy	MEDIUM-TERM
<ul style="list-style-type: none"> Support access to electricity initiatives (mini-grid, solar home system) to enable firms outside of urban environments to electrify their activities without resorting to costly self-generation. 	Ministry of Energy	SHORT TO MEDIUM-TERM



CHAPTER 5

Trade Competitiveness and Diversification



5.1 Why greater trade integration matters

Empirical evidence shows that no country has achieved sustained growth and significant poverty reduction without greater integration into the global economy (World Bank 2020). For instance, integration into the global economy lies behind the successful diversification of countries in East Asia into manufacturing, which in turn has led to unprecedented poverty reduction. A less diversified output and export structure increases the volatility of fiscal revenues and export receipts, which has substantial implications for growth. Export diversification can support growth and drive structural transformation, an effect that is stronger in low-income countries and diminishes as the level of income rises (IMF 2017 and Box 12). Commodity exporters like Congo, with concentrated export baskets that are highly susceptible to international price fluctuations, have the most to gain from diversification.

International trade can help accelerate growth and improve living standards. Greater trade integration can boost productivity by shifting production toward sectors and firms with greater comparative advantages and higher efficiency, expanding their access to markets and creating opportunities for overall growth in output and employment. Trade liberalization and lower trade costs offer a wider range of intermediate inputs. They help reduce input costs; increase firm competitiveness; and enhance national and foreign investment, technological spillovers, innovation, and other dynamic effects that can cumulate over time. Greater trade integration can also lead to lower consumer prices and a wider variety of goods and services, benefiting consumers through higher real incomes and a greater choice of consumption goods and services. On the other hand, greater integration with global markets can also imply adjustment and transition costs, some of which may need to be mitigated to ensure inclusive growth.

Greater trade integration can boost productivity by shifting production toward sectors and firms with greater comparative advantages and higher efficiency, expanding their access to markets and creating opportunities for overall growth.

This chapter explores the opportunities for Congo to diversify its exports as a driver for structural transformation. The chapter examines the country's main trade patterns, then discusses trade policy areas which Congo could consider to promoting export competitiveness and diversification, such as tariffs, trade agreements, and non-tariff measures. It concludes with policy options to support export diversification.

5.2 Congo's trade dynamics: a tale of a commodity exporter

Congo's trade openness is high for its per capita income, but it has been declining. Trade openness, as measured by the ratio of total trade (i.e., exports plus imports) over GDP, declined from about 134 percent on average between 2005-2007 to 120 percent on average between 2017-2019 (Figure 39), especially openness for merchandise trade (Figure A1 in the Annex).²²² Since merchandise trade is larger than trade of services (Figure 40), the former has driven the reduction of Congo's overall trade openness.

²²² Congo's trade openness both for merchandise and services is however higher than expected for its income per capita level.

FIGURE 39
Congo's trade openness is high for its per capita income, but it has been declining

Trade openness in goods and services: 2005-2007 and 2017-2019

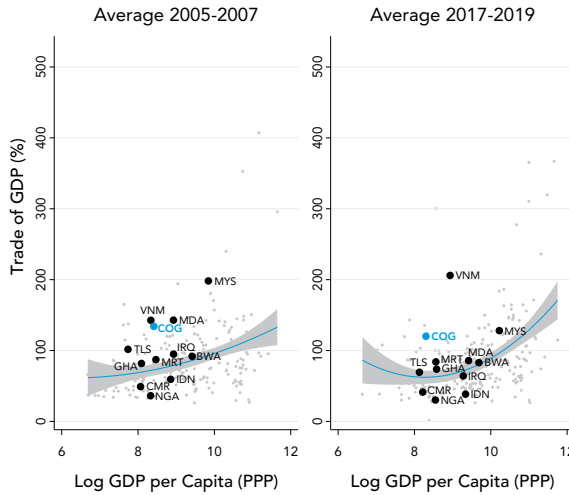
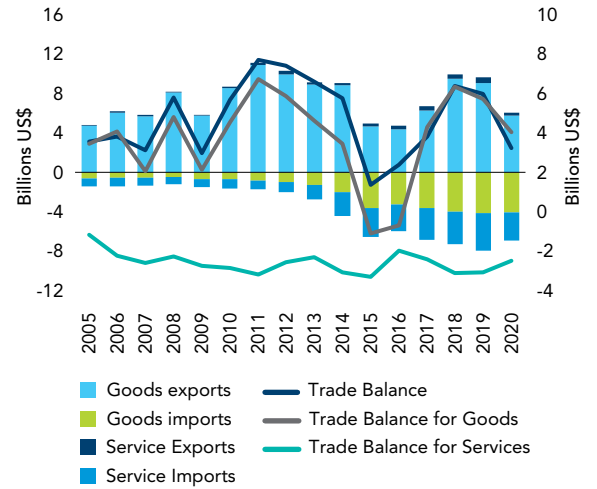


FIGURE 40
Trade in goods is bigger than trade in services

Trade dynamics in goods and services in Congo, 2005-2020



Source: WB staff calculations using data from WDI. June 2022.

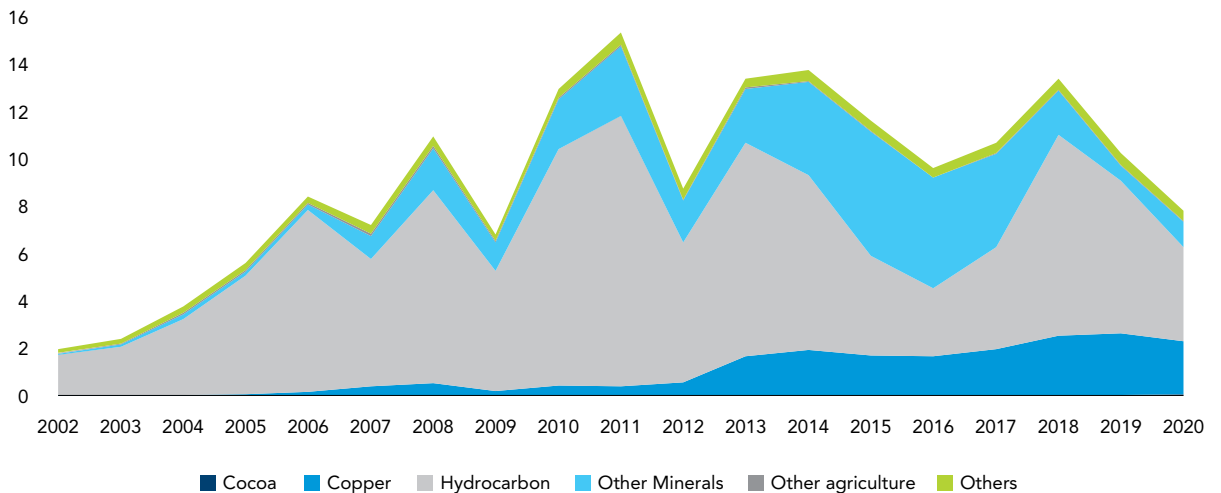
Note: Each dot represents a country. The curve shows the average of trade openness for a given per capita income. The grey band represents the 95 percent confidence interval. COG indicates the data for Congo.

5.2.1 Congo's export basket remains highly concentrated

Congo's exports are highly concentrated on minerals. Hydrocarbons (mostly crude oil) account for the bulk of Congo merchandise exports (Figure 41), followed by copper and other minerals. Overall, hydrocarbons, copper, and other minerals accounted for more than 90 percent of Congo's total merchandise exports in the last 20 years.

FIGURE 41
Congo's exports are highly concentrated on oil and minerals

Congo's merchandise exports (Billion US\$), 2002-2020



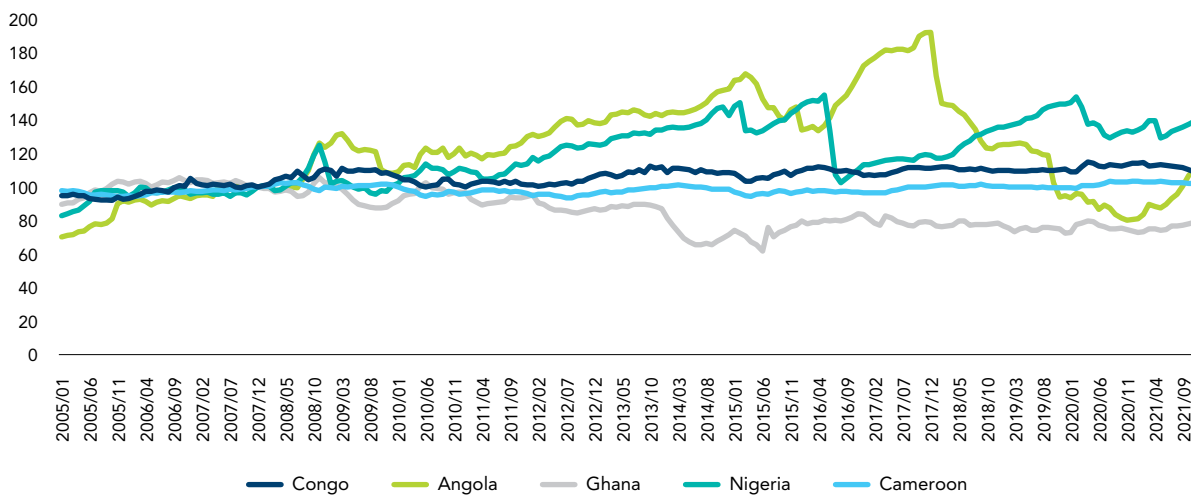
Source: WB staff calculations using data from BACI (CEPII). June 2022.

Congo has a revealed comparative advantage (RCA) in minerals, wood, and metals, reflecting a high concentration of exports on commodities. The RCA index is the ratio of a country’s export share of a specific sector to the world’s export share of that sector in total exports. A country is deemed to have an RCA in a sector if its share of exports in that sector exceeds the global export share of the same sector, and thus the RCA index is bigger higher than one. During the three periods considered (Table A1 in the Annex), the minerals (which includes oil) and wood sectors had an RCA, whereas metals—mostly composed by copper product exports—only gained RCA status in 2018-2020.

The real exchange rate does not seem to have played a significant role in the limited diversification of exports. In the last 15 years, the real effective exchange rate (REER) for Congo has occasionally deviated from its medium-term fundamentals, combining periods of overvaluation with periods of undervaluation, although these estimations of under/overvaluation are highly sensitive to underlying assumptions and methodology. Since 2005, the REER remained relatively flat compared to other non-CEMAC oil-exporting peers, such as Angola, Ghana, and Nigeria (Figure 42), mainly due to the peg with the Euro. Besides, the literature finds that exchange rate misalignment (either over- or under-valuation) does not seem to have an impact on export diversification (Sekkat, 2016; Tran, 2017).

FIGURE 42
Congo’s REER has remained broadly unchanged

Monthly REER, 2005-2021

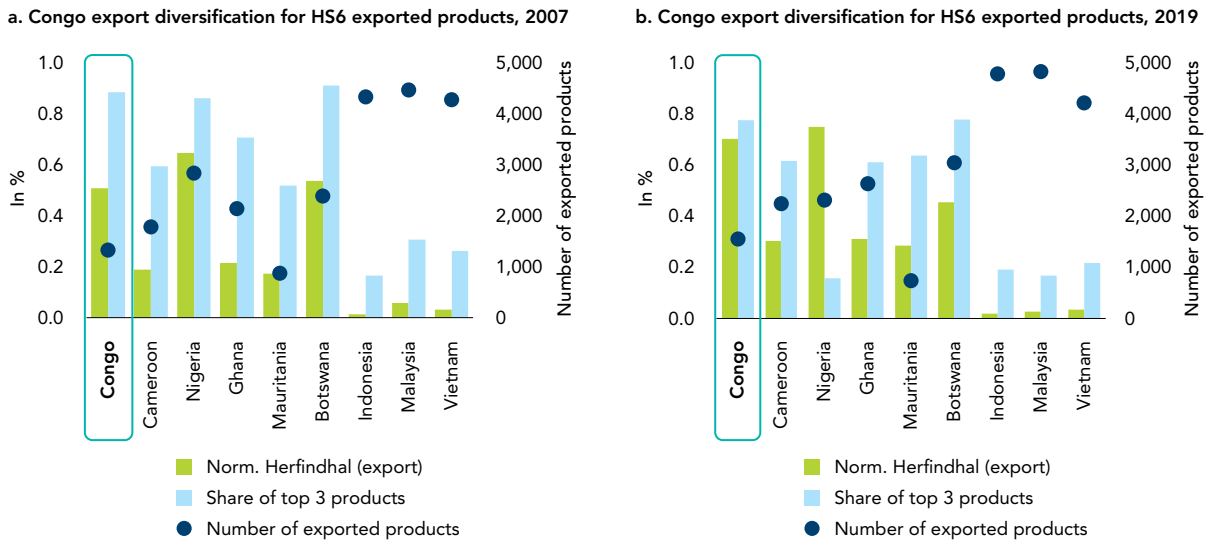


Source: Darvas (2021). June 2022.

Not only is Congo’s export basket highly concentrated, but also the number of products it exports is lower than in most comparators. The number of Harmonized System 6-digit (henceforth referred as HS-6) exports by Congo went up from 1,321 in 2007 to 1,559 in 2019. Yet, in both years, the total number of products Congo exported was lower than that of comparator countries, except for Mauritania (Figure 43). Concentration of the export basket as measured by the Herfindahl index²²³ shows that Congo went from having the third most concentrated basket after Nigeria and Botswana in 2007 to the second one after Nigeria in 2019. When measuring export concentration with the share of the top 3 HS-6 exports, Congo has the second most concentrated export basket after Botswana. Thus, identifying and addressing the barriers to export diversification is crucial for Congo’s efforts to diversify its exports and economy (Box 12 discusses the relationship between per-capita income and export diversification found across countries).

²²³ The Hirschman-Herfindahl Index (HHI) is the sum of the squared export shares by product. Thus: $0 < HHI < 1$. The higher the index the more concentrated are exports.

FIGURE 43
Congo's export basket is highly concentrated



Source: Authors' calculations using data from WITS and BACI (CEPII). June 2022.

BOX 12

Export diversification and income

Export diversification and rising per capita income go hand in hand until per capita income reaches \$25,000, constant 2005 purchasing power parity, according to Cadot et al., 2011.

Then, income growth appears to drive more concentrated exports and vice-versa. In this regard, a country such as Congo with a per capita income of less than \$25,000 should have higher growth as diversification increases. Yet, the diversification challenge is greater for low-income countries and for countries whose economies are dominated by minerals or other commodities. Economic diversification is linked to the structural transformation of their economies and the achievement of higher levels of productivity engendered through the movement of economic resources both within and between economic sectors. Thus, for Congo to diversify its exports and/or economy, structural reforms and trade policy reforms will be needed.



© John Simmons/unsplash.com

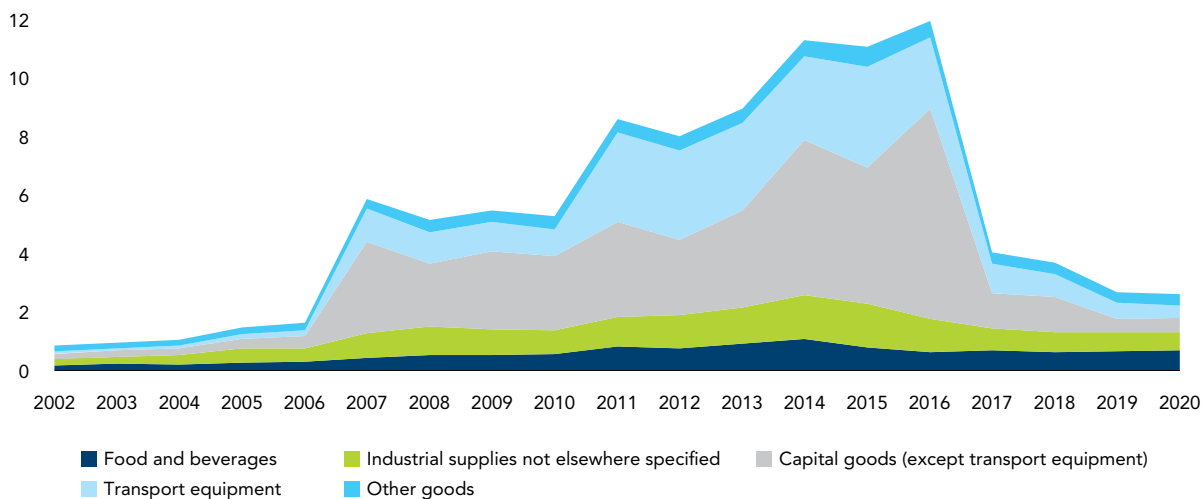
Congo’s export destinations are also highly concentrated, towards Asia. In 2020, Asia accounted for more than 70 percent of Congo’s export receipts, with China (39.7 percent) and the United Arab Emirates (19.7 percent) being the predominant markets.²²⁴ The European Union accounted for about 16 percent with Spain (7.3 percent) and Italy (3.4 percent) the key markets. African countries represented only about 7 percent of total exports where Gabon (2.9 percent) and Togo (1.2 percent) represented the main markets. Other CEMAC countries accounted for only about 3.4 percent of exports. However, exports to African countries (CEMAC and the Democratic Republic of Congo for instance) are undervalued due to informal trade across borders that goes unaccounted in trade statistics.

Congo’s imports are less concentrated than exports and are mainly composed by food and beverages, industrial, capital and consumer goods. In 2020, food and beverages accounted for 26 percent of all imports while industrial and capital goods represented 24 and 20 percent respectively (Figure 44). Yet, some import products like food products could be produced locally and even exported, if the business environment was more favorable.

Gas and agriculture sectors provide immediate opportunities for Congo to diversify its export basket in the near future. As discussed in Chapter 1 (see section 1.2), Congo has the fifth largest proven natural gas reserves in SSA with 284 billion cu. m., which remains largely unexploited. Europe current efforts to diversify its sources of gas imports is a huge opportunity for Congo. Also, the arable land for agriculture in Congo remains untapped. As a result, Congo is a net importer of food products (Figure A4 in the Annex provides a landscape of Congo’s food imports), which represent close to 70 percent of Congo’s food consumption and more than a quarter of Congo’s imports bill. The current global food crisis is a waking up call for Congo to modernize and invest in agribusiness (in line with one of the 2022-26 PND’s pillar) and increase its agricultural production that will help reduce food imports bill, ensure its food security but also enable exports of food products to other African countries that are net importers of food products, especially the neighboring large potential market, the Democratic Republic of Congo (see section 5.3). Currently, the potential for more sophisticated export products is limited given the Country’s comparative advantages (see the discussion below on Global Value Chain (GVC)).

FIGURE 44
Congo’s imports are less concentrated than exports

Congo import products (Billion US\$), 2002-2020



Source: WB staff calculations using BACI, CEPII. June 2022.

²²⁴ In 2019, the two countries accounted for 66 percent of Congo’s total export receipts with China accounting for more than half.

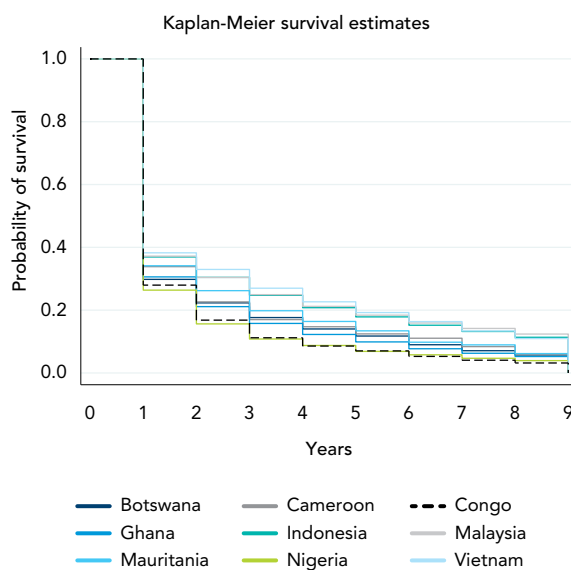
5.2.2 Low export survival rates limit export growth and diversification

For countries to achieve faster export growth and diversification, they need firms to both successfully enter new export markets and to continue exporting to them. Export diversification can be driven by the entry of new firms into exporting or by existing exporters entering new markets. Often the export survival of these firms is the main challenge. Exporters from developing countries tend to form less long-lasting trade relationships than exporters from advanced economies. From a policy perspective, understanding the main challenges to export survival is key to promoting competitiveness and diversification.

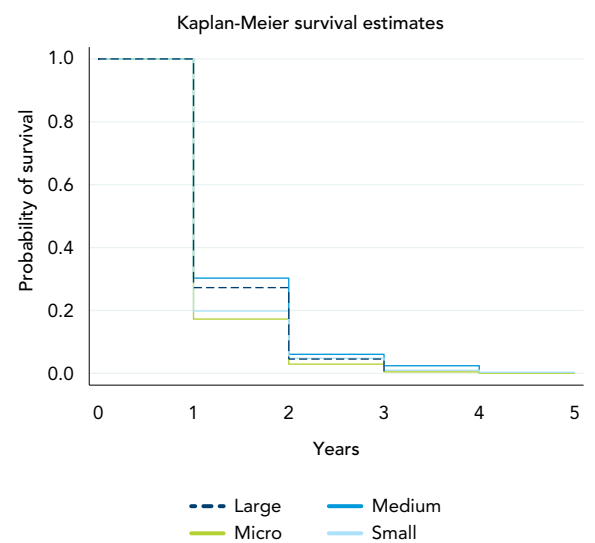
Congo’s export survival rate is below those of most of its peers. The probability of export relationships surviving the first year is 28 percent for Congo, a much lower figure than the survival rates of its peers, which range from 30 to 38 percent (Figure 45-a). Also, the probability of Congo being able to maintain an export relationship for more than four years is less than 10 percent, lower than the survival rates of its peers, which range between 11 and 25 percent. As expected, medium and larger exporters in Congo have higher survival rates than small and micro exporters (Figure 45-b).²²⁵ Export survival is a key determinant for export growth and diversification (Brenton et al., 2010). Understanding the challenges and structure of firms’ export survival may inform policies intended to facilitate export diversification.

FIGURE 45
Congo export survival relationships lags peers and do not last long

a. Congo export survival compared, 2012-2020



b. Congo export survival by firm size, 2016-2020



Source: WB staff calculations using customs firm-level transaction data. June 2022.

Note: Firms size by annual export value in US\$, Micro <100,000; 100,000<=small<1 million; 1 million <=medium < US\$10 million; large > US\$10 million. Hydrocarbon products are excluded from the data.

²²⁵ The likelihood of a large exporter’s trading relationship surviving one year is a bit lower than for a medium exporter, but higher for than small and micro exporters. Survival rates for all Congolese companies fall more than half in the second year and start to converge.

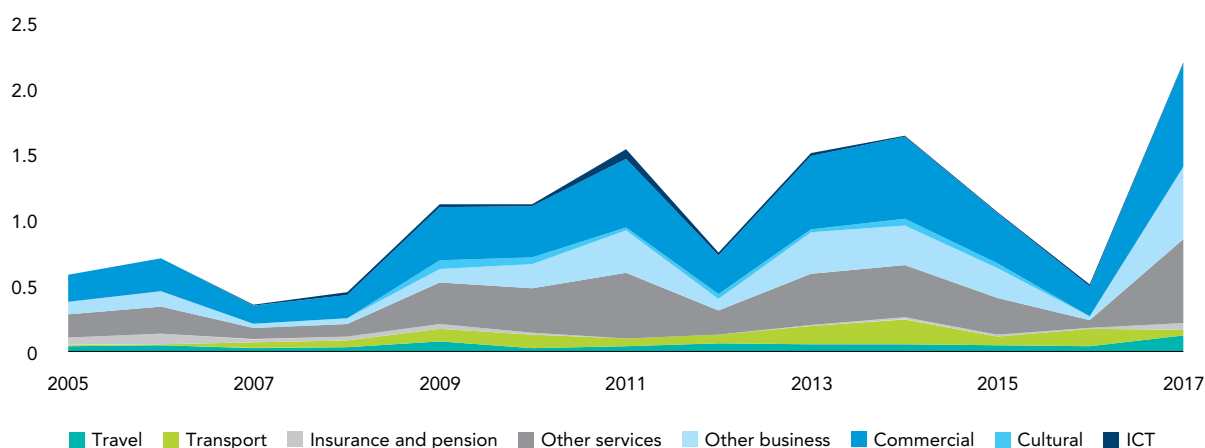
5.2.3 Services exports, especially tourism, have untapped potential for growth and diversification

Services matter for export growth and diversification. Services provide opportunities for a wider range of exports and a broader base of domestic activities. Many developing countries have diversified into exports of tourism and are also moving into exports of professional services such as health and education. But services are also critically important as inputs into other sectors. The quality and availability of health and education services are key in determining the productivity and capacities of workers for new tasks. Access to efficient energy, transportation ICT, and financial services can be important for export diversification. Another key transformation in the global economy is the increasing “servicification” of manufacturing, whereby manufacturing firms increasingly buy, produce, sell, and export services. These increasing complementarities between trade in services and goods entail that trade policies for goods and services should be designed in a coordinated manner.

Congo’s services exports have been volatile and dominated by commercial and business services. Exports of services have increased over time by category between 2005 and 2017 (Figure 46). Yet, there has been a lot of variation in exports of services. Commercial, business, and other services exports were the top three service export categories in 2017 and accounted for more than US\$500 million each. In the same vein, service imports are dominated by commercial, business, other services, and transportation, as well as other services (Figure A2 in the Annex). Note that the balance of trade in services has been in deficit throughout the observed period (Figure 40).

FIGURE 46
Congo’s services exports have been volatile and dominated by commercial and business services

Congo’s services exports (Billion US\$), 2005-2017



Source: WB staff using data from UNCTAD. June 2022.

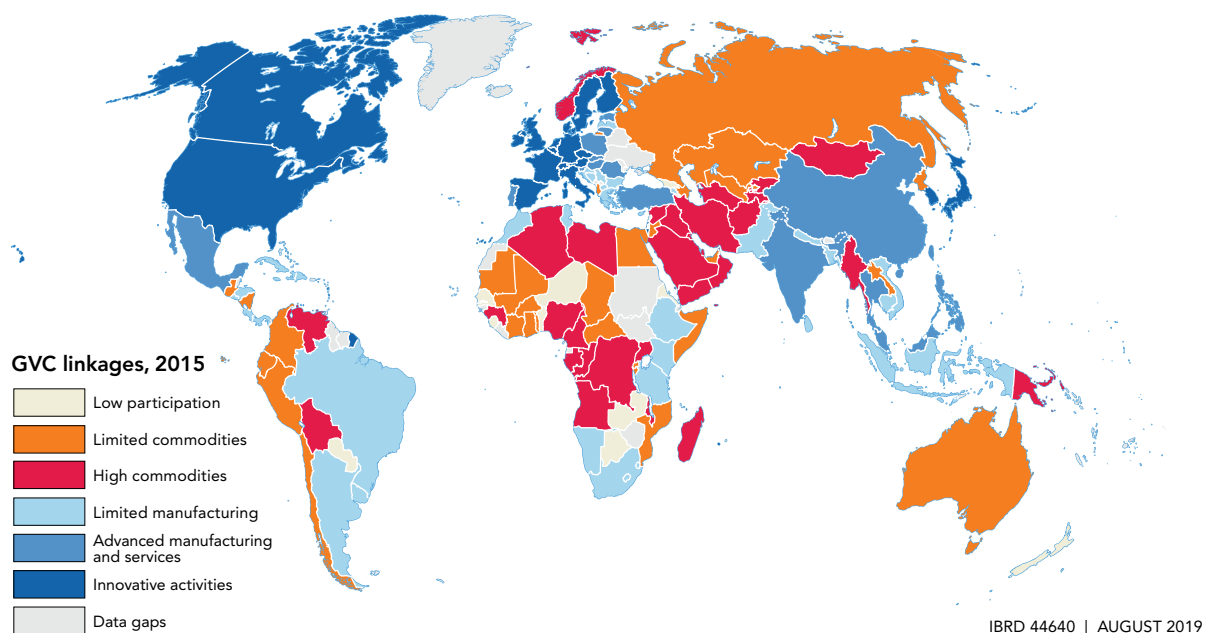
There is untapped potential for growth of services exports, especially in tourism. Thanks to Congo’s vast biodiversity, tourism has enormous potential to help diversify the economy away from oil and other extractive industries. When responsibly planned and managed, tourism has demonstrated its capacity to create jobs, promote shared prosperity, protect natural and cultural heritage, conserve biodiversity, and generate sustainable livelihoods. Chapter 6 provides a case diagnostic of ecotourism²²⁶ in Congo and provides policy options.

²²⁶ Ecotourism is defined as “a sustainable, non-invasive form of nature-based tourism that focuses primarily on learning about nature first-hand, and which is ethically managed to be low impact, non-depletive, and locally oriented”.

5.2.4 Congo participates in Global Value Chains (GVCs) as an exporter of commodities but transitioning to more sophisticated GVC participation would bring significant gains

Congo participates in GVS as a high exporter of commodities. Countries participate in GVCs in different ways, but there are patterns in the type of GVC integration and how countries upgrade their participation. Countries being part of the commodities GVC taxonomy-group have a share of total domestic value added lower than 60 percent, and backward linkages in manufacturing of less than 20 percent (see Box A1 in the Annex for a definition of backward and forward linkages, and how to measure GVC participation). The commodities GVC taxonomy-group is further divided into three subcategories: low participation, limited commodities, and high commodities. Congo belongs to the latter, which includes countries whose primary goods' share of total domestic value added in exports is equal to or greater than 40 percent (Figure 47).²²⁷

FIGURE 47
A Taxonomy of GVC participation



Source: World Bank (2020) WDR, World Bank.

Congo has higher GVC participation than most African countries. In 2011, Congo had around 28 percent of foreign value added in its exports (backward participation), and about 32 percent of its value added either absorbed as intermediates abroad or embedded in exports from other countries.²²⁸ Congo's forward participation was slightly lower than the African average, but its backward participation was larger. The high GVC participation of Congo is due to the significant foreign value added in exports of extractives and the amount of them embedded in other countries' exports.

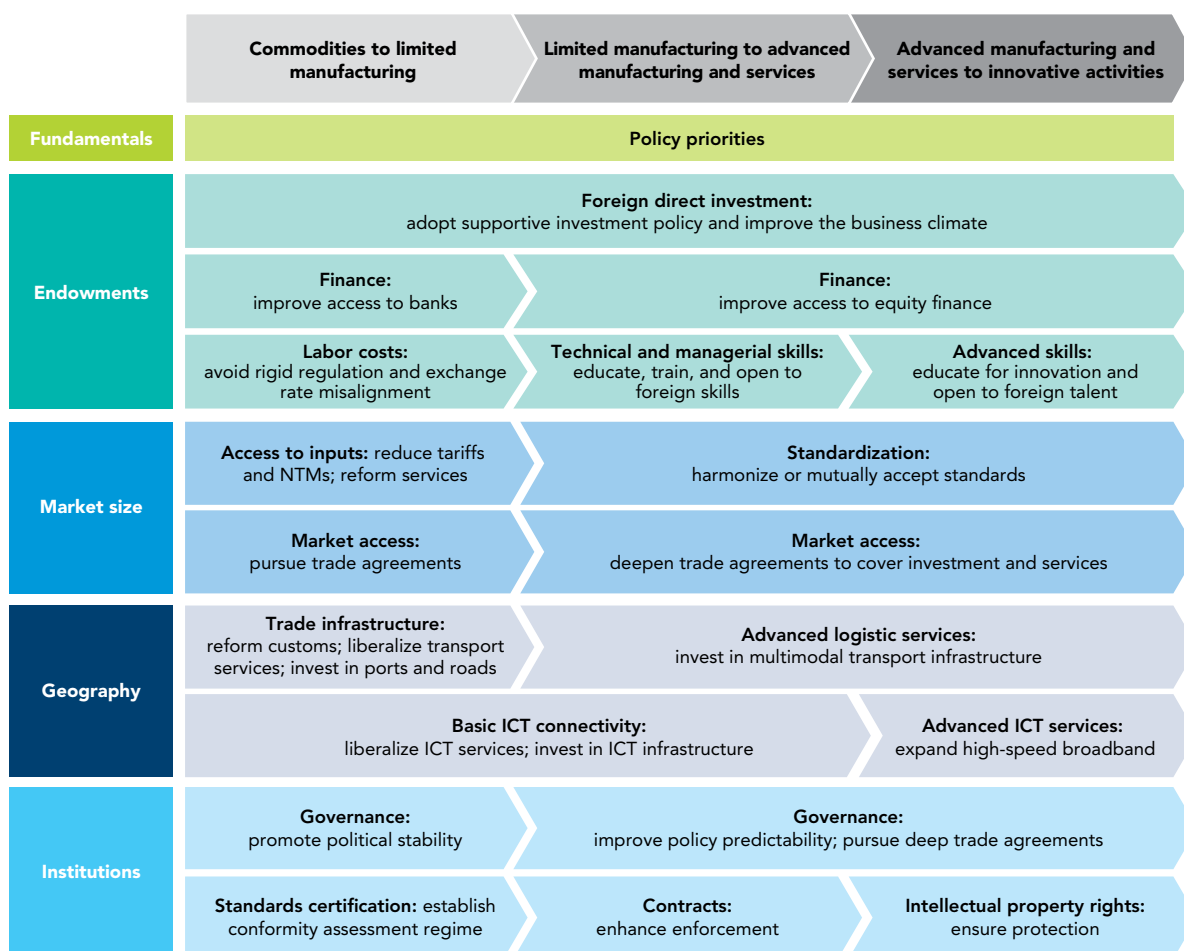
²²⁷ By contrast, other countries such as China, India and Turkey specialize in advanced manufacturing and services, while the United States is part of innovative GVC activities. Similarly, most EU28 countries fall in one of these two categories. Source: GVC taxonomy. See World Bank (2020) WDR.

²²⁸ Conde, C., Heinrigs, P., O'Sullivan, A., 2015. Tapping the potential of global value chains for Africa. Europe 57, 50–9.

Yet, the Congolese economy could gain substantially in terms of job creation, productivity, and growth from transitioning to more sophisticated participation in GVCs, such as in manufacturing. While all forms of participation in GVCs bring aggregate productivity and income gains for the countries involved, the benefits are larger when countries transition from exporting commodities into exporting basic manufactured products, such as garments, using imported inputs such as textiles (World Bank, 2020). This has happened recently in countries such as Bangladesh, Cambodia, and Vietnam. Eventually, however, high economic growth cannot be sustained without moving progressively to more sophisticated forms of GVC participation.

The transition from exporting limited numbers of commodities to more sophisticated participation in GVCs has become increasingly demanding in terms of skills, connectivity, and regulatory institutions. GVC participation is determined by factor endowments (land, labor, and capital), geography, market size, and institutions, among other elements. These fundamentals alone do not necessarily determine outcomes, however, as policies play an important role. The path toward greater integration into global value chains for a commodity exporter like Congo requires a multipronged strategy covering different policy areas. The first step for Congo would be the transition from commodities to limited manufacturing and services. Examples of national policy that can support such a transition in GVCs participation are provided in Figure 48.²²⁹

FIGURE 48
Transitioning to more sophisticated participation in GVCs: examples of national policy



Source: WDR 2020, World Bank.

²²⁹ World Bank's WDR (2020). Trading for Development in the Age of Global Value Chains.

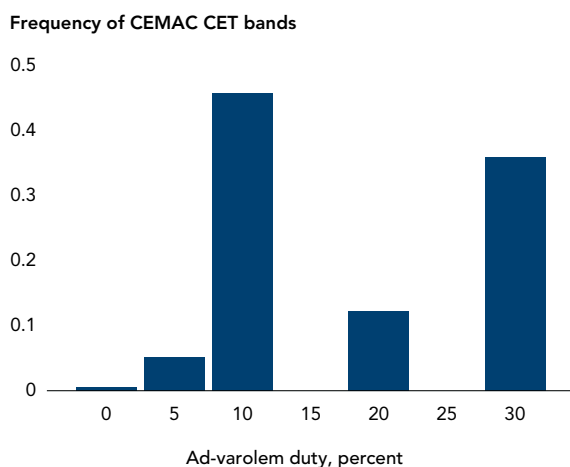
5.3 Trade policy

5.3.1 High tariffs are hindering trade development

Congo applies the CEMAC common external tariff (CET) on imports from outside the CEMAC region, which on average is high. CEMAC's common trade policy includes two main instruments: the common external tariff (CET) and a zero-rate preferential tariff for intra-CEMAC trade, both of which have been subject to exceptions and flaws. The CEMAC CET, adopted in 2000, contains 5,478 tariff lines with all tariffs applied on an ad-valorem basis over the cost, insurance, and freight (CIF) import value. The CET comprises five duty rate categories (Figure 49) as follows: a 0 percent tariff for certain cultural and aviation products (31 tariff lines or 0.6 percent of all tariff lines); a 5 percent tariff for consumer staples (281 tariff lines or 5.1 percent of all tariff lines); a 10 percent tariff for raw materials and capital goods (2,510 tariff lines or 45.8 percent of all lines); a 20 percent tariff for miscellaneous goods (671 tariff lines or 12.3 percent of all lines); and a 30 percent tariff for discretionary consumer goods (1,968 tariff lines or 35.9 percent of all lines). The simple average CEMAC CET is 18.1 percent, which is high by global standards. By comparison, the CET of ECOWAS and MERCOSUR are 12.3 percent and 14.0 percent, respectively. CEMAC tariffs are particularly high for certain manufactured goods such as footwear, where more than 90 percent of tariff lines are in the highest tariff band of 30 percent duty; and for stone, ceramic, and glass products, where more than 80 percent of tariff lines are subject to the highest duty rate of 30 percent (Table A2 in the Annex). Food products are also highly protected with an average tariff of close to 25 percent.

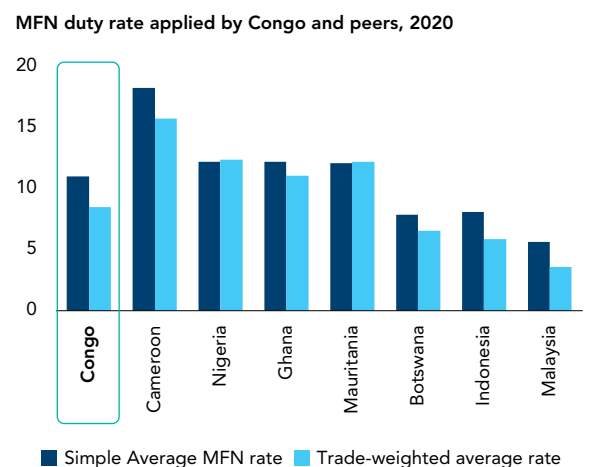
Congo's applied most-favored-nation tariff is on average lower than CEMAC and African peers, but higher than non-African peer countries. Given a series of exceptions and safeguards, CEMAC countries, including Congo, establish national tariffs that deviate from the CEMAC CET for several hundred tariff lines. Congo is the CEMAC country with the lowest rate on average. The simple average tariff for Congo in 2019 was 11 percent, which is lower than that of Cameroon (18.25 percent) for instance (Figure 50). A closer look at the average tariff by HS-2 chapter²³⁰ (Figure A3 in the Annex) shows that the CEMAC countries maintain most-favored-nation rates by chapter that are generally consistent with the duty rate levels of the CET. Yet, Congo has tariffs lower than the CET for most chapters, but also tariffs higher than the CET in a few chapters, such as preparations of cereals (HS-19), cereals (HS-10), books & newspapers (HS-49).

FIGURE 49
Most of CET bands are on the 10 or 30 percent tariff category



Source: World Bank staff estimates using the CEMAC tariff schedule. June 2022.

FIGURE 50
Congo's applied MFN tariff is lower than CEMAC and African peers, but higher than non-African peers



Source: Authors' calculation using data from WTO-IDB. June 2022.
Note: Data for Congo and Cameroon are for 2019. MFN is most-favored-nation.

²³⁰ HS 2-digit level of aggregation is also called chapter level.

The implementation of a free trade area within CEMAC has been challenging. As part of the reforms to create the CEMAC customs union, tariffs for intra-CEMAC trade were removed by late-1990s. Although only value added tax should be collected on products from other CEMAC countries, according to some sources, duties are still collected in practice. For instance, World Bank (2018) reports about multiple “petty” harassments or “*tracasseries*”, which are a small-scale form of corruption that consists of many informal payments without receipt or cause to public officials, including at the border, that increase trade costs. Determining origin for duty-free treatment per the rules of origin seems to be subject to problems.²³¹ Simplifying rules of origin and strengthening the capacity to implement the regime would be particularly important going forward to reduce tariff avoidance, given bilateral preferences beyond the CEMAC region.²³² Furthermore, community transit trade provisions apparently are not always followed.²³³

5.3.2 The implementation of the African Continental Free Trade Area (AfCFTA) presents a significant opportunity to increase and diversify exports

The AfCFTA will provide opportunities for African countries, including Congo, to increase and diversify exports, accelerate growth, and attract foreign direct investment.²³⁴ The agreement will create the largest free-trade area in the world measured by the number of countries participating. AfCFTA connects 1.3 billion people across 55 countries with a combined GDP of US\$3.4 trillion. It has the potential to lift 30 million people out of extreme poverty but achieving its full potential will depend on putting in place significant policy reforms and trade facilitation measures.

Real income gains from full implementation of the AfCFTA could reach seven percent by 2035, or nearly US\$450 billion, according to the World Bank.²³⁵ Simulations under three scenarios: (i) tariff reduction,²³⁶ (ii) tariff and non-tariff barriers (NTBs) reduction,²³⁷ (iii) tariff and NTB reduction with trade facilitation²³⁸ suggest that broader reforms will generate greater income benefits. By 2035, Africa’s exports are estimated to grow by US\$560 billion as a result of the AfCFTA. The increase in exports of manufactured products is estimated at about US\$506 billion. Estimates for income gains for selected African countries are reported in Figure A6 in the Annex. A country like Congo, which has a resource-based economy, can take advantage of the AfCFTA to diversify its economy and trade, and shift away from the export of natural resources and commodities to more diversified and advanced products. The AfCFTA will give Congo more opportunities to trade with neighboring or regional countries. Indeed, according to Regolo (2013), when a country trades with similar countries, its exports tend to be more diversified.

The scope of AfCFTA is larger than CEMAC. AfCFTA will reduce tariffs among member countries and cover policy areas such as trade facilitation and services, as well as regulatory measures such as sanitary standards and technical barriers to trade. It will complement existing subregional economic communities and trade agreements in Africa by offering a continent-wide regulatory framework and by regulating policy areas—such as investment and intellectual property rights protection (Figure A5 the Annex)—that so far have not been covered in most subregional agreements in Africa. More specifically, compared to CEMAC, the AfCFTA incorporates countervailing measures, customs, state-owned enterprises, investment, and intellectual property rights, which CEMAC does not address. In comparison to trade integration with global partners, the AfCFTA is likely to have

²³¹ Certificates of origin for qualification (meeting raw-material or value-added content requirements) are issued by customs authorities where the producer is situated. Reportedly, lack of expertise at these offices can result in certificates that are rejected in other CEMAC countries.

²³² This includes preferences currently in place and expected over time under the EU-Cameroon EPA. CAR and Chad are part of another regional grouping (CEN-SAD), although an FTA has not yet been implemented.

²³³ World Bank (2018).

²³⁴ The AfCFTA officially started in January 2021. However, no trade has as yet taken place under the AfCFTA regime. Negotiations on some aspects, such as in rules of origin, are ongoing and as of May 2022, 43 countries have deposited their instruments of ratification.

²³⁵ World Bank (2020b).

²³⁶ Starting in 2020, tariffs on 90 percent of tariff lines will be eliminated over a 5-year period (10 years for least developed countries, or LDCs). Starting in 2025, tariffs on an additional 7 percent of tariff lines will be eliminated.

²³⁷ It is assumed that 50 percent of NTBs can be addressed with policy changes within the context of the AfCFTA—with a cap of 50 percentage points. It is also assumed that additional reductions of NTBs on exports will be forthcoming.

²³⁸ Estimates of the size of these trade barriers were provided by de Melo and Sorgho (2019). These are halved, although capped at 10 percentage points.

a greater impact on African countries' exports and export diversification since these countries have similar factor endowments. Indeed, it is found in the theoretical and empirical literature that exports between partners with similar factor endowments (such as “South-South” or “North-North”) are more diversified than exports between partners with different endowments (“South-North” and “North-“South”).²³⁹ Also, since an increase in diversification of exports has been associated in the literature to lower bilateral trade costs and to regional integration, Congo can leverage AfCTFA through customs reforms and improved connecting infrastructure to decrease trade costs with neighboring countries.

Increased integration between the contiguous cities of Brazzaville and Kinshasa represents a significant opportunity for trade development. With about 20 million people (and predicted to become the largest urban agglomeration in Africa in the medium term), the Brazzaville-Kinshasa urban agglomeration (2.5 and 17.1 million inhabitants estimated in 2021, respectively) would greatly benefit from further integration between the two cities. However, excessive costs of crossing the Congo River due to port infrastructure bottlenecks, administrative hurdles, and costly transit procedures, and an uncompetitive market structure coupled with poor management by the dominant river crossing traffic transport operators, limit the movement of goods and people. The volume of trade between the Congos and, therefore, between the two cities is very low—although underestimated because of informal trade. The trade cost-elasticity of trade between the two cities is estimated at 0.8 implying that halving of the trade costs would trigger a 40 percent increase in the volume of trade. Furthermore, academic research in economic geography suggests that urban agglomeration is a key engine of growth in developing countries. Therefore, easing the Kinshasa-Brazzaville trade bottlenecks could yield medium-term growth effects that extend to the wider economies of both Congos.²⁴⁰

5.3.3 Detailed official information on non-tariff measures is lacking in Congo

Beyond tariffs, a range of non-tariff measures (NTMs) and procedural obstacles to trade are reported for Congo and add to trade costs. Broadly defined, non-tariff measures are policy measures other than customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, prices or both. NTMs are classified into three categories: technical measures, non-technical measures, and export measures (see Table A3 in the Annex). Application of standard measures, however, faces many constraints, including numerous players with unclear roles and overly general regulations, as well as a lack of human and financial resources. The CEMAC agreement established a process for the harmonization and mutual recognition of technical measures and procedures, and approval and certification procedures. This process, however, has not advanced in practice and standards regimes tend to differ across CEMAC countries. NTMs related to export measures are not harmonized among the members. Export controls are applied by all countries for certain natural resources (e.g., timber) reportedly for environmental reasons or to encourage local processing.

Though many NTMs pursue primarily non-trade objectives, such as protecting public health or the environment, they may also act as obstacles to trade due to their heterogeneity, opacity and complexity, or to the cumbersome procedures that are imposed to enforce compliance. The so-called non-tariff barriers (NTBs) are ill-designed NTMs deemed either more trade-restrictive than required to pursue the non-trade objective or purely protectionist in nature. NTBs on imported intermediate products can hurt downstream producers. If some of these producers are also exporters, poor NTM design will hurt national competitiveness by increasing export costs. As NTMs can raise the prices of intermediate and final goods, they have an impact not only on trade, investment and GVCs, but also on poverty and income distribution.

Transparency of import and export regulations and procedures is lacking in Congo and detailed official information on NTMs is not readily available. Provisions in the WTO Trade Facilitation Agreement call for increased transparency in this respect via trade information portals. To date, the most comprehensive collection

²³⁹ Regolo (2013).

²⁴⁰ World Bank (2012). “De-Fragmenting Africa” and World Bank (2015). Republic of Congo Trade Facilitation Intervention, Trade Facilitation between Congo and its Neighbors: Addressing the Bottlenecks.

of NTM information at the product level is provided by a recent effort by international organizations. This has resulted in the Trade Analysis and Information System (TRAINS) database managed by UNCTAD, which is the most comprehensive database on NTMs for more than 110 countries,²⁴¹ not including Congo.

5.3.4 Trade development can have detrimental distributional impacts that need to be mitigated

Although trade brings overall gains to households and is a well-established driver of growth and poverty reduction, changes in trade policy have distributional impacts that create winners and losers.

Gains from trade do not accrue equally across and within countries, industries, jobs, and regions. Labor market and consumption gains tend to concentrate in some regions and among some groups. These concentrated impacts could persist because of steep adjustment costs (more so for vulnerable groups), and they are related to geographical barriers, policy distortions, and industry- and occupation-specific human capital. For instance, trade liberalization can produce benefits for the poor through lower prices, but these are often not fully passed on to consumers because of barriers related to geography, the market power of intermediaries, and the structure of domestic markets. In addition, most countries have reduced tariffs, but nontariff barriers, inadequate infrastructure, and other impediments to trade continue to be prevalent across developing countries, raising trade costs, and making it difficult to spread the benefits of trade. These impacts increasingly serve as an argument for protectionism and greater economic nationalism. Indeed, anti-trade attitudes have escalated in countries that have been unable to attract better export-oriented jobs or that offer little help for workers who experience trade-related dislocation.

Unfortunately, data limitations do not allow for an empirical analysis of the distributional impact of trade in Congo. An analysis of the distributional impact of trade reforms in Congo would require first collecting input/output data for the Congolese economy and integrating them into a CGE model to estimate the impact of trade reforms on variables such as production, prices, wages, and trade. With the help of detailed household and labor data in a micro-setting, such simulations could be used to estimate the impact of reforms across different groups.

The following policy options would support export diversification. Detailed policy recommendations are provided in Table 9.



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²⁴¹ Multi-agency Support Team provided substantial support to improve the collection of NTM data. As a result, the Transparency in Trade initiative was launched by UNCTAD, the African Development Bank, the International Trade Centre and the World Bank.

5.4 Policy options to support export diversification

5.4.1 Further reduce tariffs and enhance regulatory transparency

Although Congo applies, on average, lower tariffs than the CET, it could lower tariffs that are still high and advocate reform of the CEMAC tariff regime, including eliminating the top tariff band of 30 percent. Eliminating the top tariff band of 30 percent (which is the maximum tariff rate) to converge to a tariff schedule with only four tariff bands (i.e., zero, five percent, 10 percent and 20 percent, see Figure 49) would simplify the CET regime and lower the average tariff. Also, tariff reductions should be considered for capital goods and key inputs in critical sectors such as agriculture and agro-industry. The transparency of import and export regulations and procedures should be improved, including simplifying rules of origin procedure and data collection. Finally, the reduction and/or elimination of some additional taxes, fees, and informal payments assessed on imports into the CEMAC should be considered, including “*tracasseries*”, that further increase customs charges on imports on top of already high import duties.

5.4.2 Collect data on NTMs

The Government of Congo needs to collect and publish detailed data on NTMs in the country. The paucity of data on trade policy measures has been the main problem behind the study of the effects of NTMs (including NTBs), and this is also the case for Congo. The fact that NTMs are increasingly used to regulate international trade makes the need to update data even more compelling. Also, the lack of this data discourages trade as traders cannot accurately estimate their costs and therefore their profit margins. The reason behind the scarcity of databases on NTMs is largely related to the difficulty in collecting the data and in assembling consistent databases. Unlike tariffs, NTM data are not merely numbers; the relevant information is often hidden in legal and regulatory documents. Moreover, these documents are generally not centralized but often reside in different regulatory agencies. All these issues make the collection of NTM data a very resource intensive task. Box A2 provides, in a nutshell, the guidelines to collect data on NTMs.²⁴²

5.4.3 Improve collection of customs data

The Government of Congo needs to improve the collection of customs data. There were large discrepancies between the UN COMTRADE trade data and the firm-level trade data received from Customs for this report. Customs data comes from the electronic system (SYDONIA), which does not include all transactions, as Customs focuses on transactions that generate revenues for the government. Thus, transactions for goods that are exempted from taxation are not always included in the database. On the other hand, the National Institute of Statistics (INS) collects trade data for all transactions and from several sources and reports it to UN COMTRADE.²⁴³ Accurate firm-level customs data are needed for a deeper analysis of several aspects of export competitiveness, including assessing in more detail export survival, market concentration, GVC participation, and export diversification.

²⁴² For more information, refer to: <https://unctad.org/webflyer/guidelines-collect-data-official-non-tariff-measures-2019-version>

²⁴³ For instance, in the case of exports of forestry products, they substantiate the data received from customs with data from the Directorate of Forest Products Export Control Service, and the value reported by INS is often significantly higher than what customs provides as customs mostly cares about recording the taxable value of the transaction.

Accelerating the implementation of the PEF-CEMAC II objective of online data sharing among CEMAC countries' customs services, as well as the establishment of joint border control posts will further improve trade statistics. Joint border control posts with all neighboring countries will help reduce the time required for custom clearance, especially if the new border control posts are highly automated in accordance with evidence-based risk management to minimize officials' discretion in inspections. Congo could also pursue online data sharing agreements with the customs authorities of major trading partners such as China. This would help reduce discrepancies in mirror statistics, while also enabling faster clearance of cargo through online pre-arrival clearance of imports.

5.4.4 Accelerating the implementation of AfCFTA

The Government should support the speedy conclusion of remaining negotiations in AfCFTA, on issues such as rules of origin, and the swift implementation of the agreement. Although the AfCFTA has in theory been operational since the beginning of 2022, in practice no trade has happened under its terms because of continued negotiations on implementing regulations. At the time this report was being written, the trade negotiators still have work to do in agreeing on rules of origin, which are the set of requirements different products must undergo to get considered as originating in a member country and be exported to another member country tariff free. Besides supporting a speedy implementation of the AfCFTA, Congo needs to address domestic constraints that impede investment and trade, including by improving the business environment for the private sector (see Chapter 1).

5.4.5 Policies for greater GVC participation

The path toward greater integration in global value chains for a commodity exporter like Congo requires a multipronged strategy (Figure 48) aiming at different aspects such as: increasing the country's attractiveness as an foreign investment destination (Chapter 1), improving access to credit, avoiding rigid regulation of the labor market, improving access to inputs by reducing tariffs, streamlining NTMs and reforming services, pursuing deeper trade agreements, reforming customs, liberalizing transport services, and investing in ports and roads (Chapter 1 and 6), investing in basic ICT connectivity (Chapter 4), promoting policy stability, and establishing a conformity assessment regime for product standards certifications. These policies would be key to leveraging the positive impact of the AfCFTA.

5.4.6 Policies to mitigate the negative impacts of trade

Three types of complementary policies are necessary for trade to promote a reduction in poverty and inequality: (a) reducing distortions and strengthening the functioning of markets, (b) reducing trade costs, and (c) accelerate labor market adjustment. The first type of policies includes measures to improve the business environment (see Chapter 1), strengthen firm productivity through initiatives such as supply-linkage programs (i.e., programs that facilitate business between domestic smaller firms and larger ones that are integrated into GVCs), and ensuring a strong competition policy framework (Chapter 3). These policies are critical for enabling the more productive parts of the economy to grow and expanding the benefits arising from new export opportunities and greater market access. Policies to reduce trade costs include investing in transport and ICT hard and soft infrastructure (Chapter 1, 3 and 6), improving access to finance, and streamlining non-tariff measures. These policies help ensure that the export competitiveness of domestic firms is not hampered by excessive costs and unnecessary bureaucracy. Finally, policies to accelerate labor market adjustment facilitate the reallocation of workers toward more productive activities, thereby maximizing gains from openness to trade and ensuring that adjustment costs are borne by society at large rather than by the few workers whose jobs are displaced. Such policies include providing training and relocation support to facilitate

workers' mobility across sectors, but also social protection (unemployment insurance and other social safety nets, universal health insurance) to support workers facing job losses. Engel, et. al. (2021) provides a detailed discussion of these complementary policy pillars.

TABLE 9
Detailed Policy Recommendations to Support Export Diversification

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Policy reform to support diversification		
<ul style="list-style-type: none"> Reduce tariffs that are still high and advocate reform of the CEMAC tariff regime, including eliminating the top tariff band of 30 percent. 	Ministry of Trade, supply & consumption, Ministry of Finance & Budget	SHORT-TERM
<ul style="list-style-type: none"> Support the speedy conclusion of remaining negotiations in AfCFTA, on issues such as rules of origin, and the swift implementation of the agreement to support greater GVC participation. 	Ministry of Trade, supply & consumption	MEDIUM-TERM
<ul style="list-style-type: none"> Consider policies to mitigate the negative impact of trade liberalization: <ol style="list-style-type: none"> reducing distortions and strengthening the functioning of markets, reducing trade costs, and speeding up labor market adjustment. 	Multiple government bodies	MEDIUM-TERM
Data collection to inform policy reforms		
<ul style="list-style-type: none"> Collect and publish detailed data on NTMs. 	Multiple government bodies, ideally led by office of Prime Minister or Ministry of Budget & Finance	SHORT-TERM
<ul style="list-style-type: none"> Improve collection of customs data to ensure accurate measurement of imports and exports, through for instance the establishment of joint border control posts and online data sharing agreements. 	National Statistics Agency, Customs, Ministry of Trade, supply & consumption, Ministry of Finance & Budget	SHORT-TERM



CHAPTER 6

Logistics and Eco-tourism to Support Diversification

This chapter looks over two key trade-related topics that have the potential to significantly contribute to export growth and economic diversification in Congo: logistics or trade facilitation; and eco-tourism.

Improved efficiency of logistics processes could reduce trade costs, including for imports of equipment needed for the development of special economic zones and increase exports of merchandise goods, including in non-hydrocarbon sectors. Ecotourism, a sector with great unrealized potential in Congo, could provide important contributions to job creation, rural development, and exports of services.

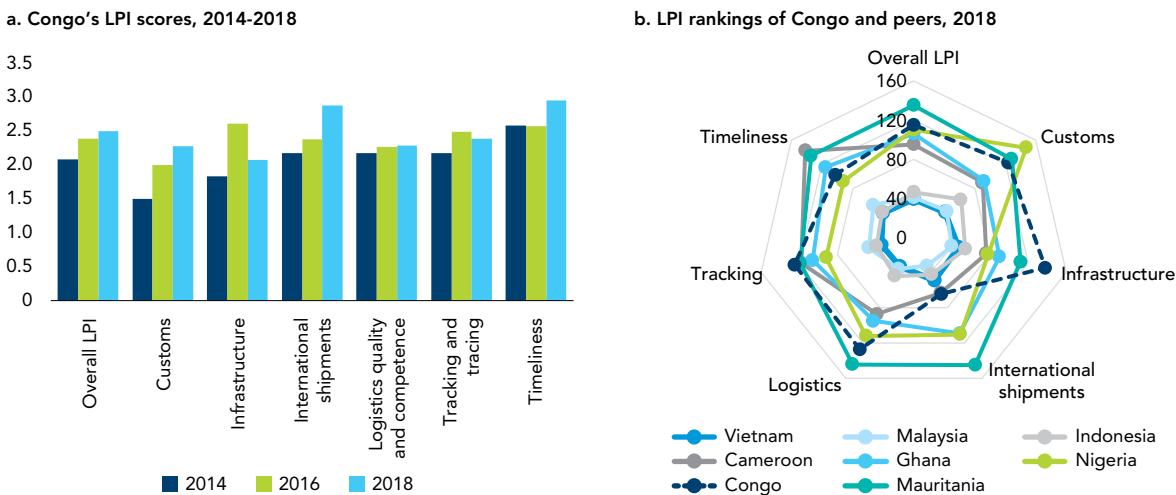
6.1 Trade facilitation: bottlenecks and opportunities

6.1.1 The logistics in Congo are facing widespread challenges

Inadequate infrastructure as well as transport and logistics inefficiencies raise production transport costs, hindering competitiveness. High transport and logistics costs are a tax on competitiveness and development. The quality and efficiency of logistics services matter for international trade, as weak logistics infrastructure and operational processes can be a major obstacle to regional and global trade integration. Logistics services provide sectoral connections within the local economy, and they also connect the domestic economy to international markets.

Although Congo’s logistics performance has recently improved, it is weaker than in most comparator countries. Congo has improved its performance over time as measured by its score in the Logistics Performance Index (LPI) that rose from 2.08 in 2014 to 2.49 in 2018 (Figure 51-a). Congo’s scores increased in the LPI’s six indicators between 2014 and 2018, with customs, international shipments, and timelines showing the largest improvements. Despite these improvements, Congo ranked 115th out of 163 countries in the LPI in 2018 (Figure 51-b). In this figure, the axis is the ranking, and the farther from the center the position, the worse the performance. Among comparator countries, only Mauritania ranks lower than Congo in the overall LPI. Also, Congo has the worst performance of the group in infrastructure.²⁴⁴ Timeliness and international shipments are the only two dimensions where Congo ranks close to the peers’ average.

FIGURE 51
Congo’s logistics performance has been improving but lags against peers

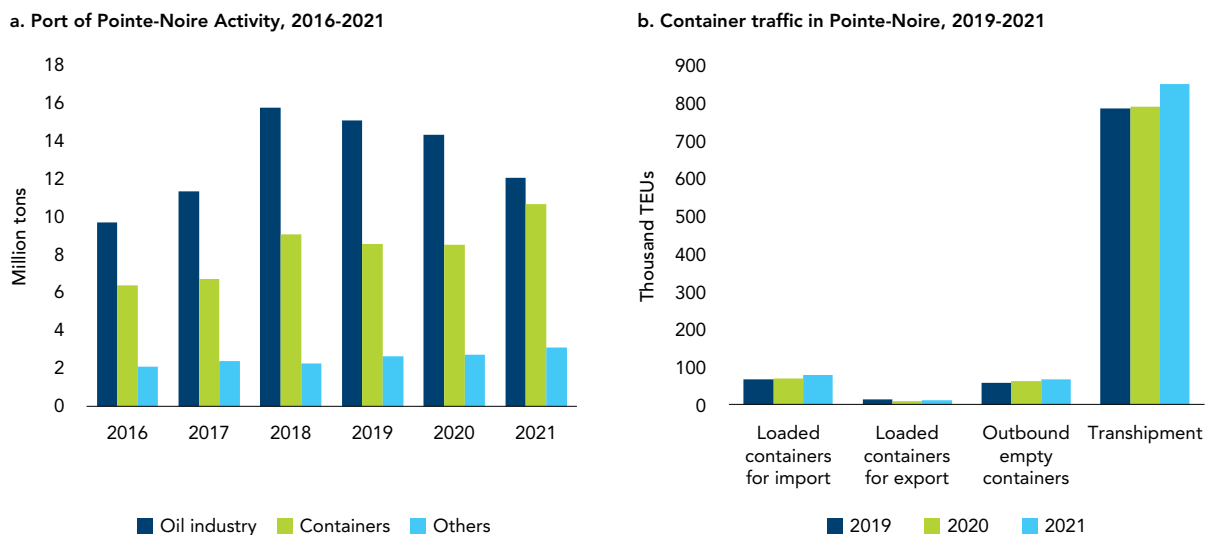


Source: World Bank. June 2022.

²⁴⁴ The lower rating in 2018 under infrastructure is probably linked to the fact that the port was undergoing an extension in 2018 that penalized operations. The situation has improved since.

Ports are used mostly for transshipment of goods. Pointe-Noire is the main maritime gateway for Congo, and most of its traffic is linked to transshipment. Pointe-Noire is a very specialized port, with two main types of traffic: oil industry exports and container traffic (Figure 52-a). The other traffic components are small, and volumes are balanced between imports and exports: imports consist mostly of grain and inputs for cement factories, and exports are almost exclusively forestry products. The moderately high container activity in Pointe-Noire, with traffic exceeding one million Twenty Equivalent Units (TEUs), a standard measurement for container traffic, for the first time in 2021, is mostly linked to transshipment to the other regional ports²⁴⁵ for which Pointe-Noire plays a role as a regional hub (Figure 52-b). Outside of transshipment, containers related to the external trade of Congo and neighboring countries served by land transport are only a marginal part of the port’s activity, and volumes are low: less than 80,000 TEUs for imports and barely above 10,000 TEUs for export (consisting mostly of forestry products and copper exported in containers). These volumes include an undetermined part²⁴⁶ as transit to Angola (Cabinda) and marginally to the Democratic Republic of Congo (Kinshasa). Not all overseas trade of Congo passes through Pointe-Noire. As the port of Douala in Cameroon is located closer to the forestry industry located in the northern part of Congo, timber companies choose that port for some of their exports.

FIGURE 52
Most of Congo’s port traffic is linked to transshipment



Source: National authorities. June 2022.

Inland transport and logistics in Congo have two main markets, one of which is bimodal. The most important market in terms of volumes is the Pointe-Noire – Brazzaville corridor and a more modest one is the area of Ouessou in the north for the forestry industry. The Pointe-Noire – Brazzaville corridor is bimodal (rail and road), with a rail link (operated by an SOE, the *Chemin de Fer Congo-Océan*) experiencing difficulties due to ageing infrastructure and rolling stock, and a toll road (opened in March 2016), operated under a concession contract by *La Congolaise des Routes*.²⁴⁷ Before the opening of the road, the railway had a virtual monopoly on transport between Pointe-Noire and Brazzaville, but volumes remained modest: peak rail traffic for the last decade was around 500,000 tons. On the road, the traffic is 1,100 vehicles²⁴⁸ (all types, freight, passengers and individual cars), mostly concentrated on the segment Pointe-Noire – Dolisie, with trucks predominant on the rest of the route. A weighbridge is in operation, providing information on the daily truck traffic, which was around 300 vehicles per day in January 2022 in for both directions.

²⁴⁵ Transshipment corresponds to transfer of containers (ship to ship) between long haul lines, notably on the Asia-Central Africa shipping lanes, and the regional ports (in Equatorial Guinea, Democratic Republic of Congo, and others) on feeder lines.

²⁴⁶ The Port of Pointe-Noire statistics do not detail information on transit, but it is assumed that both containers and general cargo could be in transit.

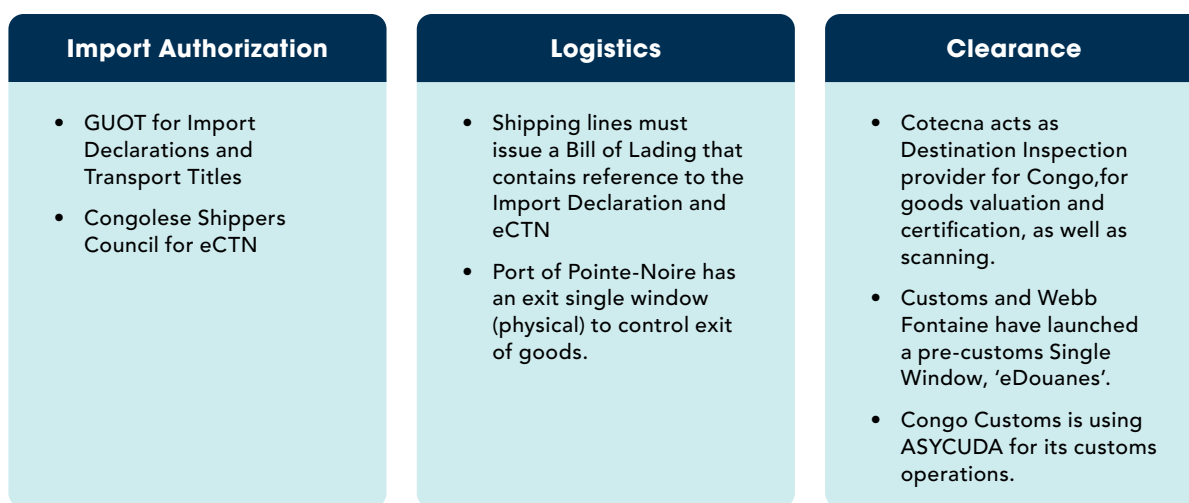
²⁴⁷ *La Congolaise des Routes* is a PPP with the Government of Congo, EGIS, a French company, and China State Construction Engineering as majority shareholders.

²⁴⁸ Traffic and weighbridge data provided by *La Congolaise des Routes*, <https://www.lcr.cg/index.html>, the operator of the toll road.

The forestry industry constitutes a specific segment of the inland logistics in Congo, with concessions clustered in two main areas: (i) in the south, close to the port of Pointe-Noire, and (ii) in the north, around Ouessou, much closer to the port of Douala (Cameroun) and therefore using both Douala and Pointe-Noire for export trade. The north represents on average 60 percent of the total timber production of Congo.

Despite automation, logistics processes and trade procedures remain complex. Several institutions are involved in trade procedures, and most have implemented IT systems to manage their documentation processes. The import procedures can be divided into three main stages, involving many actors with varying degrees of automation: (i) upstream import authorizations, (ii) the logistics processes at the port, and (iii) the clearance, as illustrated in Figure 53.

FIGURE 53
Trade Procedures and Systems in Congo



In the upstream authorization process, two main systems co-exist. First, the electronic Cargo Tracking Note (eCTN)²⁴⁹ was introduced in May 2008 by the Congolese Shippers Council (*Le Conseil Congolais des Chargeurs*), with a private operator, BIM²⁵⁰, as the service provider for the issuance of the CTN and its electronic version. Second, the trade Single Window (*Guichet Unique des Operations Transfrontalieres*, GUOT) was launched in November 2014 to replace the manual procedure in which traders had to apply for clearance from the Ministry of Commerce to obtain the eCTN from the Congolese Shippers Council. The GUOT²⁵¹ was developed by a technical solution provider under a PPP agreement, for 5.3 million Euros. On average, it handles 332 transactions per day, split into six percent for export declarations, 61 percent for Import Declarations, and 23 percent other for transactions. It is important to note that although GUOT aims to cover all modes of transport, it is only operational for the port of Pointe-Noire. Both systems generate a unique reference for the import declaration, the transport title, and the eCTN that the shipper must communicate to the shipping line at the time of the booking so that the Bill of Lading contains that reference. For specific commodities, additional line ministries and agencies are involved, for instance, Ministry of Agriculture for SPS²⁵² certificates, or Ministry of Mining Industries for ore exports. In addition to the valuation program managed by a private provider, Cotecna, that is part of the clearance stage, a certification program at pre-shipment stage was launched in 2022, with two providers, Cotecna in January 2022²⁵³ and Bureau Veritas in April 2022,²⁵⁴ in partnership with the Congolese Agency for Standardization and Quality.

²⁴⁹ Or *Bordereau Electronique de Suivi de Cargaison*, BESC.

²⁵⁰ The eCTN is the main revenue stream for the Congolese Shippers Council, which receives 70 percent of the revenue generated by the eCTN, with the remaining portion retained by the operator. <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=r:/WT/TPR/S285R1-03.pdf&Open=True>

²⁵¹ Additional information on the GUOT is available in the UNECE SW Case Study Repository at https://unece.org/DAM/cefact/single_window/sw_cases/Download/2019/CongoRep_Fre.pdf.

²⁵² Sanitary and Phytosanitary Certificate.

²⁵³ <https://www.cotecna.com/en/media/news/cotecna-signs-a-5-year-voc-contract-with-congo-brazzaville>

²⁵⁴ <https://verigates.bureauveritas.com/sites/verigates/files/2022-04/VoC-%20Congo%20-%20Flyer%20-E-1.1.pdf>



In contrast, the logistics stage is less structured. The only form of coordination in the logistics portion of the process is an Exit Single Window for the port, launched in April 2019, but only as a physical location for the coordination of all the stages leading to the physical release of the goods from the port. However, this may need to change. In April 2019, the Facilitation of Internal Maritime Traffic (FAL) Convention, of which Congo is a signatory, enforced a major amendment requiring national governments to implement the electronic exchange of information related to maritime transport. This amendment is expected to enter into force in January 2024. There is currently no project to develop a maritime single window or a port community system at the port of Pointe-Noire, but with the mandatory requirement linked to FAL, this could provide an opportunity to rationalize the different IT tools used by different border and trade agencies in Congo.

The clearance of imported goods shows a similar coexistence of different systems. Customs are, in general and not specifically in Congo, vigilant about potential fraud on the value or quality of goods, and outsourcing this verification to inspection companies has been a general trend. Congo replaced pre-shipment inspection, which was then part of the upstream authorization process, with destination inspection performed by Cotecna when the goods have arrived, therefore at the clearance stage. Clearing and forwarding agents must obtain valuation reports from Cotecna²⁵⁵ before submitting the declaration in the Customs system, which is using the UNCTAD ASYCUDA (Automated System for Customs Data) system.²⁵⁶ In September 2018, Customs launched *eDouanes*, a Customs Single Window operated by Webb Fontaine for the customs processes and declarations (plus possible tracking if goods are not cleared in Pointe-Noire) that adds a step before its ASYCUDA system used for the clearance of goods. Validated pre-import declarations were introduced in *eDouanes* in March 2019.

Despite automation, users still report significant difficulties in obtaining different documents. This is notably due to the fact that the systems are sequential, and one stage needs to be completed before initiating the process in the next one. Time delays due to inefficient customs and administrative procedures have become the main non-tariff barrier that obstructs international trade. For instance, international experience finds that longer time delays at the border would significantly decrease highly perishable agricultural products' quality and price.²⁵⁷

²⁵⁵ AV (valuation certificate) and AR (inspection report).

²⁵⁶ Or *Système douanier automatisé* (SYDONIA).

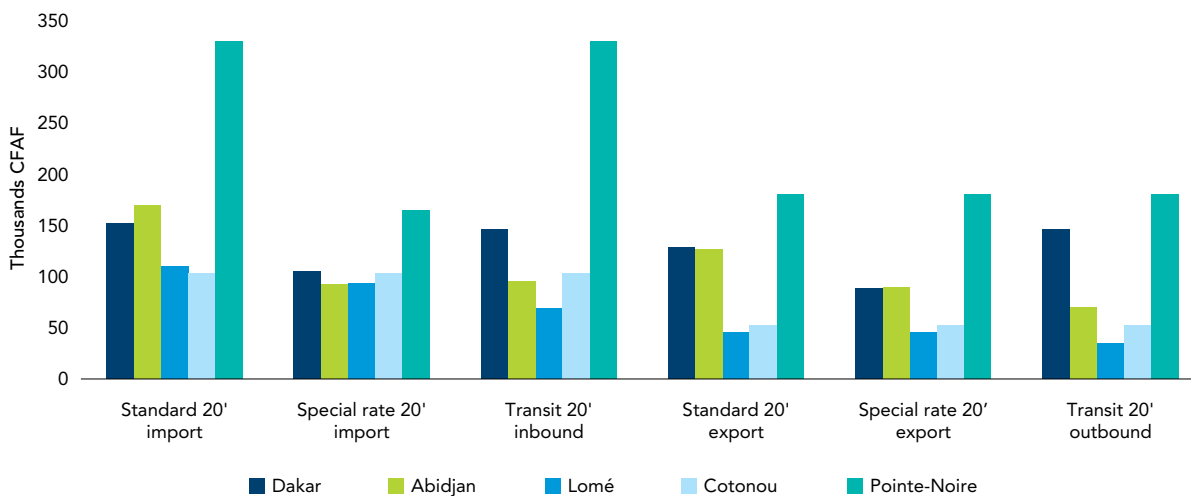
²⁵⁷ Liu and Yue (2017).

6.1.2 Trade costs are high across the board: freight rates, port costs, land transport, and documentation

Freight rates to and from Congo have risen, impacted by the global shipping trends of rising prices as well as congestion at the container terminal. As a reference, the cost of shipping a 20' container of vegetable oil from Indonesia rose from US\$2,400 in 2019 to US\$4,800 in 2022, while the cost of shipping a 40' container of salted fish (reefer) from Norway rose from US\$4,000 in 2018 to US\$17,500 in 2022. Rates have also been impacted by congestion at the container terminal, starting in August 2020, which has led some shipping companies to implement a port congestion surcharge.²⁵⁸

Compared to other West African ports, container handling costs in Congo are expensive (Figure 54). For different transport segments, Pointe-Noire handling costs are much higher than other ports in West Africa. The Port Authority and the container terminal have public tariffs, detailed in Table A4 (Annex). Cargo handling is paid by the shipper for loaded containers only, but the port authority is levying fees for both loaded containers (paid by shippers) and empty containers (paid by the shipping line). Import and export container handling costs in Pointe-Noire are around US\$540 and US\$295 respectively.²⁵⁹ Terminal operators often apply reduced rates for a selection of essential goods ('first necessity') that may differ from country to country, and most West African ports have special tariffs for transit containers. On the other hand, the transit of containers is not a contested market in Central Africa, as Chad and CAR primarily use the port of Douala, so Congo's Terminal does not have any incentive to offer preferential rates for containers in transit through Congo.

FIGURE 54
Container handling costs in Pointe-Noire are higher than in other West African ports



Source: World Bank Staff calculations. June 2022.

Long-distance road transport costs in Congo are higher than the average in West Africa. For instance, the road between Pointe-Noire and Brazzaville is 525 km, and it costs on average CFAF 1.1 million, or US\$1,770, i.e., US\$3.4 per km per a truckload. Yet, some operators, such as trucking companies under contract with shipping lines for Through Bill of Lading²⁶⁰, charge CFAF 900,000 (US\$1,470) for the trip. The distance between Ouesso and Pointe-Noire is 1,300 km and the freight cost is CFAF 2.5 million or US\$4,020, i.e., US\$3.1 per km per a

²⁵⁸ The Congolese Shippers Council has been conducting several trade costs studies, with the last update dating from April 2022.

²⁵⁹ Assuming containers are delivered without stripping, CFAF 330,000 = US\$540 for import in a 20' container, and for export, price is CFAF 120,000 + CFAF 60,000 = US\$295, also for a 20' container.

²⁶⁰ A Through Bill of Lading is when the destination port nominated is an inland destination, for instance Brazzaville, as opposed to a Bill of Lading that nominates a port as destination, for instance, Pointe-Noire. Under a Through Bill of Lading, the inland portion of transport to the nominated destination is under the responsibility of the shipping line.

truckload. These costs are notably higher than in West Africa²⁶¹. As an international reference, flatbed rates in the USA in April 2022 were at US\$2.15. Comparable references for other African corridors date back from before the global increase in fuel prices.

The tariffs paid for the tolls are not included in the rates quoted above and they are paid by the shippers on top of the trucking rate. There are seven toll gates between Pointe-Noire and Brazzaville, and large trucks (anything with three axles or more) pay CFAF 30,000 per gate, whether the truck is full or empty. Therefore, a delivery to Brazzaville, knowing that returns are typically empty, bears a toll cost of CFAF 420,000 in addition to the trucking rate of CFAF 1.1 million. In addition to toll gates, several border and enforcement agencies, as well as municipalities, charge formal and informal fees. According to the Congolese Shippers Council report, these additional fees amount to CFAF 54,000 between Pointe-Noire and Brazzaville, and CFAF 106,000 between Brazzaville and Ouessou.

Two main factors that influence road transport prices in Congo are operational practices and fuel consumption. These two factors are explained below:

- (i) **Operational practices.** Most companies operate on the basis of a weekly roundtrip Pointe-Noire – Brazzaville due to terminal delays at port and destination. Night driving is prohibited, but there are no labor regulations limiting the number of hours a driver can drive in a day. Yet, some companies also use a system in which tractors are just shuttling between Pointe-Noire and Brazzaville, hooking to trailers when ready. This mode of operation allows for two roundtrips per week, reducing the fixed costs at the expense of additional equipment positioned at the two ends.
- (ii) **Fuel consumption.** Trucking operators reported a high level of fuel consumption for roundtrips, 740 liters when loaded in both directions on Pointe-Noire – Brazzaville, and 680 liters with an empty return, and a tanker company reported 700 liters for a roundtrip, with an empty return. This equals respectively 65 liters per 100 km loaded and 60 liters per 100 km with an empty return, which is high considering the age of the truck fleet, for which consumption should be below 50 liters per 100 km loaded. One explanation is that drivers sell excess fuel on the road, and companies have not been able to prevent this practice.



²⁶¹ No region wide surveys were conducted on road freight prices since the recent peak of fuel prices, to allow for comparison beyond the USA indices. Road transport tariffs to Burkina Faso in May 2022, ranged from US\$2.42 per km on Abidjan–Ouagadougou, to US\$2.84 per km on Lomé–Ouagadougou. However, the differences in rate per km are an artifact of the equalization of the rates from all the transit ports, which happen to be at different distances, than a true reflection of a price per km, as all full load trucks range between CFAF1.65 million and 1.7 million irrespective of the port.

Documentation costs are especially high. Traders and logistics operators reportedly perceive several of the documents and associated fees as rent extraction from border and trade agencies. This disconnect is created because the tariff of the procedure is not set to reflect the actual cost of the service provided, but rather generate revenue for the trade and border agencies. In several cases, different documents seem to cover similar purposes. The latest CCC report provides information on the cost of trade-related procedures.

The documentation costs in Congo are far higher than other countries in the region. The relatively high volumes at the port of Pointe-Noire, comparable for instance to those of Abidjan in Cote d'Ivoire²⁶² and Dakar in Senegal²⁶³, hide the fact that this traffic does not exit the port on the land side, with most of the container traffic being transshipment, and the oil traffic directly exported. Actual external trade handled by the different IT systems put in place by the trade and border management agencies is comparatively much smaller than in the two West African countries, which both have a real Single Window in place rather than a multiplicity of systems. Developing a Single Window or similar IT tools for trade implies development and operating costs, which are generally recovered through a user fee per transaction. The UNECE Single Window Repository²⁶⁴ provides information on development and operating costs, fees, and transaction volumes for several Single Window systems, and Table A6 (Annex 5) provides that information for the African Single Window systems covered by the study. The fee for Senegal is roughly consistent with the annual operating costs (assuming 300 working days per year), while for Kenya, which does not charge fees, a fee of US\$4 per transaction under the same hypothesis, would cover the operating costs. In Congo, the revenue generated under the same assumptions is around US\$25 million per year which is very likely to be far higher than operating costs.²⁶⁵

6.1.3 Public-private dialogue is aiming to craft solutions but fails at implementation

The private and public stakeholders are aware that trading costs are high in Congo, and several forums have been established or tasked to address them. Three initiatives are worth describing. First, the Congolese Shippers Council regularly updates cost analysis and discusses options for reducing costs²⁶⁶, but most, if not all, recommendations remain unimplemented. Second, a committee was established in October 2015 by the Minister of Transport and Civil Aviation for the Port of Pointe-Noire community, and recently met in January 2022 to review a range of recommendations. One of the recommendations, for instance, led to the creation of an Exit Single Window for the port (aforementioned). Third, an inter-Ministerial committee on the improvement of the business environment, supported under the World Bank-financed PADEC Program, reviewed the procedures and past recommendations for reducing the cost of trading in Congo. A report was prepared and reviewed in March 2020.

6.1.4 Policy recommendations to decrease costs and increase efficiency of the logistics system

The following policy options would improve the efficiency of the logistics systems. Detailed policy recommendations are provided in Table 10.

A government review of PPP arrangements of concessions and contracts with external service providers would aim to reduce costs. The systematic use of concessions and contracts with external service providers likely drives up costs. With several PPPs for trade procedures for which investment and operating costs can only be recouped from a very limited number of trade transactions, it is not surprising that trade procedure costs are higher in Congo than in other countries in Africa. High costs also hold for other PPP arrangements outside

²⁶² 27 million tons, 760,000 TEUs in 2020.

²⁶³ 19.4 million tons, 700,000 TEUs in 2020.

²⁶⁴ <https://unece.org/trade/uncetfact/SW-repository> and https://unece.org/fileadmin/DAM/cefact/single_window/draft_160905.pdf




²⁶⁵ Unfortunately, information on annual operating costs is not available for Congo.

²⁶⁶ The latest update of the Congolese Shippers Council cost survey was conducted in April 2022.

of trade procedures, e.g., for the toll road with road freight bearing a disproportionate cost due to low overall traffic volumes. The Government could review the existing contracts to determine if they contain exit clauses or revision clauses that would open the door for lowering costs. Similarly, if the tariffs are not set in the contract, the Government could explore the possibility for the operator to reduce its fees while ensuring a proper level of profitability. Finally, the government needs to make sure that the existing contracts are in line with the new PPP law.

To bring coherence to the multiple IT systems for trade and logistics, the Government could take advantage of its commitment under the FAL Convention (Convention on Facilitation of International Maritime Traffic) to unify all of them.²⁶⁷ Each IT system currently in use for trade and logistics in Congo is charging fees that are higher than in comparable countries. A deeper analysis is needed to determine their adequate level. A good starting point would be to take advantage of the mandatory requirement under the FAL Convention for the establishment of a Maritime Single Window which could provide the opportunity to address the fragmentation of systems by establishing a unified IT system for trade. Unified systems are in place in Djibouti and Benin, for example, with the functionalities of a Maritime Single Window, Port Community System, and Trade Single Windows combined. As part of Congo’s review, fees can be reviewed to ensure that they cover only the operating costs of the system.

TABLE 10
Detailed Policy Recommendations to Improve the Efficiency of the Logistics System

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Bring coherence to the multiple IT systems for trade and logistics		
<ul style="list-style-type: none"> Review the mutual commitments with the technical service providers for the IT tools for trade to determine the options for revising scope and fees applied, with a view to reduce the cost for traders. 	Ministry of Commerce, Customs, Ministry of Economy and Finance	
<ul style="list-style-type: none"> Conduct a feasibility study for a Maritime Single Window that would encompass the trade functions currently provided by multiple systems with a view to combining them on a more cost-effective single platform. 	Port Authority, Maritime Administration, Ministry of Transport, Ministry of Commerce, Customs, Ministry of Economy and Finance	
Reviewing PPP arrangements to reduce costs and aligning existing contracts with the new PPP Law		
<ul style="list-style-type: none"> Review PPP arrangements of concessions and contracts to determine if they contain exit or revision clauses that allow revision of contract conditions with the objective of reducing costs. Make sure that the existing contracts are in line with the new PPP law. 	Ministry of Economy and Finance	

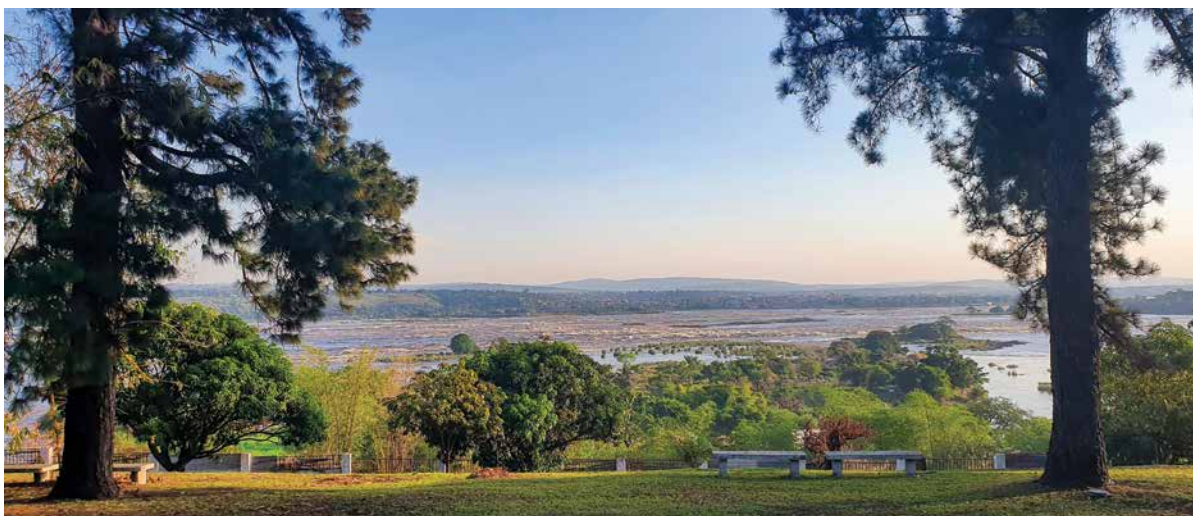
²⁶⁷ <https://www.imo.org/en/OurWork/Facilitation/Pages/FALConvention-Default.aspx>

6.2 Ecotourism: diagnostic and roadmap

Congo has huge potential for sustainable and poverty-reducing ecotourism. Ecotourism is “a sustainable, non-invasive form of nature-based tourism that focuses primarily on learning about nature first-hand, and which is ethically managed to be low impact, non-depleting, and locally oriented”.²⁶⁸ In comparison with mass tourism, ecotourism actively aims to reduce poverty and inequality while also conserving a destination’s natural heritage. If managed well, ecotourism should not only minimize negative impacts on the natural and socio-cultural environment but also support the long-term sustainability of the natural areas upon which it depends. “A land of steamy jungles hiding half the world’s lowland gorillas, masses of forest elephants, and hooting, swinging troops of chimpanzees,” Lonely Planet claims the Republic of Congo is “on the cusp of becoming one of the finest ecotourism destinations in Africa.”²⁶⁹

The government’s PND for 2022-2026 identifies over 20 sites for tourism development, but Congo’s vast biodiversity must be protected as a prerequisite for ecotourism development. The sites with the most potential for ecotourism development in Congo are four of the country’s 18 Protected Areas (PAs): Odzala-Kokoua National Park, Nouabalé-Ndoki National Park (NNNP), Conkouati-Douli National Park, and Lesio-Louna Nature Reserve (Figure 55). Of those identified by the government, Odzala-Kokoua is the most prominent, with three high-end operational camps operated by the privately-owned tour operator, Congo Conservation Company. Additionally, Nouabalé-Ndoki, Lesio-Louna/Lefini, and Conkouati-Douli have high potential based on interest from the private sector and marquee fauna such as forest elephants, lowland gorillas, and chimpanzees. However, Congo’s environmental health and ecosystem vitality, upon which ecotourism development would depend, is lagging, with Congo ranked 152 out of 180 on Yale’s environmental performance index. Importantly, the country ranks only 130th for ecosystem vitality despite ranking first in the sub-categories for terrestrial biomes (both nationally and globally). This is due to rapid habitat loss and inadequate management of natural resources, among other factors.²⁷⁰

If well managed, ecotourism can support direct and indirect job creation in Congo and enhance the economic development of the regions where it operates. If developed with a whole community approach, ecotourism can ensure equitable community benefits beyond those individuals or enterprises directly involved in tourism activities. This can be achieved by integrating and expanding the tourism value chain to include agriculture and other local suppliers, so jobs and benefits are widely shared. Moreover, by increasing the value of forests and wildlife and offering viable alternative livelihoods, ecotourism development will discourage activities that degrade these natural heritage resources and instead spur sustainable economic growth.



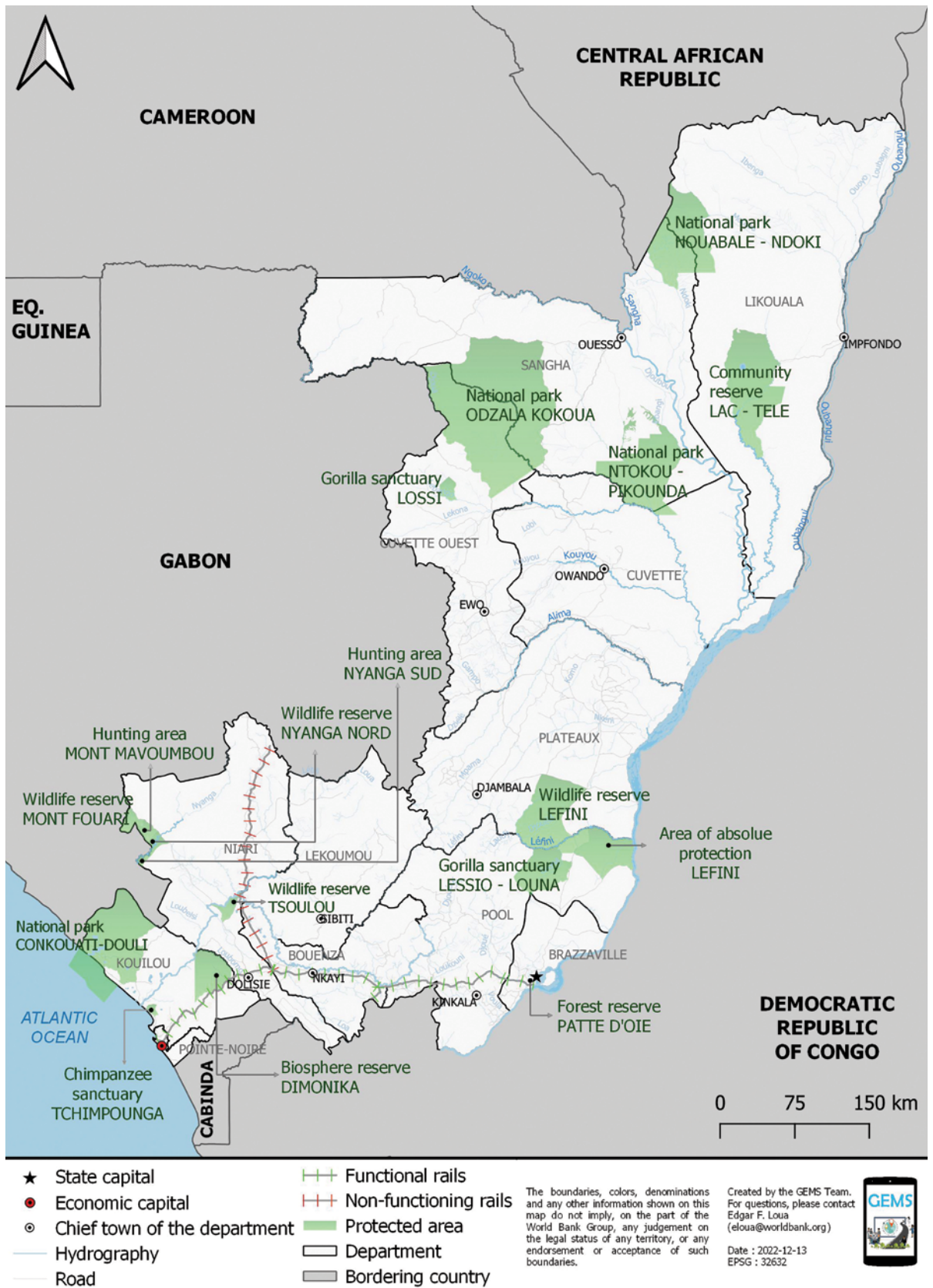
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²⁶⁸ (Fennell, 2001) A more basic definition of ecotourism is provided by the UN World Tourism Organization as, “all nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature as well as the traditional cultures prevailing in natural areas.”

²⁶⁹ (Lonely Planet, 2022).

²⁷⁰ (Yale University, 2020).

FIGURE 55
Map of Republic of Congo with key protected areas



Source: Map by Edgar Francois Loua, [GEMS team](#). GEMS: Geo-Enabling initiative for Monitoring and Supervision.

6.2.1 Tourism demand is on the decline, suffering from weak brand identity

Tourism demand in Congo is relatively low and declining since its peak in 2013, consisting mostly of business travelers and friends and family visits.

International arrivals to Congo peaked at 345 thousand in 2013 and declined to 158 thousand in 2018.²⁷¹ By comparison, Cameroon, the Democratic Republic of Congo, and Angola received 997, 351, and 218 thousand arrivals in 2019, respectively. Before the pandemic in 2019, travel and tourism's contribution to Congo's national GDP was only 3.4 percent compared to a global average of 10.4 percent. The COVID-19 pandemic further reduced activity in the tourism sector.²⁷² As of 2019, Congo's top five international tourist source markets were France (28 percent), the Democratic Republic of Congo (DRC) (13 percent), Cameroon (seven percent), Angola (six percent), and Italy (three percent). Overall, in 2018, Africa accounted for 56 percent, Europe 33 percent, Asia seven percent, the Americas three percent, and the Middle East one percent.²⁷³ Leisure travel accounts for 58 percent, with business travel accounting for the remaining 42 percent of travelers.²⁷⁴ Government data provides no further information on travelers' motivation beyond business or leisure. It is likely that a large share of leisure travelers is "visiting friends and relatives" tourists who are less likely to stay in hotels or take expensive excursions such as those to Odzala and, therefore, contribute little to tourism sector earnings.²⁷⁵

The biggest task of any marketing and promotion efforts will be to differentiate the Republic of Congo from the Democratic Republic of Congo and build general awareness of the Republic of Congo as a destination.

With insufficient tourism promotion, the Republic of Congo suffers from weak brand identity and confusion with neighboring DRC.

Without a functioning Office for the Promotion of the Tourism Industry (*Office de Promotion de L'industrie Touristique*, OPIT) to actively market Congo as a tourism destination, information is difficult to find or outdated even for determined tourists or the travel trade. Untapped tourism potential in Congo partly reflects the absence of a functioning national Destination Management Organization (DMO), let alone regional or city level DMOs. Compared to most countries, Congo conducts little to no tourist-oriented marketing and promotion. Congo does not currently participate in major international travel trade shows and has little engagement with international travel trade or media. As a result, most of the marketing and promotion efforts are led by the private sector and with minimal consultation or coordination with the government. On Bloom Consulting's annual rankings of country brands, Congo is rated as "D" (the lowest) for their Country Brand Strategy and ranks 46 out of 50 African countries and 195 out of 203 countries globally.²⁷⁶ Where name recognition exists, it is often conflated with the Democratic Republic of Congo, a negative association as DRC is more widely recognized and associated with instability, conflict, and disease. The biggest task of any marketing and promotion efforts will be to differentiate the Republic of Congo from the Democratic Republic of Congo and build general awareness of the Republic of Congo as a destination. While lack of financial resources is a limiting factor, there are low-cost measures that, if implemented, could have positive returns. Finally, Congo directly competes with countries like Rwanda and Uganda that are more established (e.g., gorilla treks), yet Congo is more expensive. Congo's DMO must demonstrate the country's distinctiveness that justifies the higher price point while also appealing to travelers' altruism and ability to directly contribute towards conservation through their trips.

²⁷¹ Year most recent data is available.

²⁷² While more recent figures are unavailable, it is likely the numbers have only declined further. Across Africa, tourism arrivals declined on average 73 percent year over year since 2019 and Congo likely mirrored the same trend.

²⁷³ Comprehensive tourism figures were most recently published in 2018. (*Ministere du Tourisme et de l'Environnement, Republique du Congo*, 2018)

²⁷⁴ Based on pre-pandemic 2019 figures. (WTTTC, 2021)

²⁷⁵ (Backer, 2007)

²⁷⁶ (Bloom Consulting, 2022).

6.2.2 Tourism supply, with difficult and expensive access and a dearth of skilled staff, could benefit from a different model of development

Congo has numerous possible ecotourism destinations, including current and potential UNESCO World Heritage sites, with charismatic wildlife and valuable cultural heritage assets. The most popular itinerary for international ecotourists at present is flying into Brazzaville, visiting Odzala, and returning to Brazzaville to leave. However, Congo has a broad range of possible ecotourism destinations including visits to the nation's PAs, the Congo River and other waterways, the wild coast and beaches, and nature sites not designated as PAs such as waterfalls and other natural landscapes. Of the PAs, the Sangha Trinational area that includes NNNP is designated as a UNESCO World Heritage Site, while Conkouati and Odzala are on UNESCO's tentative list.²⁷⁷ Congo's noteworthy fauna include lowland gorillas, forest elephants, chimpanzees, buffalos, hippos, turtles, humpback whales, and hundreds of species of birds. Integral to Congo's natural heritage are its cultural heritage assets, including indigenous communities, foodways,²⁷⁸ and artisan handicrafts (such as wood carvings, jewelry, woven fabrics, and ceramics).

An appropriate model for tourism development in Congo would be similar to South America's model for tropical Amazon rainforests rather than the African savanna model. The conventional African safaris in eastern and southern Africa consist of a very different type of visit compared to the experience of visiting a dense forest in Congo. Kenya or Tanzania's sprawling savanna allows tourists to spot fauna from great distances and appreciate them from afar in their safari vehicles. These open spaces are easily accessible to the average tourist who can sit and drive across the vast open terrain. In contrast, Congo's dense forests in sites such as Odzala or NNNP make encountering Congo's animals difficult and often require tourists to get out on foot to explore the distinctive Baïs or forest clearings, hiking the landscape in small groups (because large groups would risk scaring away the very animals they have come to see). This type of experience is specialized and requires a different approach. Although ecotourism experiences other than dense forest are available in Congo, just as there are more than savanna safaris in eastern and southern Africa, Congo's forest elephant and lowland gorilla treks are the signature experiences upon which Congo could distinguish itself as a successful destination.



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²⁷⁷ (UNESCO World Heritage Centre)

²⁷⁸ A foodway is "the eating habits and culinary practices of a people, region, or historical period" according to the Merriam-Webster dictionary.



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Access to tourism destinations in Congo is difficult and expensive, with both air and land transportation falling short.

There are limited direct international flights from key source markets,²⁷⁹ and international airlift capacity and frequency continue to limit tourism sector growth. Business travelers account for almost half of the market’s share of total travelers, and with the sector catering to this market segment, prices are driven up. Business travelers’ tolerance for higher prices limits ecotourist demand as they are more price sensitive. Even for tourists that manage to arrive in Congo, inadequate or non-existent infrastructure makes accessing the country’s remote and isolated PAs difficult and expensive. Within Congo, there are almost no regularly scheduled air services apart from flights between the two population centers of Brazzaville and Pointe-Noire. While some regional airports exist, few have any regularly scheduled air service. To get to most ecotourism destinations, either expensive private charter flights or prohibitively long land transits via degraded roads are required. Traveling by land during the rainy season can be even more challenging, if not impossible. Even the existing lodges in Odzala require numerous transfers, from a plane to a 4x4 to a boat to a canoe and still require multi-hour treks on foot through swampy forests or across streams before reaching the lodge.

Customs and police staff lack an understanding of the benefits of tourism and harass tourists. Upon arrival at points of entry, customs agents could be more welcoming and streamline entry procedures. Once in

²⁷⁹ Brazzaville is serviced by 12 airlines with only one flight to Europe via Paris on Air France. Whereas Pointe-Noire is serviced by 11 airlines with only two routes to Europe via Paris and Istanbul on Air France and Turkish Airlines, respectively. The rest of the international air links are intra-African with carriers such as Ethiopian, Rwand-AIR, Royal Air Maroc, Angola’s TAAG, and AIR-IVOIRE. There is also a small number of maritime entries to Pointe-Noire and Brazzaville via the Congo River from Kinshasa.

country, police checkpoints along the roads often cause headaches for tourists and tour operators, increasing travel times and requiring bribes to be paid despite the national tourism authority's (NTA) efforts to eliminate them. Whether through unnecessary checkpoints or negative encounters elsewhere, these officials may create a negative tourism experience.

The sector lacks adequate educational programs and training to supply qualified human resources to staff hotels, protected areas, tour operators, restaurants, and other tourism enterprises. The lack of proper workforce development contributes to high turnover and a poor customer service culture. Apart from one course in a general business program at *Université Marien Ngouabi* (Marien Ngouabi University),²⁸⁰ there are no tourism specific training centers, let alone specialized training in ecotourism related fields. Currently, senior staff of hotels with international clientele, including lodges in Odzala, are primarily staffed with international employees such as South Africans or Europeans. There have been efforts in the past to organize vocational internships and exchange programs between properties (e.g., from Odzala to the Radisson Blu during the off-season), but these have not been successful or are no longer functioning programs. The private Congo Conservation Company recruits professional guides from abroad to work in Odzala, primarily from South Africa, but aims to use those guides to train local guides over time. In addition to establishing proper training institutes for the sector, there are opportunities in the short-term to utilize international staff to train up a Congolese workforce.

6.2.3 Tourism governance, essential to ecotourism growth, has been unstable, understaffed, outdated, and unable to provide quality control to the sector

Effective governance and management of ecotourism are essential to foster local community stewardship. Without strong governance, ecotourism has the potential to undermine intended conservation goals if local communities do not directly benefit and see improvements to their livelihoods and living conditions. If locals perceive tourism to benefit only government authorities and private companies, they are less likely to develop the necessary vested interest in the protection of their natural heritage upon which ecotourism depends. An emphasis on building local capacity and agency, reducing social and economic inequality, and improving livelihoods are needed to mitigate possible negative aspects of ecotourism development and incentivize local community stewardship.

The national tourism authority has been plagued by instability. Since the first NTA was created in 1963, Congo's tourism authority has gone through 24 restructurings into various Ministries, often combined with other sectors such as environment (six times), culture (three times), and industry (three times). Only twice has it stood alone—from 2007 to 2009 and from 2016 until now. This means that, on average, the NTA has been reorganized every 2.6 years, nearly half of those times for two years or less.²⁸¹ With each change, the tourism agenda has been effectively reset as new leadership sets out to make their mark, leaving the NTA without a consistent long-term vision, clear objectives, or intermediate indicators upon which to measure progress towards its goals, severely limiting the tourism authority's ability to manage the sector effectively.

There are insufficient financial and human resources in Congo's public sector to manage and coordinate tourism. In large part, the Congolese government correctly identifies the major challenges for growing tourism and, in many instances, proposes appropriate solutions that would have positive impacts on the sector, as demonstrated in the government's 2017 Sustainable Tourism Development Plan. However, there is a persistent disconnect between drafting national plans and strategies and taking action. The government is hamstrung by small budgets and stretched thin by too few staff to manage the sector. If given adequate resources (both financial and advisory), Congo may finally be able to address the persistent challenges and implement the plans they have long proposed and that are articulated in the recent PND.

²⁸⁰ (Umng.cg, n.d.)

²⁸¹ (Ministère du Tourisme et des Loisirs, République du Congo, 2017)

Legislation and regulations governing the tourism sector should be updated to reflect current national priorities, in particular the easing of visa requirements.

The NTA is in the final stages of launching a hotel classification system to formalize the accommodations industry; yet there is no equivalent regulation of other travel businesses. While there are some efforts to streamline business registration and licensing through a One-Stop-Shop for Tourism (*Guichet Unique du Tourisme*, GUT),²⁸² this organization needs to be carefully monitored so as not to create opportunities for corruption and structured in a way that encourages efficiency and transparency. Visa policies need to be reformed as they create unnecessary burdens for the travel trade and individual travelers, which stifle the overall growth of the sector. Industry best practices show that relaxing or eliminating entry visa requirements boosts tourism demand.²⁸³ Simply, the more welcoming a country's visa policies, the more tourists they are likely to receive. Other African countries that opened their borders saw 20 percent increases in arrivals year over year on average.²⁸⁴ Congo should endeavor to reduce the number of countries that require tourist visas altogether, move away from paper visas and visas on-arrival, and abolish the invitation letter requirement completely. Visa requirements for citizens from Congo's key source markets should be unilaterally eliminated while offering a nominal-fee e-visa to other countries as appropriate.

Until recently, there has been a lack of oversight in the design and construction of tourism facilities and infrastructure.

Regulations need to be updated and enforced to ensure any new construction is of high quality, able to withstand Congo's humid climate, and well designed. With the exception of Congo Conservation Company lodges in Odzala, other facilities, such as those in Lesio-Louna and Lefini, are not well designed to meet the high expectations of the discerning ecotourists Congo hopes to attract. Along with the GUT, the NTA recently established the Congolese Society of Tourism Engineering (*Société Congolaise d'Ingénierie du Tourisme*), which will be responsible for overseeing and building tourism facilities and infrastructure. It is imperative that they follow high standards of quality and design. When considering construction in the PAs' delicate environments, sustainability must also be considered or risk destroying the very assets upon which the industry is built.

6.2.4 Roadmap for Congo's tourism sector development demands broad improvements to deliver on ecotourism's promise

Policies that safeguard Congo's natural heritage and improve tourism governance and its enabling environment are key to unlocking the country's enormous ecotourism potential.

First and foremost, for Congo to both conserve the environment and sustain the well-being of the local people, the natural heritage upon which ecotourism depends must be safeguarded and sustained, including by avoiding biodiversity loss and forest degradation. In order to develop ecotourism, the sector requires strong tourism governance that allows the private sector to innovate and thrive. Not only must the Ministry of Tourism and Leisure (*Ministère du Tourisme et des Loisirs*, MTL) act as a steady leader, but it also must bring together the various public, private, and donor stakeholders to unite around a common vision and collaborate to address shared challenges based on a data-driven strategy. Finally, other factors that impede both private sector and civil society partners from operating efficiently should be tackled, including access to infrastructure and services, a low-skilled workforce, and an onerous business environment (e.g., burdensome taxes and fees, corruption and inconsistent application of laws). Congo also needs to build a brand identity and foster media exposure to increase tourism demand. While these may seem like significant challenges, there is a path forward and enormous potential should these challenges be overcome (see Table 11 for detailed policy recommendations). An excellent place to start is learning from the ecotourism success story in Costa Rica where the creation of payments for environmental services, large areas set aside for protection, strong tourism sector governance, and balancing of types of land use together shaped Costa Rica into a top ecotourism destination (see Box 13).

²⁸² (Ministère de l'Environnement, du Développement Durable et du Bassin du Congo, 2020)

²⁸³ Globally, visa-free entry increases demand 16.6 percent, new types of visas result in an 8.1 percent increase, and implementing best practices only 4.3 percent. (WTTC, 2019).

²⁸⁴ (Visa, 2020).

BOX 13

A country peer case of successful development of ecotourism - Costa Rica

Costa Rica's large and mature ecotourism industry has earned it a reputation as a top ecotourism destination in the world. Costa Rica has built a world renowned "Green Trademark," centered on conservation, reforestation, and protected areas.

Several measures helped Costa Rica earn its Green Trademark:

- **Green framework and payments for environmental services:** Payment for environmental services (PES) was formally established in 1995 through its Forest Law, making the costs of reforestation tax deductible and establishing fiscal incentives that rewarded landowners for reforestation as well as establishing a National Fund for Forestry Financing (FONAFIFO) to manage the PES. Subsequently, FONAFIFO's share of fuel tax revenues was fixed at 3.5 percent, guaranteed through the national budget. In addition, a decree introduced a mandatory payment for ecosystem services by allocating 25 percent of water tariffs to the PES program.
- **National parks and protected areas:** Costa Rica has set aside 26 percent of its land area for protected areas. The National System of Conservation Areas (SINAC), an agency of the Ministry of Environment, Energy and Telecommunications, was introduced in 1994 to organize the country into 11 large conservation areas, most of which are based around a major national park, to avoid protected areas becoming isolated "green islands" in an otherwise improperly managed landscape. SINAC is responsible for directly administering Costa Rica's protected areas and for formulating policies and the planning and execution of processes that promote conservation and sustainable natural resource management, including forests, across the entire country. SINAC works in close collaboration with FONAFIFO, various forestry organizations, independent forest regents and forestry engineers, and oversees over 160 protected areas, of which 26 are designated national parks.
- **Tourism sector governance:** Costa Rica's tourism sector is well organized, with strong public-private collaboration. The private sector is organized around the Chamber of Hotels, representing large and small hotels, and the National Chamber of Tourism, for other tourism-related businesses. The Costa Rica Institute for Tourism (CR-ICT) is the autonomous public institution in charge of setting tourism policy, with a good balance of political appointees and representatives of the industry on its board of directors. Over time CR-ICT has adopted the role of promoter of private sector tourism development and administrator of tourism development incentives.
- **Balancing forest conservation and other land uses:** Maintaining healthy forest ecosystems while promoting sustainable agricultural growth is fundamental to the country's development strategy and to its efforts to improve livelihoods in rural areas. To harmonize and jointly leverage its agricultural and environmental goals, the Government formulated an "Agro-environmental Agenda" among its Ministry of Agriculture and Ministry of Environment and Energy which aims to improve the efficiency of food systems as well as meet global commitments related to climate change (in particular, reducing emission from livestock while maintaining negative emissions from forestry).

Costa Rica's investments in nature and environmental protection have paid off. Costa Rica is the first tropical country in the world to have reversed deforestation, increasing the area covered by forests from 26 percent in 1983 to over half of the country today. It ranks fourth in the 2021 Latin American Region Travel and Tourism Competitive Index of the World Economic Forum. The country, which has a population of 5.1 million, attracted 3.1 million visitors in 2019. In a survey carried out by the government in 2017-2019, 65 percent of visitors revealed that eco-tourism is the reason they chose Costa Rica. The tourism industry is one of the country's main sources of foreign exchange, and in 2019, its share in GDP was 4.8 percent while contributing 19 percent of total exports.

Sources: Brown and Bird (2010), Bennet and Henniger (2009), Oviedo, et. al. (2015), Raul, Cole, and Shutterstock (2022), Rodriguez and Zunega (2003), World Economic Forum (2022), Wallbott et. al. (2019), WorldWatch Institute (2015), Costa Rican Tourism Board.

Congo must urgently protect the natural environment upon which the eventual success of ecotourism depends. Key to protecting these natural assets is halting and reversing biodiversity loss, deforestation, and forest degradation that directly or indirectly deplete the very wildlife that ecotourists want to see. Unsustainable hunting for bushmeat, poaching, and fisheries overexploitation must be addressed, including by combating wildlife trafficking beyond PAs and buffer zones and reducing human-wildlife conflict. Deforestation linked to industrial commercial forestry (e.g., palm oil farming or unsustainable logging) can be addressed by requiring certification from the Forest Stewardship Council. Efforts must be accompanied by robust monitoring, strong community engagement in identifying and mitigating threats, and enforcement of laws. Ultimately, by demonstrating the economic value from safeguarding ecosystems and wildlife, ecotourism can engender community support for safeguarding natural assets.

Tourism governance must be strengthened by securing effective leadership and sufficient resources to implement recommendations. Experienced and stable leadership for MTL is a prerequisite to a successful tourism sector. MTL needs to unite all stakeholders around a common, long-term vision to break free from the history of restructurings and inconsistent strategies for tourism development. Further, MTL needs sufficient resources, both financial and human.

The role of the Supreme Tourism Council (*Conseil Suprême du Tourisme, CST*) should be reformed and strengthened. Restructure the CST to be more action oriented and a forum that convenes the private sector at the national level to advise and advocate their interests with the central government's public institutions, including but not limited to the MTL. This advisory board to the MTL should be comprised of travel sector representatives (e.g., accommodations, transportation, travel trade, guides, activities and attractions, PA authorities, retail and artisans, restaurants) and meet regularly to discuss current challenges and strategy. Thematic working groups within the CST should meet regularly on assigned topics and be accountable for realizing results. In addition to a direct line of communication with MTL, it would also facilitate working with other public institutions.²⁸⁵ MTL can then act as the lead public agency to relay specific requests for support, advocate on behalf of private sector interests, and collaborate with other public sector partners to optimize travel sector performance. By reorienting the CST away from an annual presentation of industry results and towards accountable, outcome-driven working groups, the CST will help sector stakeholders discuss and implement solutions that address the sector's many challenges.

The natural heritage upon which ecotourism depends must be safeguarded and sustained, including by avoiding biodiversity loss and forest degradation.

Coordinating with the private sector to address shared challenges. A country-level travel association is needed to complement the CST and provide the private sector with a forum to collaborate and have a shared voice to address government institutions. Options include creating a new organization or expanding the scope of an existing association (such as the hotel association or even UniCongo, the employers' federation) to encompass the entire travel sector (with a preference for utilizing existing structures rather than founding a new entity).

Engaging donors for strategic alignment. Actively convene and coordinate donor efforts in the travel sector to leverage strengths and avoid inefficiencies. Suggest holding bi-monthly or at least quarterly meetings with representatives of relevant multilateral and bilateral donor agencies to allow the MTL to direct activities and ensure alignment with Congo's tourism strategy and coordination amongst partners. Combined with the CST, these meetings should ensure full transparency and that planned actions match the needs of the travel sector.

Conducting research on supply and demand. Strong data collection and analysis lead to better decision-making. MTL should strengthen data collection and surveys in the sector. These should cover the three areas

²⁸⁵ The primary institutions include the Ministry of Forest Economy (concessions), Ministry of Environment and Sustainable Development (environmental impact assessments and regional linkages), Ministry of Transport (aviation, regional links, and road accessibility), Ministry of Interior (visa policy and access), Ministry of Economy (investment and access to finance), Ministry of Finance (taxation) and Ministry of Labor (workforce development). Others could include the government authorities for urbanization, public works, education, arts and culture, and agriculture.



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of demand, supply, and residents. Currently, many decisions within the travel sector are made based on past anecdotal experience and could be better informed by research and evidence on who comes to Congo and why. The only regularly collected data are entry surveys on arriving international flights and at the Yoro Port in Brazzaville for boats arriving from Kinshasa, DRC. There is no systematic collection of statistics at tourism sites nor are there any exit surveys. A few PAs managers (Odzala, NNNP, Lesio Louna, Conkouati) collect some data, but these are not aggregated up to the NTA and risk double counting. It is impossible to estimate tourism spending, determine where tourists go, duration, and develop informed marketing and promotion strategies without sufficient data. For marketing purposes, more information is needed to create traveler personas, including both demographic and psychographic profiles. MTL should also regularly survey local travel businesses to gauge sentiment and identify challenges. By monitoring and maintaining regular communication with the private sector, MTL can identify opportunities to innovate and diversify tourism services across the sector. Results from these surveys will inform and serve as justification for other initiatives, such as those developed in consultation with the CST.

Access to Congo's ecotourism sites and services can be improved by strengthening enabling infrastructure and related services. Air routes from key international source markets should be expanded. Prioritization of which markets to pursue should be data driven and correspond to the selected markets identified through research. Domestically, air and road access to priority PAs and sites need to be improved. The Government should pursue building and maintaining roads to ensure travelers can easily get to flagship attractions and sites within the country. Short-term priorities include access between Brazzaville and Lesio-Louna/Lefini, and between Pointe-Noire and Conkouati, as well as air access infrastructure to gateway communities of other flagship PAs (Odzala and NNNP). Further, approvals for infrastructure such as roads or airstrips within PAs are not efficiently evaluated nor approved in a timely manner, which impedes development. Measures should be implemented to address risks associated with building roads and the high potential for negative impacts on the adjacent natural ecosystems. Additionally, maintenance plans must be in place to prevent the destruction and degradation of sites once access is improved or created.



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Collaborating with the private sector to train the next generation workforce. Collaboration with public education institutions and private training centers can be established to train a qualified workforce needed to realize the PND’s ambitious goals. This includes educational institutions to train hospitality workers for hotels and restaurants, culinary programs, professional nature guides, protected area management and operational personnel, and other human resources across the sector. Target market language skills are also needed. Institutions should establish partnerships with the private sector to source trainers from their internationally experienced staff to teach programs and develop curricula. From conversations with private sector stakeholders with pools of international staff, there is a general openness to this concept with some suggesting that they could easily find volunteers to lead training courses if they were organized. With these same private sector partners, internship and exchange programs both domestically and regionally in Africa could be established to expose participants to best practices.²⁸⁶

Building awareness and stimulating demand. The MTL should support the creation of DMOs, both nationally (through the proposed OPIT) and decentralized DMOs of flagship destinations and PAs. In the short-term, the OPIT as a national-level DMO is the priority. This includes a comprehensive website with all necessary information on key destinations, including sub-pages for respective PAs. Additionally, the DMO needs to better facilitate connections with the international travel trade to reach target markets. The biggest task will be to generate awareness of Congo as a destination, including by distinguishing Congo from the DRC. Travelers’ preferences have changed due to the pandemic, with higher demand for outdoor, nature-based, or active/adventure experiences; responsible travel that positively impacts host communities; health, wellness, and personal growth; private accommodations and intimate, small group or private experiences.²⁸⁷ These trends are likely to continue and position Congo competitively. With these emerging traveler preferences in mind, the OPIT should create messaging for all stages of the traveler’s journey: inspiration, planning, booking, scheduling, traveling, experiencing, sharing, dreaming/reflecting. In the short-term, planning, booking, and traveling are important for domestic audiences, while inspiration and planning stages matter most for international markets. Beyond building brand consumer awareness, there is a need for awareness building among the general population about the value of Congo’s natural heritage and their duty as citizens to care for it. Using a public campaign to demonstrate what exists around the country, the first goal of preserving it will be that much easier.

Establishing media relationships and pursuing new exposure in both consumer and travel trade publications. Invite media journalists and independent influencers on familiarization tours to experience trips to flagship PAs, as well as other distinctive attractions and experiences to generate greater awareness and publicity among target audiences. In addition to attending trade shows, support matchmaking between local receptive tour operators and international outbound tour operators with a travel trade portal on OPIT’s

²⁸⁶ For instance, a program could organize sending nature guides to other successfully protected areas in Gabon or Rwanda or establish training programs for hospitality workers from remote areas to train in larger hotels in Pointe-Noire or Brazzaville.

²⁸⁷ (ATTA, 2021); (TravelPulse, 2021)

website. Beyond in person-activities and recognizing still existing travel restrictions in the short-term and budgetary limitations overall, OPIT should host thematic and/or geographically targeted destination webinars that highlight ecotourism products or itineraries for the international travel trade.²⁸⁸

Improving the business environment. The Government should update legal frameworks and apply and enforce existing laws and regulations. This includes supporting entrepreneurship and investment by streamlining business licensing (such as through the GUT) and removing unnecessary bureaucratic steps to create and operate a tourism enterprise. Legislation should govern all facets of the sector, including tour operators and DMOs that are currently in limbo without specific regulations. To complement these reforms, there should be measures to prioritize access to finance and bankability for SMEs to start businesses and upgrade operations, such as green retrofitting aging hotels or purchasing vehicles to run tours. The Government should also evaluate outdated operational burdens and simplify procedures, such as requiring tour operators to provide passenger lists to authorities before traveling. In addition to removing red tape and other bureaucratic hurdles, an Enterprise Incubator to foster innovation and entrepreneurship in priority areas could be established. The incubator would provide access to business advisors on operations and travel sector advice, expedited and simplified registration, access to finance, and other complementary services and training.

Reforming tax and fee policies. Authorities should explore recalibrating taxes and fees in the sector. There is a tourism-related tax of ten percent levied on room nights per person. Hotels in Brazzaville effectively pay 31 percent in taxes (ten percent hotel tax, 18 percent value added tax, and two percent city tax), in addition to employment-related taxes and income taxes. The private sector cites high taxes in Congo as a primary inhibitor to the development of the tourism sector as it raises costs beyond comparable tourism offerings elsewhere. A heavy tax burden stifles investment, hiring, and entrepreneurship while also pushing some businesses to avoid regulations altogether.

Increasing transparency and reducing opportunities for corruption. Management structures (such as public-private partnerships) should be accountable, transparent, and free from political interference. Protocols and procedures should be in place to ensure efficient and transparent functioning of the sector and to limit opportunities for corruption. For instance, reform should increase the transparency of awarding concessions to operate national parks, collecting entry fees, issuing business licenses, etc. Trainings should be organized for customs officers and police to better understand the needs of tourists and how to interact without unnecessarily harassing them.

Assessing concession policies to maximize community and conservation benefits. As a broad offering of tourism services should be available to satisfy potential demand, sufficient competition and access for tour operators should be ensured. Indeed, too much control in the hands of a single company could stifle innovation and destination competitiveness. To that end, PA management partners (international non-governmental organizations Africa Parks Network, Wildlife Conservation Society, and Noé) should be empowered to collaborate in day-to-day oversight of concessions. Other models of concession management should be considered, including community managed concessions such as those established in Namibia. New concessions should be awarded based on their potential for tourism development (including access, attractiveness, community benefit, conservation priorities, etc.). Appropriate mechanisms to measure performance against concession agreements should be implemented, including means to course correct as warranted and needed.

Strengthening the tourism supply chain. The Government should conduct a gap analysis of the current supply-chain and, in consultation with the needs of the private sector, identify priority areas to support. Using a place-based model for destination development, cultivate national and hyper-local supply-chains to create greater resilience for domestic supply and production. To support the local economy and reduce long-term reliance on imports, a program to support linkages with local entrepreneurs should be put in place. This will create shared value and enhance the overall competitiveness of the destination by reducing costs while advancing social and economic conditions to benefit host communities.

²⁸⁸ This will help increase Congo's exposure with other international operators that they either were not able to meet during the shows or operators who do not attend these shows. Even once travel fully resumes, these webinars require little financial investment and would continue to supplement outreach and sales efforts, living on the travel trade section of the website as an additional planning resource. On a regional level, Congo should seek opportunities in neighboring destinations, such as Gabon, Cameroon, and the Central African Republic, to collaborate and develop multi-destination itineraries that will mutually benefit each country.

TABLE 11
Detailed Policy Recommendations to Deliver on Ecotourism’s Promise

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Safeguard natural heritage assets, which serve as the foundation for ecotourism development		
<ul style="list-style-type: none"> Consider implementing programs that address demand for bushmeat and illegal hunting and support alternative protein production. 	ACFAP, Ministry of Environment and Sustainable Development	SHORT-TERM
<ul style="list-style-type: none"> Ensure wildlife protection authorities have sufficient resources and a clear mandate to stop poaching, illegal hunting, and wildlife trafficking in PAs and buffer zones. 	Ministry of Forest Economy, ACFAP, Ministry of Environment and Sustainable Development	SHORT-TERM
<ul style="list-style-type: none"> Regulate and limit industrial commercial forestry that contributes to deforestation in or adjacent to PAs and degrades or reduces natural habitats. 	Ministry of Forest Economy, ACFAP	SHORT-TERM
<ul style="list-style-type: none"> Engage with communities in and around PAs to mitigate threats, reduce instances of human-wildlife conflict, and empower them to co-implement solutions. 	Ministry of Environment and Sustainable Development, ACFAP	MEDIUM-TERM
Improve tourism governance		
<ul style="list-style-type: none"> Ensure stable leadership of the MTL and create a long-term vision for the sector that reduces the risk of inconsistent strategies for tourism development. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Allocate sufficient financial and human resources to public sector institutions implicated in the success of the tourism sector, including hiring sufficient, qualified human resources at the MTL to manage the sector's development. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Restructure the CST to be more action oriented. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Support the creation of a country-level travel association to provide the private sector a forum to collaborate and have a shared voice to address government institutions. 	MTL	MEDIUM-TERM
<ul style="list-style-type: none"> Actively convene and coordinate donor efforts in the travel sector to ensure strategic alignment, leverage strengths, and avoid inefficiencies. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Conduct research on supply and demand to ensure decision-making is data driven with informed analysis, including strengthening data collection and surveys in the sector. 	MTL	SHORT-TERM

POLICY OPTIONS	RESPONSIBILITY	PRIORITY
Strengthen the enabling environment		
<ul style="list-style-type: none"> Strengthen international air linkages by increasing air routes from key international source markets. 	MTL, Ministry of Transport	MEDIUM-TERM
<ul style="list-style-type: none"> Improve domestic air and road access to priority PAs and sites by building and maintaining roads. 	MTL, Ministry of Transport, ACFAP, Ministry of Environment and Sustainable Development	SHORT-TERM
<ul style="list-style-type: none"> Consider collaborating with the private sector to train the next generation workforce by fostering partnerships to source trainers from their internationally experienced staff to teach programs, develop curricula, and create internship and exchange programs. 	MTL, Ministry of Labor	SHORT-TERM
<ul style="list-style-type: none"> Establish public education institutions and support private training centers. 	MTL, Ministry of Labor	MEDIUM-TERM
<ul style="list-style-type: none"> Ensure the national OPIT is fully operational to act as the national DMO to build awareness and stimulate demand through a comprehensive website, connections with travel trade and media, and active promotion efforts. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Consider inviting travel trade and media on familiarization tours of flagship destinations and PAs. 	MTL	SHORT-TERM
<ul style="list-style-type: none"> Consider updating legal frameworks, applying and enforce existing laws and regulations, increasing transparency (including of awarding concessions), and creating an Enterprise Incubator. 	MTL, Ministry of Economy and Finance, Ministry of the Interior	MEDIUM-TERM
<ul style="list-style-type: none"> Consider reforming tax and fee policies to be less burdensome for the sector. 	Ministry of Economy and Finance, MTL	MEDIUM-TERM
<ul style="list-style-type: none"> Facilitate visa procedures. 	Ministry of the Interior, MTL	SHORT-TERM
<ul style="list-style-type: none"> Consider conducting a gap analysis of the current supply-chain. 	MTL, Ministry of Environment and Sustainable Development	MEDIUM-TERM

Annex

Annex 1.

Implementation of a State Aid Framework

Related to *Chapter 3: Boosting Productivity through Competition*

Moldova adopted a state aid control law in 2012 that includes ex ante approval and monitoring of any state aid by the Moldovan competition authority.²⁸⁹ The purpose of the law is to maintain a “regular competitive environment.”²⁹⁰ It seeks to avoid market distortions brought about by competitive advantages conferred to some players in a market, but not all. It recognizes, however, various state interests in providing state aid, and seeks to ensure that those interests are weighed against possible market distortions in deciding whether to approve state aid.

State aid is not limited to direct subsidies. State aid is defined to be a transfer of public resources that gives an economic advantage to its recipient, that is given on a selective basis (not to all players in a market), and that distorts—or is likely to distort—competition.²⁹¹ State aid can be in the form of direct subsidies but can also be in indirect forms such as preferential loans, forgiveness of debt, or discounts.²⁹²

With limited exceptions,²⁹³ all state aid must be approved ex ante by the national competition authority. State aid can be approved if it serves remediation of a severe economic disturbance, professional training, support of SMEs, support of Research & Development, environmental protection, services of “general economic interest,” rescue of beneficiaries in difficulty, support for female entrepreneurs, sectoral aid, and regional development aid.²⁹⁴

The criteria for the national competition authority’s decisions are explicit, and the law attempts to provide transparency in the decision-making process. Detailed regulations exist for each category of recognized state interest, and each includes a customized application form. As an example of the level of detail, one provision of the regulation on state aid to support SMEs, provides that state aid for the purpose of participating in trade fairs can cover only costs of hiring outside consultants, and only 50 percent of those costs.²⁹⁵ Transparency is afforded by a requirement to publish opinions and an annual report.²⁹⁶

²⁸⁹ Moldovan Law on State Aid, Law no. 139 (Jun. 15, 2012). This law and associated regulations can be found at <https://www.competition.md/tabview.php?l=en&idc=36&t=/Official-documents/State-aid>.

²⁹⁰ *Id.* at art. 1.

²⁹¹ *Id.* at art. 3.

²⁹² *Id.* at art. 6; Moldova: A Guide for the Design and Identification of State Aid Instruments to Minimize Competition Distortions, WBG, ¶ 6(a), available at <https://www.competition.md/public/files/Ghid-Ajutor-de-stat-Engleza13534.pdf>.

²⁹³ Exceptions are provided for aid granted to consumers without regard to the supplier of the goods or services purchased, for responses to “natural disasters and exceptional situations,” and for de minimis aid (less than 2 million MDL, which is about US\$100,000). Moldovan Law on State Aid, arts. 4, 8(1).

²⁹⁴ *Id.* at art. 5.

²⁹⁵ Regulation on state aid granted to small and medium-sized enterprises (2013), § 4.

²⁹⁶ Moldovan Law on State Aid, art. 41.

Annex 2.

Government Presence in Network Industries

Related to *Chapter 3: Boosting Productivity through Competition*

National, state or provincial governments hold equity stakes in the largest firm in the sector	Yes	No	Government's share in the largest firm in the sector	Market share of the largest company in the sector
Electricity				
Electricity generation	●		80% ²⁹⁷	Greater than 50% ²⁹⁸
Electricity transmission	●		100%	Greater than 90%
Electricity distribution	●		100%	Greater than 90%
Telecom				
Fixed-line network	●		100%	Greater than 90%
Fixed-line services	●		100%	Greater than 50% ²⁹⁹
Mobile services		●	n/a	Greater than 50% ³⁰⁰
Gas				
Gas generation	●		100%	Between 50% and 90%
Gas transmission	●		100%	Between 50% and 90%
Gas distribution		●	n/a	Between 50% and 90%
Water				
Water supply	●		100%	Greater than 90%

Source: 2022 Survey for Congo (following the OECD PMR template – selected questions)

²⁹⁷ Centrale Electrique du Congo (CEC) is owned by the government of Congo (80 percent) and the corporation ENI (20 percent). See *CEC Pointe-Noire Power Plant, Republic of the Congo*, Power Technology (Jan. 11, 2022), <https://www.power-technology.com/marketdata/centrale-electrique-du-congo-cec-pointe-noire-power-plant-republic-of-the-congo/>.

²⁹⁸ CEC produces 60-70 percent of Congo's electricity. The Integrated energy access project in Congo, ENI website, <https://www.eni.com/en-IT/operations/congo-energy-access-project.html>.

²⁹⁹ Congo Telecom has a monopoly on fixed voice lines, but (according to Teleogeography) has only a 50 percent share in the fixed broadband market. *Teleogeography Congo Report*, Teleogeography (Apr. 2022), p. 27.

³⁰⁰ Based on revenue shares in mobile, mobile money, and mobile internet for 2021, MTN has 68.8 percent of the combined market. Data from *Rapport 2021 du marché de l'internet mobile*, ARPCE; *Rapport 2021 du marché de la téléphonie mobile*, ARPCE; *La Grand'Actu du Régulateur* (Newsletter), ARPCE (Dec. 2021) (for mobile money data), available at <https://www.arpce.cg/rapports>; <https://www.arpce.cg/bulletins-mensuels>.

Annex 3.

Framework for the Competition Analysis of Electricity Sectors

Related to *Chapter 3: Boosting Productivity through Competition*

The electricity sector value chain can be broadly broken-down into: (i) generation, import and wholesale, (ii) trading; (iii) transmission, (iv) distribution and (v) retail. Across this value chain, we can typically find a series of bottlenecks that are likely to produce anticompetitive outcomes. These may include:

- **Generation level:**
 - » Lack of balanced generation portfolio comprising baseload and peak assets;
 - » Presence of SOEs in contestable market segments such as electricity generation;
 - » Unduly burdensome licensing or concession regime to enter contestable market segments such as generation.
- **Trading level:**
 - » Lack of liquidity in the trading market;
 - » Lack of clarity on the legal/regulatory framework regarding long term power purchase agreements.
- **Transmission and distribution levels:**
 - » Low levels of interconnection;
 - » Regulatory framework that does not encourage investment in transmission and distribution infrastructure;
 - » Ineffective third-party access rules that facilitate access to essential infrastructure and assets by non-vertically integrated operators;
 - » Ineffective integration of decentralized energy sources into the energy grid.
- **Retail level:**
 - » Ineffective regulatory framework to ensure consumers can easily change suppliers;
 - » Price regulation that does not adequately target vulnerable consumers.
- **Bottlenecks covering the entire value chain:**
 - » Lack of competitive neutrality to the detriment of private sector operators;
 - » Lack of adequate definition of universal and public service obligations, which may result in the cross-subsidization of commercially-viable market segments;
 - » Vertical integration covering natural monopoly and contestable and competitive market segments;
 - » Ineffective enforcement of ex post and ex ante (merger control) competition rules that can tackle abuse of dominance and anticompetitive agreements, and prevent the creation of market structures that substantially lessen competition in the market.

Annex 4.

Framework for the Competition Analysis of Mobile Telecommunication Sectors

Related to *Chapter 5: Trade Competitiveness and Diversification*

The mobile telecommunications value chain can be broken-down into: (i) upstream wholesale, comprising international connectivity and backbone, (ii) downstream wholesale, including backhaul and the last mile; and (iii) retail levels. Across this value chain, we can typically find a series of bottlenecks that are likely to produce anticompetitive outcomes:

- **Upstream wholesale level:**
 - » Exclusivity rights in the purchase capacity from international cables;
 - » Lack of effective enforcement of access conditions to backbone network.

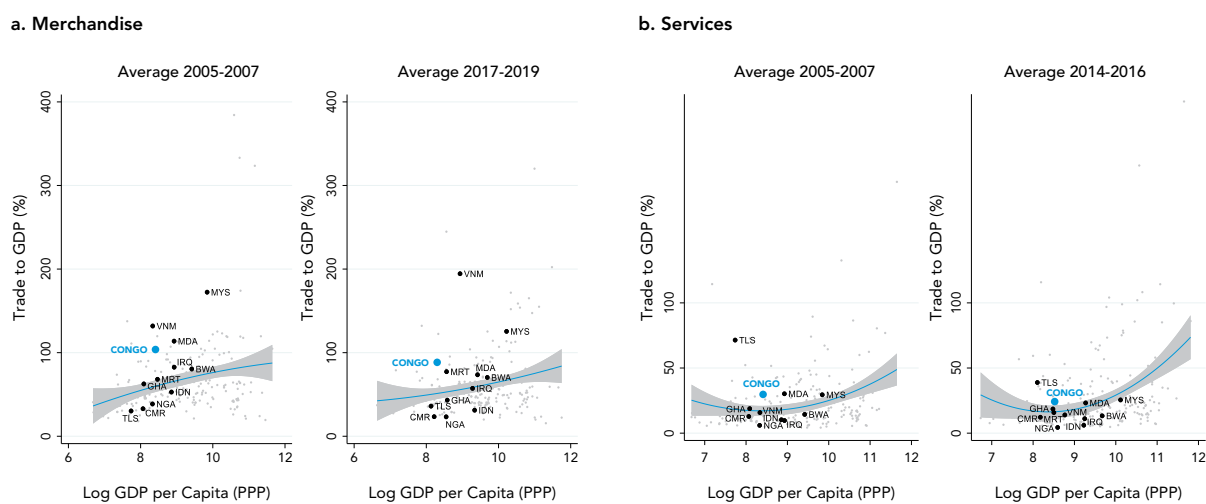
- **Downstream wholesale and retail levels:**
 - » Absence of market mechanisms in spectrum management, including auctions and secondary market trading;
 - » Mobile termination rates ineffectively regulated;
 - » Absence of framework for market entry by mobile virtual network operators;
 - » Unduly burdensome licensing procedure for activities that do not rely upon scarce resources (e.g., ISPs).

- **Bottlenecks covering the entire value chain:**
 - » Lack of competitive neutrality to the detriment of private sector operators;
 - » Lack of adequate definition of universal and public service obligations, which may result in the cross-subsidization of commercially-viable market segments;
 - » Overly high licenses and authorizations fees that discourage market entry;
 - » Ineffective enforcement of ex post and ex ante (merger control) competition rules that can tackle abuse of dominance and anticompetitive agreements, and prevent the creation of market structures that substantially lessen competition in the market;
 - » SOE presence in contestable and competitive market segments.

Annex 5. Additional Figures and Tables

Related to Chapter 5: Trade Competitiveness and Diversification

FIGURE A1
Merchandise and service trade openness 2007 and 2019



Source: WB staff calculations using data from World Development Indicators. Trade openness is the ratio of the sum of exports and imports (trade) over GDP. Each dot represents a country. The curve shows the average of trade openness for a given per capita income. The grey band represents the 95 percent confidence interval.

FIGURE A2
Imports of services

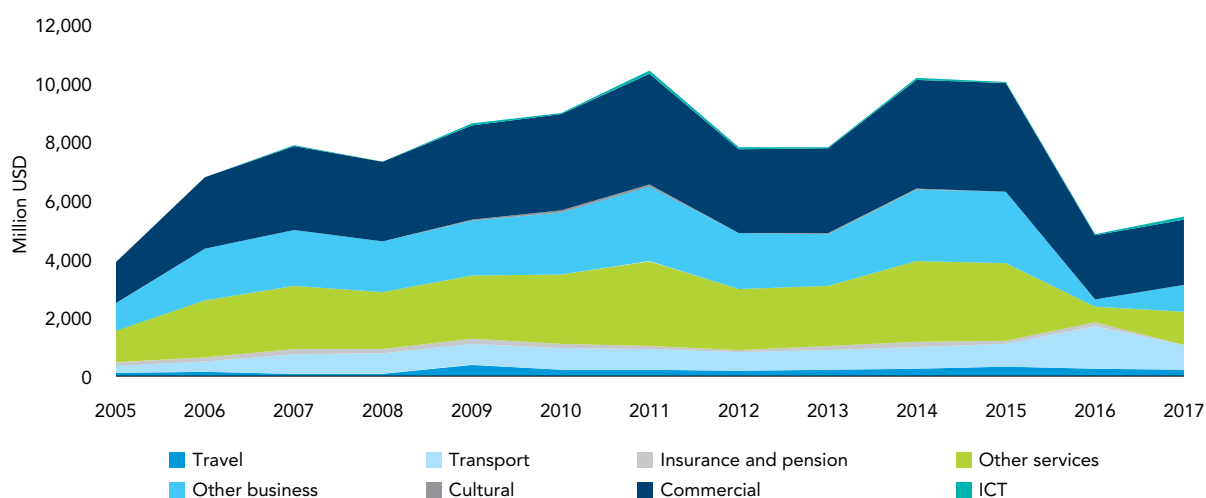
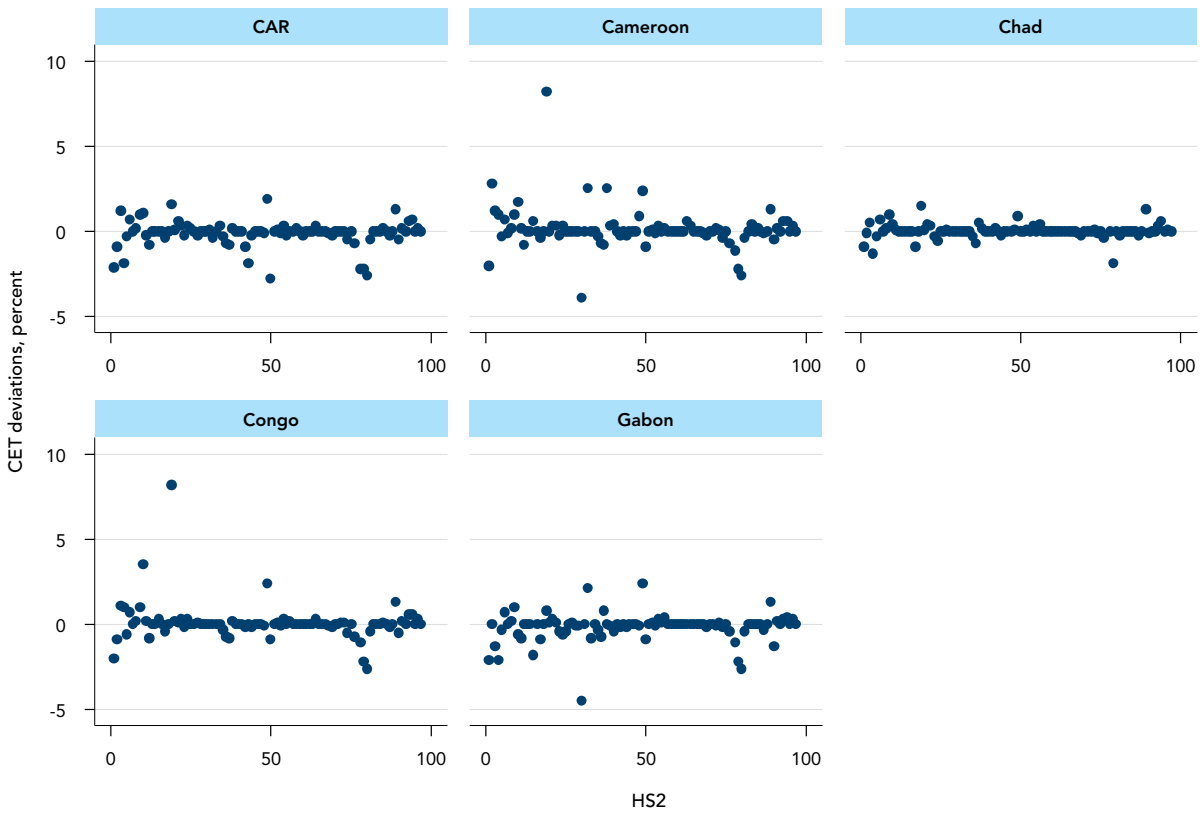
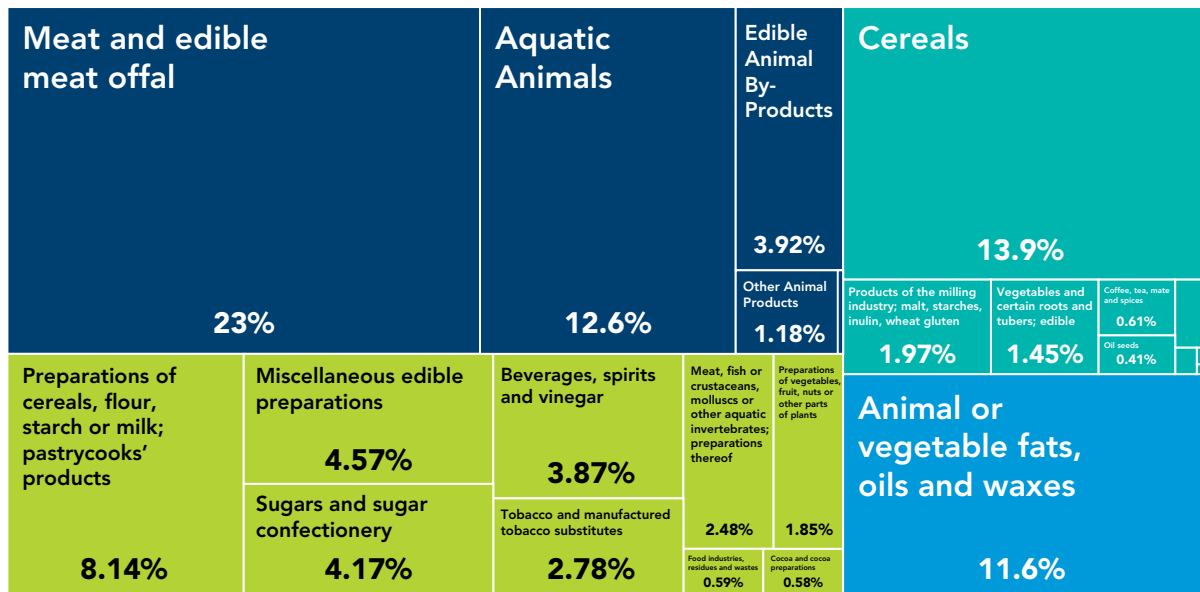


FIGURE A3
Deviations from the CET by country and HS2 chapter, 2015



Source: Estimates based on TRAINS and CEMAC tariff schedule.

FIGURE A4
Landscape of Congo's food imports, 2020



Source: Observatory of Economic Complexity

TABLE A1**Merchandise Exports in Congo: Sectoral Composition, Revealed Comparative Advantage, and Growth**

	Average 2002-2004				Average 2010-2012				Average 2018-2020			
	Value (US\$ M)	Share in %	RCA Index	CAGR %	Value (US\$ M)	Share in %	RCA Index	CAGR %	Value (US\$ M)	Share in %	RCA Index	CAGR %
01-05 Animal	5.51	0.20	0.099	30	10.01	0.07	0.039	40	9.58	0.07	0.037	-44
06-15 Vegetable	12.45	0.46	0.161	8	26.80	0.20	0.060	-6	17.96	0.14	0.041	17
16-24 Foodstuffs	26.25	0.96	0.311	6	35.50	0.26	0.085	-43	34.80	0.27	0.080	50
25-27 Minerals	2,368.32	86.68	7.638	39	10,467.85	76.61	3.925	0	8,550.79	66.38	4.804	-28
28-38 Chemicals	17.91	0.66	0.071	100	21.74	0.16	0.018	5	11.99	0.09	0.010	171
39-40 Plastic/ Rubber	1.17	0.04	0.010	160	72.81	0.53	0.118	13	3.49	0.03	0.006	-35
41-43 Hides, Skins	0.02	0.00	0.001	-15	0.77	0.01	0.009	48	0.24	0.00	0.003	-52
44-49 Wood	206.33	7.55	2.146	40	396.36	2.90	1.198	6	546.99	4.25	1.804	22
50-63 Textiles, Clothing	0.71	0.03	0.005	6	5.45	0.04	0.010	-21	2.02	0.02	0.004	-45
64-67 Footwear	0.02	0.00	0.001	149	0.78	0.01	0.008	50	0.75	0.01	0.007	3
68-71 Stone / Glass	47.87	1.75	0.579	70	71.72	0.52	0.129	173	78.47	0.61	0.140	2
72-83 Metals	35.32	1.29	0.185	47	571.40	4.18	0.554	10	2,653.87	20.60	2.966	3
84-85 Mach/Elec	5.68	0.21	0.007	9	123.87	0.91	0.037	0	102.92	0.80	0.029	-48
86-89 Transportation	0.97	0.04	0.003	141	1,813.09	13.27	1.408	-14	841.76	6.53	0.640	-94
90-97 Miscellaneous	3.64	0.13	0.022	-61	45.48	0.33	0.061	19	26.30	0.20	0.032	-60

Source: authors' calculation using data from BACI, CEPII.

Note: The RCA index is the ratio of a country's export share in a specific sector to the world's export share of that sector in total world exports. An RCA index above one means that the country's share of exports in that sector exceeds the global export share of the same sector in the same period, and the country is deemed to have a revealed comparative advantage in that sector.

CAGR is the compound annual growth rate, which measures the mean annual growth rate of export over a specified period of time longer than one year.

TABLE A2**CEMAC Common External Tariff, by broad sectors**

	Percentage of tariff lines by duty rate					
	Average tariff	Duty-free	5%	10%	20%	30%
Animal products	22.1	0.0	10.2	1.5	49.6	37.9
Vegetable products	23.7	0.0	10.6	17.3	1.8	70.4
Food products	24.6	0.0	10.2	13.6	1.3	74.6
Minerals	10.4	0.0	4.5	89.2	6.3	0.0
Fuels	10.2	0.0	0.0	98.3	1.7	0.0
Chemicals	11.1	0.0	13.5	76.5	1.5	7.9
Plastic and rubber	15.7	0.5	3.7	64.8	2.3	28.7
Hide and skins	19.3	0.0	0.0	52.9	1.4	45.7
Wood and paper products	21.7	4.2	5.1	27.3	1.8	60.7
Textiles and textile products	21.9	0.0	0.5	30.0	19.3	50.2
Footwear and headgear	29.1	0.0	0.0	0.0	8.5	91.5
Stone, ceramic, glass products	26.1	0.0	0.5	18.8	0.0	80.7
Base metals	16.6	0.0	0.5	54.9	22.8	21.6
Machinery, electrical equipment	13.8	0.3	0.1	72.6	15.9	11.2
Vehicles and transport	15.0	8.2	1.8	49.4	22.4	18.2
Miscellaneous	21.5	0.0	9.8	24.2	10.6	54.1

Source: Estimates based on the CEMAC tariff schedule.

FIGURE A5**Most favored nation overview of policy areas covered in Africa's subregional trade agreements and AfCFTA**

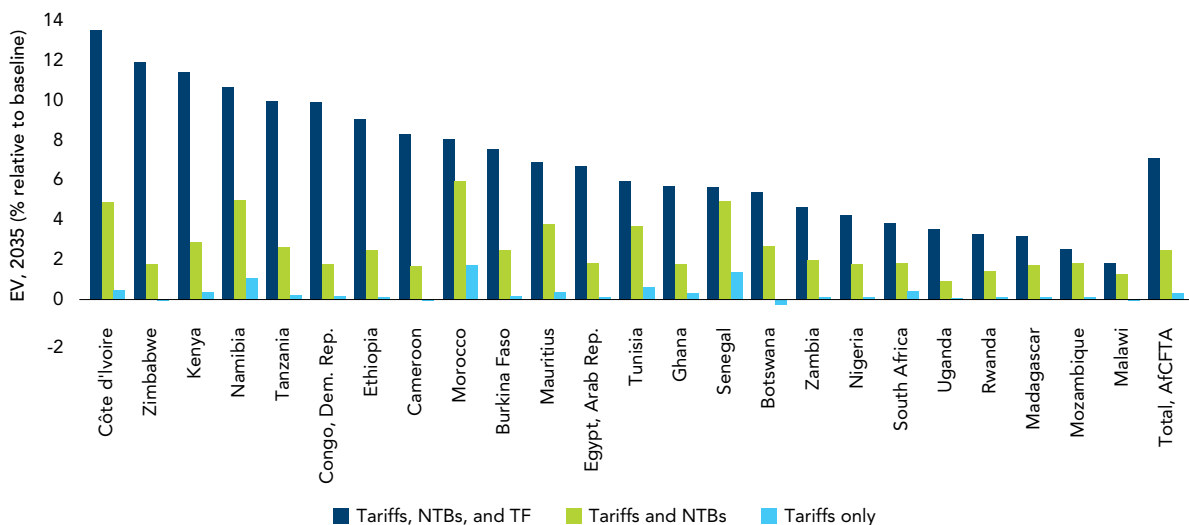
	East African Community (EAC)	Common Market for East and South Africa (COMESA)	South African Development Community (SADC)	Economic Community of West African States (ECOWAS)	West African Economic and Monetary Union (WAEMU)	South African Customs Union (SACU)	Economic and Monetary Community of Central Africa (CEMAC)	African Continental Free Trade Area (AfCFTA)
Tariffs on manufactured goods	√	√	√	√	√	√	√	√
Tariffs on agricultural goods	√	√	√	√	√	√	√	√
Export taxes	X	√	√	X	√	X	√	√
Customs	√	√	√	√	X	√	X	√
Competition policy	√	√	√	X	√	√	√	√
State aid	√	√	√	X	X	X	√	X
Antidumping	X	√	√	√	X	X	√	√
Countervailing measures	X	√	√	X	X	X	X	√
STEs	X	X	X	X	X	X	X	√
TBTs	√	√	√	X	X	√	√	√
GATS	√	√	√	√	√	X	√	√
SPS measures	√	√	√	X	X	√	√	√
Movement of capital	√	√	X	√	√	X	√	√
Public procurement	√	X	X	X	X	X	X	X
IPRs	√	X	X	X	X	X	X	√
Investment	√	√	√	X	X	X	X	√
Environmental laws	√	√	X	√	X	X	√	X
Labor market regulations	√	√	X	X	X	X	X	X

Source: World Bank, 2020

Note: √ = policy area covered; X = policy area not covered; AfCFTA = African Continental Free Trade Area; GATS = General Agreement on Trade in Services; IPRs = intellectual property rights; PTAs = preferential trade agreements; SPS = sanitary and phytosanitary; STEs = state trading enterprises; TBTs = technical barriers to trade.

FIGURE A6**A reduction in tariffs and NTBs accompanied by trade facilitation measures will bring the biggest gains**

Simulated real income gains, by country and policy reform



Source: World Bank 2020b

Notes: Three scenarios are simulated: (i) tariffs reduction (tariffs only), (ii) tariffs & NTBs reduction, (iii) tariff and NTBs reduction, and trade facilitation (TF).

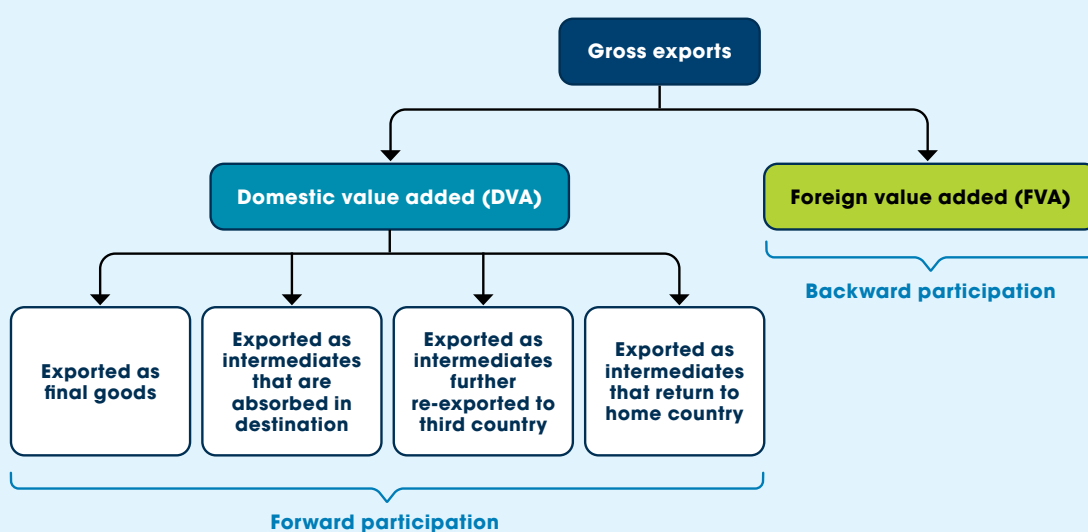
Equivalent variation (EV) is the expenditure to attain utility in year t in any given simulation using base year prices. In general, the equivalent variation is the amount of additional income needed to generate the level of utility that an individual could have achieved if the economic environment had changed.

NTB = nontariff barrier; TF = trade facilitation

BOX A1

Measuring participation in global value chains: Backward and forward participation

Individual economies can participate in GVCs by importing foreign inputs to produce the goods and services they export (backward GVC participation) and by exporting domestically produced inputs to partners involved in downstream production stages (forward GVC participation). In forward GVC participation a country's exports may not be fully absorbed in the importing country and instead are included in the importing country's exports to third countries, as shown in the graph below.



Source: Ignatenko et al. 2019.

Note: Hummels, et. al. (2001) and Aslam, et. al. (2017) define GVC participation as: $GVC_{participation} = \frac{FVA+DVX}{Gross\ exports}$

The larger the ratio, the greater the intensity of involvement of a country in GVCs. FVA captures backward GVC participation, while DVA captures forward GVC participation. FVA = foreign value added, DVX = domestic value-added exported to third countries.

TABLE A3
Classification of NTM

Technical Measures	A	Sanitary and Phytosanitary Measures
	B	Technical Barriers to Trade
	C	Pre-shipment Inspection and Other Formalities
Non Technical Measures	D	Contingent Trade Protective Measures
	E	Non-Automatic Licensing and Quality Control Measures
	F	Price Control Measures, Additional Taxes and Charges
	G	Finance Measures
	H	Measures Affecting Competition
	I	Trade-Related Investment Measures
	J	Distribution Restrictions
	K	Restriction on Post-Sales Services
	L	Subsidies
	M	Government Procurement Restrictions
	N	Intellectual Property
Export Measures	O	Rules of Origin
	P	Export Related Measures

BOX A2

How to collect data on NTMs in a nutshell

According to the guidelines developed by UNCTAD (2019), seven steps should be:

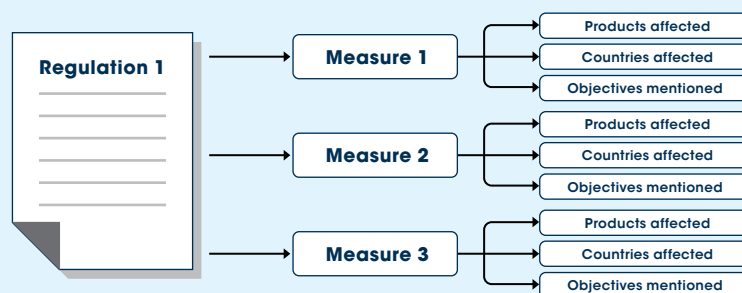
1. Identify sources of information
2. Identify documents from each source
3. Identify regulations from each document
4. Identify and classify measures within each regulation
5. Identify and classify affected products for each measure
6. Identify and classify affected countries for each measure
7. Identify and classify objectives for each measure

This first step varies according to the country. In some countries, the information may be available at a centralized location, where one official source compiles all legal measures. In others, the information needs to be obtained from different locations/institutions. In many countries, an official journal regularly publishes new laws, regulations, acts, decrees, and the like, the information being contained in one publication, irrespective of the government department and the subject covered. Information about NTMs may also be obtained through various government institutions, for instance:

NTM chapter	Government bodies potentially responsible
A SPS measures	Ministry of Agriculture; Standardization Agency; Ministry of Health
B TBT measures	Standardization Agency; Ministry of Health; Ministry of Ecology; Ministry of Industry
C Pre-shipment inspection and other formalities	Customs Agency; Standardization Agency
D Contingent trade protective measures	Ministry of Finance; Ministry of Economy or Trade
E Non-automatic licensing, and other quantity control measures	Ministry of the Economy (or Trade, Foreign Relations)
F Price control measures including additional taxes and charges	Ministry of Economy (or Trade, Foreign Relations); Customs Agency
G Finance measures	Ministry of Finance; National Bank
H Measures affecting competition	Ministry of Economy (or Trade, Foreign Relations)
I Trade-related investment measures	Ministry of Economy (or Trade, Foreign Relations)
P Export-related measures	Ministry of Economy (or Trade, Foreign Relations); Customs Agency

This list is not exhaustive. Names of government agencies could be different according to the country. Each institution may disseminate legislative documents through their websites, or through other means.

Steps 2 and 3 systematically register the origin of information. These steps are essential to make sure that the data is traceable and can be verified and updated. From each source, one or more legal documents can be obtained. These documents may also contain one or more regulations. The remaining steps identify and classify all the relevant information from the legal text of each regulation.



Source: UNCTAD 2019.

Related to Chapter 6: Logistics and Eco-tourism to Support Diversification

TABLE A4

Port Authority of Pointe-Noire and Congo Terminal tariffs for containerized goods (in CFAF)

	20' container	40' container
Stevedoring (Import)	165,000 for select essential goods 330,000 for all others If containers are stripped, additional payment of 120,000	250,000 for select essential goods 500,000 for all others If containers are stripped, additional payment of 180,000
Stevedoring (Export)	Reception 120,000 Loading on ship 60,000	Reception 180,000 Loading on ship 110,000
Port Authority	Import loaded container 72,000 Import Empty 35,000 Export loaded container 25,000 Export Empty 45,000	Import loaded container 110,000 Import Empty 35,000 Export loaded container 45,000 Export Empty 45,000

Source: Port Authority.

TABLE A5

Typical fees and tariffs for external trade documentation and procedures

Agency	Document	Cost (CFAF)
Ministry of Commerce	Import Declaration	30,000
	Special Authorization (ASI)	75,000
CCC	eCTN	78,400 to 144,400 But some users reported much higher costs
GUOT	Transport Title/ Import Declaration	132,000 But some users reported much higher costs
Customs	Various fees in addition to the regular customs external tariff and value added tax	75,000 to 195,000
Shipping agent	Bill of Lading fees	Around 70,000 CFAF
Freight Forwarder	Fee	200,000 to 350,000 CFAF Additional commission of 3.5 percent on expenses (payments to third parties, such as Customs, port, terminal)
Commercial Banks	Transfer fees	Up to 11 percent of the transferred amount
Cotecna	Scanner fee	600,000 CFAF

Source: Congo Shippers Council cost study update, April 2022.

TABLE A6

Comparison of selected Single Window SYSTEMS in Africa

	Senegal (ORBUS)	Kenya (KENTRADE)	Congo (GUOT)
Development costs	US\$2.8 M	US\$12 M	€5.3 M (US\$6.0 M)
Annual operating cost	US\$0.8 M	US\$2.5 M	
Transaction volumes	300 transactions per day	2,200 transactions per day	330 transactions per day
Fees	US\$10 per transaction + US\$2 per document	Free (funded by Government)	CFAF132,000 (US\$215) per transaction

Source: UNECE SW Repository.

References

Chapter 1

- Blimpo, Moussa P.; Gajigo, Ousman; Owusu, Solomon; Tomita, Ryoko; Xu, Yanbin. 2020. Technology in the Classroom and Learning in Secondary Schools. Policy Research Working Paper; No. 9288. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/33983> License: CC BY 3.0 IGO.
- BP. 2021. World Energy Statistics Report (70th edition) <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>
- Calderón, C., & Levy-Yeyati, E. L. (2009). Zooming in: From aggregate volatility to income distribution. World Bank Policy Research Working Paper, (4895).
- Chalendard, C., Raballand G. and A. Rakotoarisoa (2016). "The use of detailed statistical data in customs reform: the case of Madagascar", Policy Research Working Paper n°7625, World Bank.
- Darvas, Zsolt (2021) 'Timely measurement of real effective exchange rates', Working Paper 2021/15, Bruegel, 23 December 2021
- Diallo, O. (2009). Tortuous road toward countercyclical fiscal policy: Lessons from democratized sub-Saharan Africa. *Journal of Policy Modeling*, 31(1), 36-50. EITI. 2019. Republic of the Congo 2019 EITI Report
- Ferrantino, M. J., Liu, X. and Z. Wang (2012). "Evasion behaviors of exporters and importers: Evidence from the US-China trade data discrepancy", *Journal of International Economics*, 86(1): 141-157.
- Herrera, Santiago; Kouame, Wilfred A.; Mandon, Pierre. 2019. Why Some Countries Can Escape the Fiscal Pro-Cyclicality Trap and Others Cannot?. Policy Research working paper, no. WPS 8963; Policy Research Working Paper; No. 8963. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/32215> License: CC BY 3.0 IGO.
- Hnatkovska, V. (2004). Volatility and growth (Vol. 3184). World Bank Publications.
- IMF. 2017. "Botswana: Technical Assistance Report-Public Investment Management Assessment." IMF Staff Country Reports 2017.306 (2017).
- IMF. 2021. "Republic of Congo: Climate change adaptation and transition issues in a low-income oil exporting country."
- Melina, Giovanni, Hoda Selim, and Concepcion Verdugo-Yepes. *Macro-fiscal Gains from Anti-corruption Reforms in the Republic of Congo*. International Monetary Fund, 2019.
- Regolo, J. (2013). Export diversification: how much does the choice of the trading partner matter? *Journal of International Economics* 91, 329-342.
- World Bank 2014. Diversified Development : Making the Most of Natural Resources in Eurasia. Europe and Central Asia Studies. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/17193> License: CC BY 3.0 IGO."
- World Bank. 2015. Republic of Congo Public Expenditure Management and Financial Accountability Review : Implementing Public Financial Management Reforms to Stimulate Growth and Achieve Shared Prosperity. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/27137> License: CC BY 3.0 IGO.;"
- World Bank. 2015. Republic of Congo Public Expenditure Management and Financial Accountability Review : Implementing Public Financial Management Reforms to Stimulate Growth and Achieve Shared Prosperity. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/27137> License: CC BY 3.0 IGO.;"
- World Bank. 2016. Congo Economic Update, Third Edition, September 2016 : Adjusting for Better Social and Economic Development in an Era of Low Oil Prices. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/27904> License: CC BY 3.0 IGO.
- World Bank. 2016. Congo Economic Update, Third Edition, September 2016 : Adjusting for Better Social and Economic Development in an Era of Low Oil Prices. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/27904> License: CC BY 3.0 IGO."
- World Bank; International Finance Corporation; Multilateral Investment Guarantee Agency. 2018. The Republic of Congo Systematic Country Diagnostic : Policy Priorities for Ending Extreme Poverty and Boosting Shared Prosperity in a Non-Diversified and Fragile Country. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/30223> License: CC BY 3.0 IGO.
- World Bank. 2021. The Changing Wealth of Nations 2021 : Managing Assets for the Future. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/36400> License: CC BY 3.0 IGO."
- World Bank. 2022. Republic of Congo- Programmatic Public Finance Review : Making Public Finance Work for the People of the Republic of Congo. Washington, DC : World Bank. © World Bank.

Chapters 2 and 3

- Apedo-Amah, M.C., Avdiu, B., Cirera, X., Cruz, M., Davies, E., Grover, A., Iacovone, L., Kilinc, U., Medvedev, D., Maduko, F.O., Poupakis, S., Torres, J., Tran, T.T. (2020). "Unmasking the Impact of COVID-19 on Businesses: Firm Level Evidence from Across the World". World Bank Policy Research Working Paper No. 9434. World Bank, Washington, DC.
- Aghion P., & R Griffith. 2005. "Competition and Growth: Reconciling Theory and Evidence", MIT Press, Cambridge MA
- Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., & Roberts, J. (2013). "Does Management Matter? Evidence from India". *Quarterly Journal of Economics*, 128 (1), 1-51.
- Cirera, X., Cruz, M., Grover, A., Iacovone, L., Medvedev, D., Pereira-Lopez, M., Reyes, S. (2021). "Firm Recovery during COVID-19: Six Stylized Facts". World Bank Policy Research Working Paper No. 9810. World Bank, Washington, DC.
- Cirera, X., Frias, J., Hill, J., & Li, Y. (2020). *A Practitioner's Guide to Innovation Policy: Instruments to Build Firm Capabilities and Accelerate Technological Catch-Up in Developing Countries*. World Bank, Washington, DC.
- Cusolito, A., & Maloney, W. (2018). *Productivity Revisited*. World Bank, Washington, DC. World Bank.
- Davies, E. (2019). "Boosting Productivity for Faster Growth". Background paper for "Serbia Country Economic Memorandum", World Bank, Washington, DC.
- La Porta, R. & Shleifer, A. (2014). "Informality and Development." *Journal of Economic Perspectives*, 28(3), 109-26.
- Muzi, S., Jolevski, F., Ueda, K., & Viganola, D. (2021). "Productivity and Firm Exit during the COVID-19 Crisis: Cross-Country Evidence". World Bank Policy Research Working Paper No. 9671.
- Olley, G.S. & Pakes, A. (1996). "The Dynamics of Productivity in the Telecommunications Equipment Industry". *Econometrica*, 64 (6), 1263-97.
- Perry, G. (2009). *Beyond Lending: How Multilateral Banks Can Help Developing Countries Manage Volatility*. Center for Global Development. Washington, DC.
- Trang, T.T., & Iacovone, L. (2015). "Firm-level convergence of productivity in Peru". Unpublished manuscript.
- World Bank (2018). *The Republic of Congo Systematic Country Diagnostic: Policy Priorities for Ending Extreme Poverty and Boosting Shared Prosperity in a Non-Diversified and Fragile Country*. Washington, DC: World Bank.
- World Bank (2021). *Strengthening World Bank SME-Support Interventions: Operational Guidance*. Washington, DC: World Bank.
- World Bank (2021b). *Republic of Congo Economic Update, 8th Edition: Living in Times of COVID-19*. Washington, DC: World Bank.

Chapter 4

- Alby, P., J. Dethier, and S. Straub. 2011. "Let There be Light! Firms Operating under Electricity Constraints in Developing Countries." Working Paper 11-255, Toulouse School of Economics (TSE), Toulouse, France.
- Allcott, H., A. Collard-Wexler, and S.D. O'Connell. 2014. "How Do Electricity Shortages Affect Productivity? Evidence from India." NBER Working Paper 19977, Cambridge, Massachusetts.
- Artelia. 2015. Study on tariff and demand in the Republic of Congo. Commissioned by the World Bank under the PEEDU project.
- Audinet, P, and Rodriguez Pardina, M. 2010. *Managing an Electricity Shortfall: A Guide for Policy Makers*. World Bank, Washington, DC.
- Bashir, S. (2020). *Digital Skills: Frameworks and Programs*. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO. <https://openknowledge.worldbank.org/bitstream/handle/10986/35080/Digital-Skills-Frameworks-and-Programs.pdf?sequence=1&isAllowed=y>
- Carvalho, A. 2016. *Delays in Connecting Firms to Electricity: What Matters?*. Herriot Watt University. Centre for Energy Economic Research and Policy Working Paper No. 3 November 2016.
- Cirera, Xavier; Maloney, William F. 2017. *The Innovation Paradox : Developing-Country Capabilities and the Unrealized Promise of Technological Catch-Up*. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/28341> License: CC BY 3.0 IGO
- Cruz, Marcio, Mark A. Dutz, and Carlos Rodríguez-Castelán. 2021. *Digital Senegal for Inclusive Growth: Technological Transformation for Better and More Jobs*. International Development in Focus. Washington, DC: World Bank.
- CUA/OCDE (2021). *Dynamiques du développement en Afrique 2021 : Transformation digitale et qualité de l'emploi*, CUA, Addis Abeba/Éditions OCDE, Paris, <https://doi.org/10.1787/cd08eac8-fr>.
- Cubbin, J, and Stern, J. 2006. The Impact of Regulatory Governance and Privatization on Electricity Industry Generation Capacity in Developing Economies. *World Bank Economic Review* 20 (1): 115-41.
- E²C. 2021. *Activity Report for 2021. Inventory of Customers and Supply of Meters*.
- Foster, V., and Steinbuks, J. 2010. "When do Firms Generate? Evidence on In-House Electricity Supply in Africa." *Energy Economics* 32 (2010): 505-14.
- Fried, Stephanie, and David Lagakos, 2020. "Electricity and Firm Productivity: A General-Equilibrium Approach," NBER Working Papers 27081, National Bureau of Economic Research, Inc. GIZ. 2013. *Productive Use of Energy - PRODUCE: Measuring Impacts of Electrification on Small and Micro-Enterprises in Sub-Saharan Africa*.
- Goldfarb, Avi, and Catherine Tucker. 2019. "Digital Economics." *Journal of Economic Literature*, 57 (1): 3-43.
- Grainger, C.A. and Zhang, F. 2017. *The Impact of Electricity Shortages on Firm Productivity Evidence from Pakistan*. World Bank

References

- GSMA, 2016. Connected Society: Consumer Barriers to Mobile Internet Adoption in Africa. <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/07/Consumer-Barriers-to-mobile-internet-adoption-in-Africa.pdf>
- IEA. 2022. Republic of Congo - Country Profile. [online] Available from: <https://www.iea.org/countries/congo>
- IFC, "Small business, big growth - How investing in SMEs creates jobs, International Finance Corporation, March 2021. Accessible from: https://www.ifc.org/wps/wcm/connect/2c499fd9-a2e8-4fac-9833-145620746fc4/IFC_SME_Report_2021_FA_digital.pdf?MOD=AJPERES&CVID=nCL6R9f
- INS Congo, *Annuaire Statistique du Congo*, 2018. <https://ins-congo.org/annuaire-statistique/>
- INS Congo, *Recensement Général des Entreprises en République du Congo*, published in 2021 - <https://ins-congo.cg/recensement-general-des-entreprises-du-congo-regec-principaux-resultats/>
- International Labor Organization, *Digital Skills and the future of work: Challenges and opportunities in a post COVID-19 environment*, 2020. URL: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_766085.pdf
- International Telecommunications Union (ITU), *Economic contribution of broadband, digitization and ICT regulation - Econometric modelling for Africa*, 2019.
- Ministère des Postes, des Télécommunications et de l'Economie Numérique. April 2019. *Stratégie Nationale de Développement de l'Economie Numérique "Congo Digital 2025"*. Congo Brazzaville.
- Ministry of Education and Vocational Training of Tanzania, 2015. ICT Competency Standards for Teachers in Tanzania. <https://unesdoc.unesco.org/ark:/48223/pf0000234822/PDF/234822eng.pdf.multi>
- Nancy Law et al., A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2. UNESCO Institute for Statistics. <http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf>
- National Institute for Statistics, 2020. "*Annuaire Statistique du Congo 2018. Chapitre 8: Statistiques de l'éducation, de la formation qualifiante et de la recherche*".
- Nayyar, Gaurav; Hallward-Driemeier, Mary; Davies, Elwyn. 2021. At Your Service? : The Promise of Services-Led Development. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/35599> License: CC BY 3.0 IGO.
- Partech, 2021. Africa tech venture capital report, <https://partechpartners.com/2021-africa-tech-venture-capital-report/#section1>
- Sustainability Exchange (2022). What is Energy and How Much do You Use? [online] Available from: https://www.sustainabilityexchange.ac.uk/files/cambridge_regional_college_sus_how_much_energy_do_you_use.pdf.pdf
- Trimble, C. Kojima, M. Perez Arroyo, I. Mohammadzadeh, F. (2016) Financial Viability of Electricity Sectors in Sub-Saharan Africa: Quasi-Fiscal Deficits and Hidden Costs. World Bank. Section 6.3.
- UNCTAD (2021), *National ICT policy review and e-commerce strategy for Botswana*, Geneva. https://unctad.org/system/files/official-document/dtlstict2021d4_en.pdf
- UNDP, 2020. Human Development Report 2019 - Congo. <https://hdr.undp.org/en/countries/profiles/COG>
- UNECA, 2019. *Digital Transformation and Economic Diversification in Central Africa: Issues, Challenges and Opportunities, 35th Intergovernmental Session of Senior Officials and Experts for Central Africa (ICE)*, United Nations Economic Commission for Africa, Malabo, September 23-27, 2019, www.uneca.org/sites/default/files/images/SROs/CA/SROs_CA/cie_19_-_rapport_du_cie_-_29_octobre_2019_without_contacts.pdf.
- UNESCO Institute for Statistics, 2022. Country Profile – Republic of Congo. <http://uis.unesco.org/en/country/cg>
- UNESCO, 2017. UNESCO China Funds in Trust Project Phase II (2017-2018). Harnessing Technology for quality Teacher Training in Africa <https://unesdoc.unesco.org/ark:/48223/pf0000261280/PDF/261280eng.pdf.multi>
- UNESCO, 2021. Nigeria identifies priority areas for Open Education Resources. <https://en.unesco.org/news/nigeria-identifies-priority-areas-open-educational-resources>
- World Bank. 2016. "World Development Report 2016: Digital Dividends." Overview booklet. World Bank, Washington, DC.
- World Bank. 2018. World Bank Enterprise Surveys (2002-18).
- World Bank. 2019. World Bank Data - Congo - Access to electricity (% of population) [online] Available from: <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=CG>
- World Bank. 2020. Economy Profile - Doing Business – Regional Peers: Angola, Cameroon, Congo, Ghana, and Nigeria. Structural Peers: Azerbaijan, Iraq, Mauritania, Timor-Leste. Aspirational Peers: Georgia, Indonesia, Malaysia, Moldova, Vietnam.
- World Bank, 2020. Unemployment, total (percent of total labor force) (modeled ILO estimate - Republic of Congo. <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=CG>
- World Bank, 2020. Unemployment, Total (percent of total labor force) (modeled ILO estimate) – Congo, Rep. <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=CG>
- World Bank, 2020. Unemployment, youth total (percent of total labor force ages 15-24) (modeled ILO estimate) – Congo, Rep. <https://data.worldbank.org/indicator/SL.UEM.1524.ZS?locations=CG>
- World Bank, 2022. Unemployment, Total (percent of total labor force). <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=CG>
- World Bank. 2022a. Doing Business – Getting electricity – Why it matters? [online] Available from: <https://subnational.doingbusiness.org/en/data/exploretopics/getting-electricity/why-matters>
- World Development Indicators. (2022) [online] Available from: <https://datatopics.worldbank.org/world-development-indicators/>

Chapter 5

- Brenton, P., Saborowski, C., Von Uexkull, E., 2010. What explains the low survival rate of developing country export flows? *The World Bank Economic Review* 24, 474-499.
- Cadot, O., Carrere, C., Strauss-Kahn, V., 2013. Trade diversification, income, and growth: what do we know? *Journal of Economic Surveys* 27, 790-812.
- Cadot, O., Carrère, C., Strauss-Kahn, V., 2011. Export diversification: what's behind the hump? *Review of Economics and Statistics* 93, 590-605.
- Conde, C., Heinrigs, P., O'Sullivan, A., 2015. Tapping the potential of global value chains for Africa. *Europe* 57, 50-9.
- de Melo, J., and Z. Sorgho. 2019. "The Landscape of Rules of Origin across African RECs in a Comparative Perspectives with Suggestions for Harmonization." *Fondation pour Les Études et Recherches sur le Développement International, Clermont-Ferrand, France.*
- Engel, Jakob; Kokas, Deeksha; Lopez-Acevedo, Gladys; Maliszewska, Maryla. 2021. *The Distributional Impacts of Trade: Empirical Innovations, Analytical Tools, and Policy Responses.* Trade and Development; Washington, DC: World Bank.
- Naudé, W., Bosker, M., Matthee, M., 2010. Export specialisation and local economic growth. *World Economy* 33, 552-572.
- Regolo, J., 2013. Export diversification: how much does the choice of the trading partner matter? *Journal of International Economics* 91, 329-342.
- Sekkat, K. (2016). Exchange rate misalignment and export diversification in developing countries. *The Quarterly Review of Economics and Finance*, 59, 1-14.
- Tran, T. A. D., Phi, M. H., & Diaw, D. (2017). Export diversification and real exchange rate in emerging Latin America and Asia: A South-North vs. South-South decomposition. *The Journal of International Trade & Economic Development*, 26(6), 649-676.
- World Bank (2012) "De-Fragmenting Africa: Deepening Regional Trade Integration in Goods and Services". The World Bank, Washington, DC.
- World Bank, 2018. *Country Economic Memorandum - Economic and Monetary Community of Central Africa (CEMAC)*, Washington, DC.
- World Bank, 2020. *World Development Report 2020: Trading for Development in the Age of Global Value Chains.* The World Bank, Washington, DC.
- World Bank, 2020b. *The African Continental Free Trade Area: Economic and Distributional Effects.* The World Bank, Washington, DC.

Chapter 6

- ATTA. (2021, May). *Natural areas and domestic destinations will prevail in tourism's recovery.* Retrieved May 2022, from AdventureTravelNews: <https://www.adventuretravelnews.com/natural-areas-and-domestic-destinations-will-prevail-in-tourisms-recovery>
- Backer, E. (2007). VFR Travel: An Examination of the Expenditures of VFR Travellers and their Hosts. *Current Issues in Tourism*, 10(4), 366-377.
- Bennet, K., and N. Henninger. 2009. "Payments for Ecosystem Services in Costa Rica and Forest Law No. 7575: Key Lessons for Legislators." *World Resources Institute.*
- Bloom Consulting. (2022). *Country Brand Rankings 2022-2023 Tourism Edition.* Retrieved April 2022, from Bloom Consulting | Nation Branding & City Branding: <https://www.bloom-consulting.com/en/country-brand-ranking>
- Brown, Jessica, and Neil Bird. 2010. "Costa Rica's Sustainable Resource Management: Successfully Tackling Tropical Deforestation." *Overseas Development Institute.*
- Fennell, D. A. (2001). A content analysis of tourism definitions. *Current Issues in Tourism*, 4(5), 403-421.
- Lonely Planet. (2022, April 22). *Republic of Congo.* Retrieved from Lonely Planet: <https://www.lonelyplanet.com/congo>
- Ministère de l'Environnement, du Développement Durable et du Bassin du Congo. (2020, June 9). *Promulgation des lois portant sur la création du GUT, de la SOCITOUR et la transformation de l'OPIT.* Retrieved from Ministère de l'Environnement, du Développement Durable et du Bassin du Congo: <https://www.developpement-durable.gouv.cg/promulgation-des-lois-portant-sur-la-creation-du-gut-de-la-socitour-et-la-transformation-de-lopit/>
- Ministere du Tourisme et de l'Environnement, République du Congo. (2018). *Annuaire Statistique du Tourisme 2018.* Government of Congo.
- Ministere du Tourisme et des Loisirs, République du Congo. (2017, June). *Plan Directeur de Développement Durable du Tourisme en République du Congo.* Retrieved from <https://www.developpement-durable.gouv.cg/plan-directeur-de-developpement-durable-tourisme/>
- Oviedo, Ana Maria, Susana M. Sanchez, Kathy A. Lindert, and J. Humberto Lopez. 2015. *Costa Rica's Development: From Good to Better. Systematic Country Diagnostic.* Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO
- Parcs de Noé. (n.d.). *Parcs Congo.* Retrieved May 2022, from [Parcsdenoe.Org: http://parcsdenoe.org/en/parcs-congo/](http://parcsdenoe.org/en/parcs-congo/)
- Raul Cole and Shutterstock. 2022. "How Costa Rica is Investing in a Landscape Approach to Build a Sustainable Future." *World Bank Feature Story.*

References

- Rodriguez Zunega, J.M. 2003. "Payment for forest environmental services: the Costa Rican Experience." *Unasylva* 54 (212): 31-33.
- TravelPulse. (2021, August). *G adventure survey finds pandemic travel is about reconnection*. Retrieved May 2022, from TravelPulse: <https://www.travelpulse.com/news/tour-operators/g-adventure-survey-finds-pandemic-travel-is-about-reconnection.html>
- Umng.cg. (n.d.). *Programmes*. Retrieved May 2022, from Umng.cg: <https://umng.cg/?q=fr/node/77>
- UNESCO World Heritage Centre. (n.d.). *Congo*. Retrieved May 2022, from UNESCO World Heritage Centre: <https://whc.unesco.org/en/statesparties/cg>
- Visa. (2020). *Relaxing entry visa policies helps countries boost tourism*. Retrieved May 2022, from Visa.com: <https://usa.visa.com/partner-with-us/visa-consulting-analytics/relaxing-entry-visa-policies-helps-countries-boost-tourism.html>
- Wallbott, L., Siciliano, G., & Lederer, M. 2019. "Beyond PES and REDD+: Costa Rica on the way to climate-smart landscape management?" *Ecology & Society*, 24(1), 24.
- WCS. (2018, November). *Creation of Ogooue-Leketi National Park*. Retrieved April 2022, from Wcs.Org: <https://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/11706/Creation-of-Ogooue-Leketi-National-Park.aspx>
- Wikimedia, C. t. (2003, August 8). *Republic of the Congo - travel guide at wikivoyage*. Retrieved from Wikimedia Foundation, Inc.: https://en.wikivoyage.org/wiki/Republic_of_the_Congo#/media/File:Congo-Brazzaville_regions_map.png
- World Economic Forum. 2022. *Travel & Tourism Competitiveness Report (TTCR) 2021*. Geneva: World Economic Forum.
- WorldWatch Institute. April 2015. "Costa Rica Aims to Become First Carbon Neutral Country."
- WTTC. (2019, August). *Visa Facilitation, enabling travel & job creation through secure & seamless cross-border travel*. Retrieved May 2022, from Wttc.Org: <https://wttc.org/Portals/0/Documents/Reports/2019/Security%20and%20Travel%20Facilitation-Visa%20Facilitation-Aug%202019.pdf?ver=2021-02-25-182749-077>
- WTTC. (2021). *Republic of Congo 2021 Annual Research: Key Highlights, Travel & Tourism economic impact*. Retrieved from Wttc.Org: <https://wttc.org/Research/Economic-Impact>
- Yale University. (2020). *Environmental performance index*. Retrieved from Yale.edu: <https://epi.yale.edu/epi-results/2020/component/epi>

