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GHANA RISING

Accelerating Economic Transformation and Creating Jobs

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GHANA COUNTRY ECONOMIC MOMORANDUM
Report No: AUS0002590

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Cover photo credit: George Gyentu/Paragon Media

Abbreviations

AfCFTA	African Continental Free Trade Area
AI	Artificial intelligence
ANS	Adjusted net savings
BoG	Bank of Ghana
BPO	Business process outsourcing
CAR	Capital adequacy ratio
CARES	COVID-19 Alleviation and Revitalization of Enterprises Support
CEM	Country Economic Memorandum
CGE	Computable general equilibrium
CIESIN	Center for International Earth Science Information Network
CIT	Corporate income tax
COVID-19	Coronavirus disease 2019
CPAT	Carbon Pricing Assessment Tool
DBG	Development Bank of Ghana
EFT	Ecological fiscal transfer
EITI	Extractive Industries Transparency Initiative
EPI	Export Potential Index
ESRP	Energy Sector Recovery Program
ETD	Economic Transformation Database
ETR	Environmental tax reform
FAT	Firm-level Adoption of Technology
FDI	Foreign direct investment
GETFL	Ghana Education Trust Fund Levy
GGDC	Groningen Growth and Development Center
GHG	Greenhouse gas
GHS	Ghanaian cedi
GRA	Ghanaian Revenue Authority
GSE	Ghana Stock Exchange
GSMA	Global System for Mobile Communications
GVC	Global value chain
HCI	Human Capital Index
HP	Hodrick Prescott
ICT	Information and communication technologies
IFC	International Finance Corporation
IMF	International Monetary Fund
LAYS	Learning adjusted years of schooling
LMIC	Low-middle-income country
MFN	Most favored nation
MoF	Ministry of Finance
MSME	Micro, small, and medium-sized enterprise
NCA	National Communications Authority
NDC	Nationally determined contribution
NDI	Non-deposit taking institution
NIHL	National Insurance Health Levy
NPL	Non-performing loan
NTB	Non-tariff barrier
PIT	Personal income tax
SDI	Special deposit-taking institution
SME	Small and medium-sized enterprise
SOE	State-owned enterprise
SSA	Sub-Saharan Africa
TFP	Total factor productivity
VAT	Value-added tax

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Overview

Ghana has been a rising growth star and a beacon of hope in West Africa. Strong economic growth over the past two decades led to a near doubling of GDP per capita, lifting the country through the threshold for middle-income status in 2011. GDP per capita grew by an average of 3 percent per year over the past two decades, putting Ghana in the top ten fastest growing countries in Sub-Saharan Africa (SSA). A rising tide has tended to lift all boats. Poverty rates more than halved between 1998 and 2016, and the extreme poverty rate declined from 36.0 percent in 1991 to 8.2 percent in 2016. The net primary school enrollment rate rose from 62.5 percent in 2000 to 86.0 percent in 2019. This progress has motivated the government's goal to lift the country to high-income status by 2057.

Yet, this positive long-run trend obscures the variation in Ghana's growth path and the extent to which growth has trickled down to improve livelihoods in different growth phases. Over the past decade, particularly, GDP per capita growth has been uneven, ranging from +11.3 to -0.11 percent, partially reflecting increased dependence on natural resources and resultant exposure to external shocks. The trickle-down process started to stall in the early 2010s. With the beginning of oil production and rising commodity prices, the direct share of mining in total value-added rose from 3 percent in 2010 to 12 percent in 2018.[1] In 2019, 11 percent of GDP stemmed from just oil and gold.[2] This has meant that a sizable portion of Ghana's growth over the past decade has not generated many jobs, and the impact of growth on poverty reduction has declined. Between 2013 and 2019, nearly 20 percent of GDP growth was directly attributable to the mining sector, while the level of employment in the sector fell.[3] Inequality and spatial disparities have also widened.

Over the past decade, particularly, GDP per capita growth has been uneven, ranging from +11.3 to -0.11 percent

There were many positive signs for Ghana's economy before the COVID-19 pandemic, but the effects of the crisis have been severe. In the years prior to 2020, the country's economy was one of the fastest growing in SSA, with GDP per capita growing at an average rate of 4.1 percent per year in 2018-19. Manufacturing employment had started to increase, services exports grew fivefold between 2014 and 2018, access to physical and digital infrastructure improved, foreign direct investment (FDI) was growing at a rapid rate and the choice of Ghana as the Secretariat for the African Continental Free Trade Area (AfCFTA) offered an array of new opportunities. However, the pandemic has hit Ghana's economy hard. In 2020, GDP growth slowed to 0.4 percent, down from 6.5 percent in 2019. Firm closures and reduced incomes threaten to reverse the gains in poverty reduction and living standards achieved over the past few decades. A rapid rollout of vaccines will be essential to swiftly end the pandemic in Ghana. But after navigating through the health emergency, the country will be faced with a blank slate of opportunities for designing its recovery, but with development challenges that have become even more critical.

Ghana faces an acute jobs challenge, and responding to this challenge will require generating more and better job opportunities for lower and mid-skilled workers. The country has some high-performing services sub-sectors that employ very few workers and a manufacturing sector with very low productivity, while the bulk of jobs are in low-productivity, often informal services sectors. Thus, there are few mid-productivity, mid-skilled jobs for workers moving out of agriculture. As a result, structural change and urbanization have not been engines for growth in Ghana as they have been in East Asia and other parts of the world, where lower-skilled workers moved from agriculture into modern sectors with higher productivity and the scope to drive innovation and economies of scale. Ghana's jobs challenge is critical. It is estimated that more than 70 percent of current jobs

[1] Based upon data from the Groningen Growth and Development Center (GGDC)'s Economic Transformation Database (ETD) (de Vries et al. (2021)).
[2] Based upon the Ghana Statistical Service GDP by Industry data.
[3] Based upon data from the GGDC ETD (de Vries et al. (2021)).

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are in the informal sector, while over 65 percent of formal jobs are categorized as "vulnerable employment".[4] By 2040, the country's population is projected to rise to 45 million, with 58 percent of the population under 30 years old. This implies that around 10 million Ghanaians will enter the labor force between now and 2040.[5]

The focus of this Country Economic Memorandum (CEM) is to review options for Ghana to create enough higher quality jobs through economic transformation. Economic transformation, or inclusive productivity growth, occurs as people and resources shift from lower to higher productivity activities. It raises household incomes and living standards, thereby lifting people out of poverty. It can be achieved through the movement of workers and other resources between firms and sectors, or through workers staying within existing firms that benefit from within-firm productivity growth by adopting better technologies and capabilities, for example through digitalization. It can also be achieved through the movement of resources from low to higher productivity activities spatially, for example through urbanization, trade integration or heightened connectivity and linkages.

By 2040, the country's population is projected to rise to 45 million, with 58 percent of the population under 30 years old. This implies that around 10 million Ghanaians will enter the labor force between now and 2040

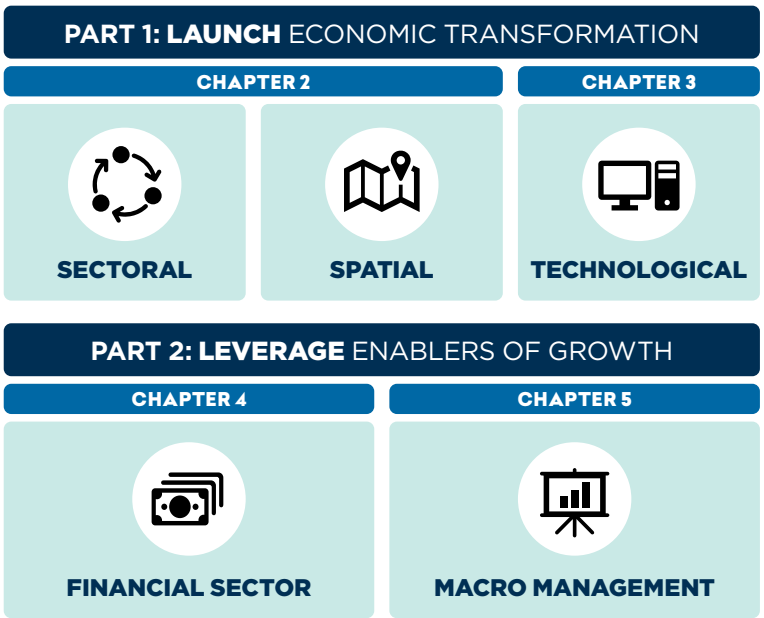
Ghana will need to *launch* its economic transformation through global integration and technological progress. Chapter 2 focuses on sectoral and spatial transformation. To accelerate these transformations, it proposes that Ghana harness the potential of trade, FDI and global value chains. Ghana stands to benefit substantially from the AfCFTA if it manages to use its unique position to enhance regional value chains and diversify exports. Improving the business and regulatory environment and helping Ghanaian firms integrate into global value chains will be instrumental. In particular, Ghana should build on its potential in agribusiness and light manufacturing, as well as cultivating its high productivity export-oriented services sectors, notably IT-enabled services. Chapter 3 focuses on technological transformation, including digital, and its potential to raise

[4] Statistics from Ghana's 2015 Labor Force Survey (GLFS) (Ghana Statistical Service, 2015).
[5] According to UN Population Forecasts (UN, 2021).

productivity and drive new economic opportunities. It looks for options to improve the productivity of existing firms, particularly Micro and Small and Medium Enterprises (MSMEs) and to spur entrepreneurship, innovation and job creation, particularly for Ghana's youth. It considers how better management practices, increased use of technologies, and enhanced workers skills can contribute to making the private sector more productive.

To do so, Ghana will need to *leverage* two key foundational enablers of long-run inclusive productivity growth: macroeconomic stability and financial sector development. In recent years, the country has suffered from recurrent macroeconomic instability, linked to election and commodity cycles; an energy crisis; and a financial sector weakened by high levels of non-performing loans (NPLs) and insolvency of financial institutions. Additionally, Ghana's financial sector is shallow, and access to finance is limited, which holds back the private sector from engaging in activities that boost productivity and contribute to economic transformation. Indeed, enterprises in Ghana cite limited access to finance as a major constraint to their growth. Therefore, macroeconomic management, enhanced revenue mobilization and financial sector deepening that support job creation are therefore essential for long-term inclusive productivity growth in Ghana, and they are the focus of chapters 4 and 5 of this CEM.

FIGURE 0.1
Report structure



Source: World Bank staff elaboration.

In the next phase of its development, Ghana will also need to successfully navigate the challenges and opportunities posed by climate change. Even under an optimistic scenario with low climate impacts, climate change could reduce Ghana's GDP by an estimated 9 percent by 2030 and push over a million people back into poverty.[6] Climate change not only threatens agricultural revenues, but will also likely lead to higher food prices, an increased prevalence of natural disasters and lower labor productivity. It could magnify many threats to health, as poor people are more susceptible to climate-related diseases such as malaria and diarrhea. It will, therefore, be essential to provide poor people with social safety nets as well as developing targeted climate resilience measures, such as the introduction of heat resistant crops and disaster preparedness systems. Global policy responses to climate change will also mean that new products and industries are likely to emerge, offering new potential growth paths for countries like Ghana, while old models of development may cease to be viable. In addition, the country needs to adopt mitigation measures as well to meet its climate commitments, which will require innovation and creative policy responses.

[6] Based upon modelling from World Bank Shockwaves Report, Hallegatte et al. (2016).

Key Findings and Conclusions

PART 1

LAUNCH ECONOMIC TRANSFORMATION

1 Ghana needs to fill a 'missing middle' of jobs in mid-productivity sectors by cultivating both manufacturing and export-oriented services in parallel

Historically, structural transformation has been central to driving growth and raising living standards in developing countries, but in Ghana the contribution of structural change to growth has been limited. Although the country has experienced rapid structural change, particularly after 2005, with the declining role of agriculture in the economy, structural change contributed a mere 13 percent to aggregate productivity growth between 1990 and 2018. Moreover, the contribution of structural change to productivity growth has declined over time, and even turned negative over the past decade, suggesting that workers are now moving into less productive sectors. The reason for the limited growth impact of structural change is partly due to the transition of employment over the last decade from agriculture to low-productivity, typically informal services, which at times have lower labor productivity than agriculture. In addition, Ghana's expanding sectors have struggled to maintain their high productivity levels while employing more workers, reducing the potential for structural change to drive growth.

Ghana has not followed the traditional path of manufacturing-led development, with high productivity services contributing more to structural transformation than manufacturing between 1990 and 2018. The share of manufacturing in total employment stagnated in Ghana for much of the past three decades, while high-productivity export-oriented services have been some of the economy's fastest growing sectors. The manufacturing sector is generally conducive to economic transformation because of its propensity to employ low-skilled workers and its capacity for innovation, economies of scale, and productivity spillovers. Some of these characteristics are increasingly exhibited by export-oriented services sectors, notably what has been termed the 'global innovator' services in the areas of information and communication technologies (ICT) and financial and professional services.[7] In Ghana employment growth in these services sectors made a greater contribution to productivity growth than employment growth in manufacturing between 1990 and 2018. However, despite their high productivity, these services have provided relatively few jobs for lower-skilled workers and so their growth alone has not been sufficient to drive structural transformation.

This pattern has reversed since 2010, with a manufacturing employment 'renaissance', although manufacturing has very low productivity. Over the past decade, and particularly since 2014, this pattern has reversed, with a significant rise in the manufacturing share of employment (from 10 to 16 percent between 2010 and 2018), and manufacturing making a greater contribution to structural transformation than high productivity services. However, manufacturing productivity declined over this period, counteracting its positive impact on growth. This rise in manufacturing employment has also not been accompanied by a rise in manufacturing exports, suggesting that this manufacturing renaissance is driven by domestic demand.

These patterns reflect a 'missing middle' of employment opportunities in mid-productivity sectors for Ghanaian workers leaving agriculture. The combination of a manufacturing sector that has only recently expanded and has very low and declining productivity, strong performance of high productivity services that

[7] This categorization of services sectors was first used in Davies et al. (2021).

employ few lower-skilled workers, and the bulk of employment generation in very low productivity services sectors, means there are insufficient mid-productivity employment opportunities for workers moving out of agriculture. In Ghana, productivity in manufacturing is only around 30 percent higher than in agriculture and has been declining. By comparison, at a similar point in China's economic development, productivity in manufacturing was over 5 times higher than in agriculture. Additionally, a quarter of the labor force in Ghana is currently employed in services sectors with lower productivity than agriculture.

Ghana does not need to choose between manufacturing and 'global innovator' services: the two are increasingly intertwined so boosting competitiveness of one can benefit the other. The increased linkages between the manufacturing and services sectors mean that services competitiveness is increasingly important for manufacturing competitiveness. Services have started to play an increasingly important role as an input supplier to other exporting sectors: the share of total value added that is generated by services embedded in goods exports grew three-fold, from 10 to 32 percent between 2004 and 2014. This means that services competitiveness is more important than ever for overall competitiveness and reforms to boost services productivity can have an amplified effect, raising the competitiveness of manufacturing at the same time. Despite significant improvements over the last decade-plus, there Is still great potential to increase backbone services competitiveness in Ghana and this could even spur growth in manufacturing.

The increased linkages between the manufacturing and services sectors mean that services competitiveness is increasingly important for manufacturing competitiveness

Ghana will also need to focus on filling this 'missing middle' of mid-productivity jobs in cities and boost mobility and connectivity so that urbanization drives productivity gains and agglomeration. Ghana has experienced rapid urbanization, without industrialization, with cities characterized as 'consumption cities' rather than 'production cities'. The relationship between structural and spatial transformation has also not been the traditional one. Ghana's urban population grew from 4 million to 17 million from 1984 to 2018. Historically, urbanization is typically driven by either industrialization, forming a 'pull' of labor into cities, or a green revolution, forming a 'push' of labor out of rural areas. In Ghana, however, urbanization has been linked instead to the rising role of natural resources, with cities described as 'consumption' rather that 'production' cities. As a result, the country's cities have specialized in low-productivity services, with limited agglomeration effects and challenges related to uncoordinated informal growth. Creating higher productivity jobs in cities and increasing urban infrastructure, transport and housing will be essential in Ghana's next phase.

2 Ghana needs to better harness the transformative potential of trade and faces an historic opportunity to do so with the AfCFTA

Ghana's strong performance in goods exports over the past decade has mainly stemmed from the export of primary commodities, limiting the potential of goods trade to drive structural transformation. Ghana's export performance over the past decade has been outstanding and Ghana's trade to GDP ratio has increased rapidly. However, growth in exports of goods has been fueled by extractives, and exports are increasingly concentrated in primary commodities, offering limited scope for productivity spillovers or employment generation. Over the last decade, trade in goods not related to extractives has declined relative to GDP, while manufacturing exports have increased only modestly. Moreover, the share of intra-Africa trade has also declined over the past decade.

Rapid growth of FDI inflows and exports of services over the last decade have offered more potential for driving economic transformation. FDI flows into Ghana increased nearly tenfold between 2007 and 2018, with inflows roughly evenly split between natural resources on the one hand and manufacturing and services on the other. Over the past five years, Ghana has also transitioned from being mainly a commodity exporter to a commodity and services exporter. Exports of services increased fivefold between 2014 and 2018, and the country's services sector is now the largest contributor to value-added exports. Still, a large share of the increase in services exports relates to services that are embedded in commodity exports. However, services are increasingly interlinked with other areas of the economy, and the sectoral linkages between services and goods production have grown stronger.

Ghana faces an historic opportunity to boost its manufacturing sector and regional value chains with the AfCFTA, which could be a major force for economic transformation. The AfCFTA could reverse Ghana's trends of stagnant manufacturing exports and declining trade with the continent. Modelling estimates from the World Bank's AfCFTA Report (2021) have shown that the AfCFTA could raise Ghana's GDP by 7 percent by 2040, but the greatest benefits will come from the trade facilitation measures and not tariff reductions alone. These estimates suggest that the major beneficiary sector would be manufacturing. As secretariat of the AfCFTA, Ghana can also play a major position in shaping the direction of the AfCFTA and ensuring its benefits are realized.

Ghana faces an historic opportunity to boost its manufacturing sector and regional value chains with the AfCFTA, which could be a major force for economic transformation

Ghana needs to build on the high performance of 'global innovator' services by expanding into segments of these services that also create more low-and middle-skilled jobs. Between 2000 and 2012, growth in Ghana's global innovator services employment share was on a par with that in India and the Philippines, spurring optimism that Ghana could follow in the path of these countries in export-led services growth. ICT particularly has been one of Ghana's best performing sectors over the past decade and grew on average by 19 percent per year between 2014 and 2020. Currently 'global innovator' services employ relatively few, with employees being highly skilled and highly paid. Employment conditions in these service sectors are also currently far more favorable than in manufacturing. A deep dive into the types of jobs in global innovator services using LinkedIn profiles reveals that jobs in Ghana appear more concentrated in higher-skilled segments of these services, such as Accounting, than in countries like the Philippines and India, which have more profiles in segments like Offshoring and Outsourcing. Ghana also has far fewer low-skilled workers on LinkedIn in these sectors than in comparators. Offshoring of global innovator services to Ghana is also still limited.

To do so will require an improved business environment, investment climate and regulatory reform. There are still some major barriers to export diversification, global value chain participation, FDI and the growth of large firms in Ghana. Ghana's trade-weighted tariffs remain high, particularly on imported raw materials and intermediate goods. Ghana's business environment is also potentially a constraint to growth. It is also still too costly and time consuming to start a business in Ghana, reducing market entry. Additionally, access to land and minimal capital requirements remain barriers to FDI.

3 Ghana also needs to accelerate technology adoption, particularly in MSMEs

The concentration of employment in low productivity services and MSMEs means that firm technology upgrading could also be a major force for productive job creation. Employment in Ghana is dominated by MSMEs, which suffer from low and stagnant productivity. In 2015, 98 percent of the country's businesses were micro or small and 90 percent were informal. Over the past decade, productivity growth in services has

stagnated and productivity in manufacturing has declined. The adoption of new technologies and particularly, digital technologies, could accelerate firm upgrading and spur innovation and entrepreneurship, driving growth of higher quality jobs. MSMEs also provide important job opportunities for women and young people, meaning that addressing their challenges is a major way to improve inclusion.

Ghana performs well on the availability of digital infrastructure in terms of high mobile internet coverage and low costs, but fixed broadband presents a barrier to digital technology adoption. The country's telecommunications sector has experienced impressive growth due to an early liberalization and deregulation of the market in the late 1990s. There is near ubiquitous mobile network coverage and a high mobile penetration rate. While its mobile internet network coverage is high (94 percent and 88 percent of the population had access to 2G and 3G coverage, respectively, in 2019) most of the population is still not connected to mobile internet, likely reflecting low affordability, digital literacy, and demand. Only 37 percent of the population used mobile internet in 2019, and mobile internet speeds are low. Compared to the rapid growth of the mobile market, broadband infrastructure development in Ghana has been slow. In particular, the fixed broadband network has high end-user prices and very low uptake, despite high internet speeds.

The country has made impressive progress in increasing school enrolment, but low learning outcomes hinder the development of the foundational and digital skills required to drive technology adoption. The expected years of schooling in Ghana is 12.1 years, significantly higher than the average of SSA and low-middle-income countries (LMICs). However, the learning adjusted years of schooling (LAYS), which discount time spent in school by a factor measuring how much children learn, is only 6 years. This means that children are effectively learning only half the time they spend in school. The global digital skills survey, conducted by the International Finance Corporation (IFC) in 2018, shows that basic digital skills are among the most in-demand skills in Ghana, and demand exceeds the supply of all digital skills, particularly advanced skills. An analysis of LinkedIn profiles also shows that the prevalence of digital skills among the country's LinkedIn users is less than half that of the global average, with a particular lack of specialist digital skills in most areas.

In 2015, 98 percent of the country's businesses were micro or small and 90 percent were informal

Most firms in Ghana benefit from ICT (Industry 3.0), although many are still held back by a lack of access to electricity (Industry 2.0), and there are few signs of firms leveraging big data, artificial intelligence, and other advanced technologies (Industry 4.0). Of the firms studied in the latest Firm-level Adoption of Technology (FAT) survey with 5 or more employees, 97 percent report that they suffer from power outages, with a median 13 outages per month. While mobile phones, computers, and smart phones are widespread, particularly in the services sector and among large firms, only 58 percent have access to the internet. Most firms still rely on manual methods to conduct many business functions (e.g., finance, accounting, and human resources), marketing is still predominantly conducted face-to-face, and cash remains the most common payment method. Manufacturing firms lag behind on Industry 3.0, and manufacturing processes are still predominantly manual, with only around 3 percent conducted by machines or computers.

For micro and small firms with less than 5 employees, there is limited use of smartphones and the internet, but there is a vibrant use of mobile phones and mobile money. Dutz and Atiyas (2021) use a national sample of informal micro firms in Ghana to show that only 3 percent of sampled firms use smartphones, virtually none use fixed broadband connections (only 0.2 percent), and only 6 percent use the internet or social media for business purposes. By contrast, the use of mobile phones and mobile money among these firms is high, as 75 percent of them own 2G/2.5G supported phones. Mobile phones are used by almost all Ghanaian micro businesses. They use them to communicate with suppliers, and three-quarters of the micro firms that have mobile phones use them to communicate with customers. A total of 40 percent of the country's micro firms also use mobile money. This suggests that micro businesses' familiarity with basic mobile applications, including mobile money and SMS, has lowered the need to adopt smartphones.

PART 2

LEVERAGE ENABLERS OF GROWTH

4 The financial sector needs to provide affordable capital to firms to enable economic transformation

Ghana's level of financial intermediation is low, suggesting that the financial sector has not broadly supported private sector investment. At 12 percent of GDP, the level of credit to the private sector in Ghana is the lowest among peers. Ghanaian banks allocate a smaller share of their assets to loans and advances compared to their counterparts in peers such as Senegal, Côte d'Ivoire, and Kenya. Instead, Ghanaian banks allocate a higher share of their assets to government securities. Private enterprises — mostly large firms — receive about two-thirds of total bank loans in the country. The bulk of these loans have short maturities, preventing borrowers from investing in long-term projects that could potentially contribute significantly to economic growth and the creation of quality jobs.

Not surprisingly, the majority of enterprises identify limited access to finance as a major constraint to growth. Small and medium-sized enterprises (SMEs) are even more constrained, with a high share of them reporting not having access to loans or lines of credit from a financial institution. SMEs also face higher collateral requirements than their larger counterparts in the form of land and buildings, which they typically do not own. Firms in the FAT survey also identify lack of access to finance as the main reason for not adopting new technologies.

Low access to finance for firms is further exacerbated by the high cost of financing. The average lending rate in Ghana is above 20 percent in nominal terms (more than 10 percent in real terms), higher than below 20 percent in nominal terms (or 6 percent in real terms) in peer countries. At these high rates, it is not only difficult to find financially viable investments, but it is even harder for these investments to sustain the requisite high levels of return over the long term.

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There are various, mutually reinforcing factors contributing to the low access to and high cost of finance in Ghana. First, excessive government borrowing from the domestic market has diverted resources away from the private sector (crowding out private investment) and contributed to high interest rates. Second, limited availability of wholesale long-term funding prevents banks from offering long-term retail loans without creating maturity mismatches. Meanwhile, the capital market has yet to become a viable alternative funding source for enterprises. Third, financial institutions are understandably cautious given the high rate of non-performing loans (NPLs) and the high risk of lending to SMEs, especially those in high-risk sectors such as agriculture. As a result, financial institutions require high levels of collateral, which limits the volume of loans that enterprises can access. Fourth, a deficient credit infrastructure is unable to play its enabling role, given: (i) limited availability and poor quality of credit information, which complicates the appraisal of borrowers; (ii) gaps in the regulatory framework, which impede the effective use of movable assets as collateral; and (iii) a weak insolvency framework, which is critical to ensure that failing enterprises can be orderly reorganized or liquidated and creditors can be protected. Finally, a challenging business environment and informality raise the overall cost of operations for businesses, affecting enterprises' viability and creditworthiness.

Although the authorities have taken decisive measures to safeguard the stability of the financial sector, vulnerabilities remain. Between August 2017 and December 2018, the Bank of Ghana (BoG) resolved 9 domestically owned banks and closed 411 specialized deposit-taking institutions (SDIs) and non-deposit taking institutions (NDIs). The majority of closed institutions were saddled with NPLs and suffered from poor corporate governance. Similarly, the Securities Exchange Commission (SEC) revoked the licenses of 50 fund management companies that were unable to meet investors' redemptions. The government provided 26.5 billion Ghanaian cedi (GHS), equivalent to 7 percent of GDP, for the compensation of depositors, creditors, and investors. Following the resolution measures, the banking sector is largely sound, with adequate capital buffers and liquidity. While NPLs have declined from their highs in 2017, they remain elevated and could increase further as the pandemic evolves.

5 Macroeconomic management needs to play a greater role to reduce economic volatility, improve sustainability and manage natural resource wealth

While positive overall, Ghana's recent growth experience has been characterized by high volatility, weighing on its growth potential. Since 2000, the yearly growth rate has fluctuated wildly due to both global crises (e.g., the global financial crisis in 2007-08) and the country's reliance on commodities (linked to the commercial production of oil in 2011 and subsequent fluctuations in global commodity prices). Increasing public debt and consistently high fiscal deficits have increased Ghana's country risk, potentially limiting the amount of FDI received, particularly in non-traditional sectors (outside of commodities). It has also increased the cost of finance (and limited access) for private businesses, as volatility drove risk premia higher, and extensive public sector borrowing to finance deficits has crowded out private borrowers. In the longer term, the extremely constrained fiscal space limits the government's ability to make the investments in human and physical capital required to provide the foundation for long-term inclusive growth.

The country's attempts to shore up fiscal sustainability have been thwarted by successive crises. The discovery of oil and gas created high expectations regarding future oil revenue that have fallen short. These expectations helped loosen fiscal and monetary discipline as Ghana started to borrow in anticipation of future oil revenue. To stabilize the economy and improve public finances, the government adopted a fiscal stabilization plan in 2015, the implementation of which was slowed by costly financial- and energy-sector restructurings. These concomitant crises contributed to erode fiscal discipline even before the COVID-19 crisis. In 2020, the pandemic led to unplanned health expenditure, the adoption of a stimulus package targeting the real sector, and significant revenue shortfalls resulting in a large financing gap. Going forward, the authorities are committed to significant fiscal consolidation, including ambitious domestic revenue mobilization targets in the 2021 budget and spending cuts beginning in 2022.

Ghana is not following a sustainable growth path in terms of its natural wealth: its human capital per capita has grown while its natural capital per capita has been depleted. While human capital accumulation is a positive development, it has been accompanied by a modest increase in Ghana's produced capital accumulation, a stagnation of its nonrenewable natural capital (new reserves could have been discovered as oil and mining industries developed), and a decline in renewable natural capital (mostly forests). Recent research shows that degrading the value of renewable natural capital is associated with lower or declining total wealth per capita. Meanwhile, protecting and enhancing the value of renewable natural capital is associated with better economic performance overall.

The country has not saved sufficiently during commodity booms, limiting its ability to manage crises. The increase in Ghana's income has been matched by an increase in consumption, such that the savings rate today is about the same as it was 23 years ago. During the commodity boom, Ghana paradoxically experienced its lowest rates of Adjusted Net Savings (ANS), which fell below zero for six years.[8] By contrast, other countries such as Côte d'Ivoire increased their gross savings rate during boom years, which helped propel their ANS rates. Ghana's ANS rate, however, has picked up after the commodity boom, on the back of stronger gross savings and sustained education expenditure. Ghana's increasing non-renewable and net forest depletion could impact its ANS.

The increase in Ghana's income has been matched by an increase in consumption, such that the savings rate today is about the same as it was 23 years ago

A stronger macroeconomic framework is needed to manage volatility stemming from natural resources, in particular extractives. Extractive industries are important but volatile contributors to growth and public revenue. In Ghana, they contributed approximately 11 percent of public revenue in 2019. While the extractive sector continues to present opportunities to support medium-term growth, managing the sector's volatility requires a comprehensive framework for fiscal responsibility. The authorities need to revisit (and possibly revise) the current fiscal responsibility framework (including the fiscal rule) to promote great fiscal sustainability, generate higher savings, and ensure better economic stability.

6 Ghana needs to increase domestic revenue mobilization and should consider environmental taxation to generate revenue and enhance sustainability in key sectors

Ghana needs to optimize its tax mix to strengthen domestic revenue mobilization, increase efficiency and reduce the size of its informal economy. The very low level of domestic resource mobilization, notably due to generous tax exemptions, is one of the primary causes of the country's continued fiscal stress. Ghana's tax-to-GDP ratio has been persistently low. For the past two decades, the tax ratio has remained at around 12.8 percent of GDP, well below the SSA average of 15 percent. The country also needs to rationalize its tax expenditures (mostly value-added tax (VAT)-related), which were estimated to be about 5 percent of GDP for 2014. Recent revenue growth was driven by Corporate Income Tax (CIT), generally considered to be among the least efficient taxes; moreover, CIT does little to address equity. The size of the informal economy is reflected in low Personal Income Tax (PIT) revenues, a potentially important tool for achieving social policy objectives. To finance its social policy objectives, Ghana needs to adjust its tax mix to rely on more efficient revenue sources, like VAT and property tax.

[8] ANS are a measure of sustainability, and they are calculated as the total of a country's gross national savings minus consumption of fixed capital, plus education expenditure, minus subsoil resources depletion (fossil fuels and minerals), minus net forest depletion, and minus carbon dioxide and particulate emissions costs.

The authorities need to strike a balance between tax efficiency and equity. Increasing the dependence on revenue from property and consumption taxes improves the tax system's efficiency. Personal income tax systems can encourage taxpayers to move out of the informal economy while making the tax system more progressive. Administering social transfers through the personal income tax system creates an incentive for individuals to enroll in the tax system while allowing policymakers to income test eligibility for social transfers. Corporate income taxes should be used as stimulative measures to encourage productivity enhancing investments in capital. These are significant changes; Ghana will need to strike the balance between optimizing efficiency and equity.

Carbon charges could serve as a tool to both expand and diversify fiscal revenues while also helping Ghana meet its climate commitments and generating climate co-benefits. Carbon charges are a form of carbon pricing, whereby fees, charges, taxes, or permits are applied to fossil fuels, with rates varying with the carbon content of the fuel. For Ghana, such charges could form a valuable source of revenues while also contributing to climate targets. The country has committed to national emissions abatement through its nationally determined contributions (NDCs). By shifting energy consumption away from fossil fuels, carbon charges can also have development co-benefits, or a positive impact on other development outcomes, such as reducing the negative health effects of air pollution and encouraging the use of public transport, thereby reducing congestion in cities and boosting agglomeration effects and productivity.

An analysis of the potential impact of two scenarios for carbon charges in Ghana suggests that they could be an important source of revenue generation. Climate change remains a pervasive threat to the country's historical and future development gains and will require investment in climate adaptation measures, which carbon charges could fund. Compared to a baseline of maintaining the existing excise regime, a 'moderate carbon charge' of US$25 per tCO2 in 2021, rising to US$50 by 2030, and a 'low carbon charge' of US$10 per tCO2 in 2021, rising to US$25 by 2030, could raise about US$0.6 billion (0.5 percent of GDP) and US$0.3 billion (0.3 percent of GDP), respectively, each year in additional revenues from fossil fuels by 2030. In both cases, the largest source of revenue generation would be from carbon charges on diesel, accounting for just over one-third of revenues in 2030 in the moderate scenario.

Climate change remains a pervasive threat to the country's historical and future development gains and will require investment in climate adaptation measures, which carbon charges could fund

Implicit carbon pricing could be applied to cocoa through an environmental fee-and-rebate (feebate) mechanism that allows policy makers to set variable tax rates corresponding to the emissions intensity of production.[9] Cocoa could be charged based on the assumption that production is not sustainable (i.e., involved in deforestation or other emissions-intensive methods), and producers could receive a tax rebate if they could prove that it was produced sustainably. Environmental feebates have worked successfully to reduce emissions in other sectors and countries. For example, in the automotive sector of several countries cars with emissions below a certain threshold receive a subsidy that is financed by cars above the threshold. In the palm oil sector, Switzerland decided in March 2021 to apply a default rate of tariffs on imported palm oil on the assumption that it stems from deforestation, but it grants a reduced rate if the palm oil is certified as deforestation free. The scheme suggested for Ghana is similar: it would tax a ton of cocoa at a default rate unless it is certified deforestation free, in which case a lower tax rate would apply.

[9] Sustainable cocoa includes cocoa designated as "zero-deforestation" or produced through agroforestry methods.

Summary of Recommendations

1. Revitalize long-term growth

After navigating through the pandemic, Ghana will need to focus on three key areas to revive growth.

- **Create more and better jobs by launching economic transformation and leveraging enablers of growth.** Focus on driving sectoral, spatial and technological transformations. Create an enabling environment for growth by ensuring the macro framework and financial sector support growth.
- **Ensure that growth is inclusive and addresses rising inequality and spatial disparities.** Increase the poverty reduction impact of growth, focus on opportunities for lower-skilled workers, improve services for underserved regions and populations.
- **Invest in climate adaptation measures to avoid the worst effects of climate change.** Invest in measures to reduce exposure to climate risks in agriculture, to improve resilience in infrastructure and resilience to natural disasters. Prepare social safety nets. Plan for paths to decarbonization.

2. Launch sectoral and spatial transformations

To create jobs, Ghana will need to drive sectoral transformation through the movement of workers into higher productivity firms and sectors and spatial transformation through trade, urbanization and connectivity.

- **Expand lower-skilled jobs in global innovator services, particularly ICT and business services.** Focus on a) cross-cutting reforms to boost services competitiveness and b) expanding and attracting FDI into the lower-skilled segments of these services.
- **Boost competitiveness in manufacturing by fully implementing the AfCFTA.** Reduce barriers to GVC participation primarily through full implementation of the AfCFTA and also improved logistics services and improved access to electricity.
- **Transition to higher value-added labor-intensive tradable services** through FDI, attracting and cultivating large firms and developing the tourism sector after the pandemic. Improve mobility, connectivity and urban planning to enable these transitions.

3. Launch technological transformation

To deliver productivity growth and boost innovation and entrepreneurship, Ghana will need to drive technological transformation through the adoption of digital and complementary technologies in domestic firms.

- **Reduce cost and increase speeds of internet connections, particularly broadband.** Accelerate mobile internet adoption through reducing costs and addressing usability barriers. Increase mobile internet speeds and reduced fixed broadband costs and expand access through regulatory reforms and government investments.
- **Invest in foundational skills for all and expand advanced digital skills in tertiary education.** Skills gaps need to be filled at both the bottom and top. Improve learning outcomes and the quality of education. Invest in advanced digital skills in tertiary education.
- **Expand the use of internet, smart phones and computers in small firms and manufacturing.** Accelerate adoption of advanced technologies in large firms.

4. Leverage the financial sector

To support more inclusive private sector development, Ghana will need to leverage the financial sector to facilitate firm expansion, technology adoption and innovation.

- **Increase the availability of long-term finance.** Accelerate the implementation of the new wholesale development bank. Develop the capital market, including through the implementation of the Capital Market Master Plan (CMMP) 2020-2029. Pursue fiscal discipline and reduce reliance on the banking sector as source of public financing to limit crowding out.
- **Mitigate financial institutions' credit risk and lessen collateral requirements.** Expand partial credit guarantee facilities. Promote supply chain financing such as factoring and reverse factoring. Strengthen credit infrastructure, building on various reforms in initiated in 2020.
- **Leverage technology. Digitize retail and merchant payments.** Establish digital financing platforms and marketplace solutions. Encourage further digitization financial institutions' operations to reduce operational costs.

5. Leverage macroeconomic stability

To enable long-term inclusive growth, Ghana will need to leverage the macro-fiscal environment to provide stability, manage natural resources and generate the revenues to fund reforms for economic transformation.

- **Adopt a consistently counter-cyclical fiscal policy to stabilize the economy and enhance savings rates from the public sector.** Reaffirm the fiscal anchor. Improve debt management. Improve transparency in the extractive sector. Increase savings.
- **Strike the right balance between efficiency and equity in the tax mix while increasing revenues.** Review and rationalize tax expenditures to raise revenues. Strengthen the tax administration to ensure compliance and reduce the size of the informal sector. Improve taxpayer engagement.
- **Review and enhance the framework for environmental taxation to minimize the impact of climate change on households and incentivize sustainable land-use.** Consolidate existing environmental taxes into one comprehensive instrument. Incentivize more sustainable cocoa farming practices.

The Path Forward to 2040

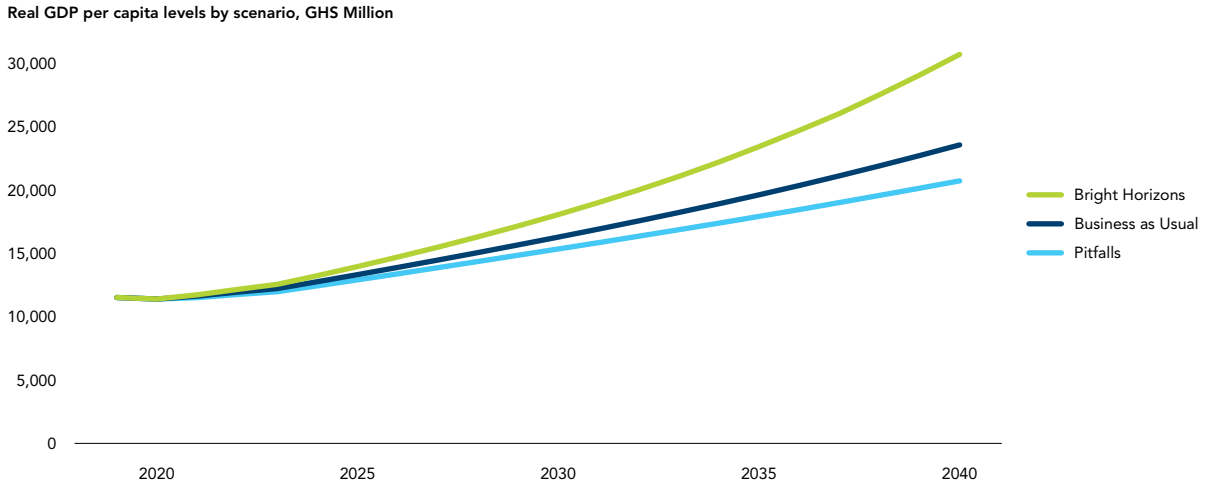
Without reforms, in a 'business as usual' scenario, Ghana's economy is currently projected to reach upper middle-income status by 2037.[10] Annual real GDP growth is projected to peak in 2024 and then remain elevated at over 5 percent for the following 15 years. Real GDP per capita growth is projected to also peak in 2024 and remain elevated at just under 4 percent for the next 15 years.

Under a 'bright horizons' scenario, which includes the adoption of some key reforms to drive economic transformation, Ghana's economy could reach upper-middle-income status by 2032. This scenario would involve the implementation of important reforms to fill the 'missing middle' and raise productivity. Reforms would target lower-skilled workers; the manufacturing sector; 'global innovator' services in the areas of ICT, business services, and finance; and low-productivity services sectors, including wholesale and retail trade. This scenario would also include improvements in foundational skills, the full implementation of the AfCFTA, and growth in net FDI inflows, as well as avoiding some of the direct negative effects of climate change. Under the 'bright horizons' scenario, Ghana's economy would be 25 percent larger in 2040 relative to the 'business as usual' scenario (see Figure 0.2).

However, under a 'pitfalls' scenario, Ghana would only reach middle income status by around 2040. This scenario assumes Ghana being negatively affected by: (i) the direct impact of climate change from the rise in heat from a 1 degree temperature increase; (ii) falling productivity in manufacturing, global innovator services, and low-productivity services; and (iii) a decline in FDI inflows. Under this scenario, GDP would be around 12 percent lower by 2040 than under the 'business as usual' scenario.

FIGURE 0.2

Under a 'Bright Horizons' scenario with these key reforms, Ghana's economy could be 25 percent larger by 2040



Source: World Bank staff calculations using MANAGE Computable General Equilibrium (CGE) model (Rogas-Romagoaa, 2021).

[10] Based upon World Bank MFMOD predictions in the short term and OECD predictions in the long term, as discussed in Chapter 1.

CHAPTER 1

Ghana Rising

Ghana has been one of the fastest growing countries in SSA and doubled its GDP per capita over the past 15 years. It has demonstrated impressive performance in a range of areas, particularly in the years before the COVID-19 pandemic. However, growth has varied widely and was especially volatile during the past decade as the economy became more reliant on natural resources, highlighting some of the downsides of natural resource booms and how they can be detrimental to long-term inclusive growth if not managed well. Going forward, it will be imperative for Ghana to focus on accelerating economic transformation to create more and better jobs for all working-age Ghanaians. The country's path of structural change has not been typical, with an expansion of high-productivity services before an expansion of manufacturing. The lack of jobs in middle-productivity sectors has meant that structural change has not been a major growth driver, and productivity in services and manufacturing has been stagnating or declining. To drive economic transformation, the authorities need to ensure that the foundational enablers of growth are in place, and the country needs to make sure that growth does not just benefit high-income groups but continues to lift people out of poverty. Ghana also needs to prepare for the climate crisis, which threatens to reverse its development gains and will change the global economy as well as demand and business models over the next few decades. Ghana must plan ahead now or be left behind.

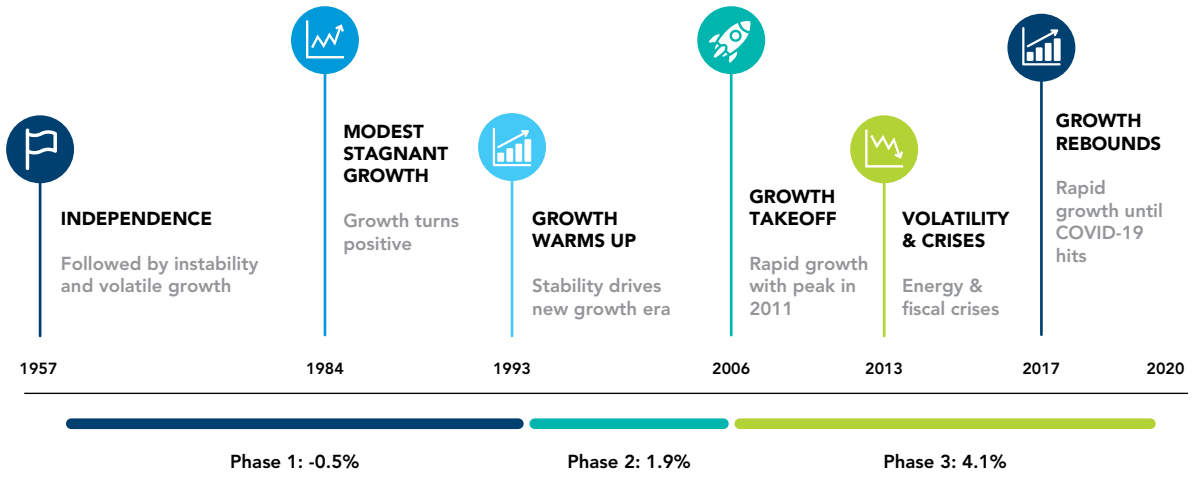
This chapter provides background on Ghana's economy and growth, then provides modelling estimates of different future paths for Ghana's economy to 2040. This chapter begins by providing background on Ghana's growth trajectory and the historic drivers of growth. It next takes a focused look at economic transformation in Ghana, patterns of structural change and job creation over the past three decades and the relationship between growth and poverty reduction. Finally, it looks at how climate change might affect Ghana's economy. It then provides CGE modelling estimates for different future scenarios for Ghana and how Ghana can accelerate the transition to upper-middle income status.

A rising star, but Ghana's growth path has not been straightforward

After independence in 1957, Ghana's economy experienced a challenging three decades of volatility and stagnation. Structural analysis shows that Ghana's growth path can be divided into three periods: 1960-1993, 1993-2005 and 2005-present (see Figure 1.1). In this first period from 1960 until 1993, annual GDP per capita growth was highly volatile, averaging -0.5 percent per year, reflecting the heavy reliance of the economy on agricultural output. Political instability in these three decades undermined economic growth until 1993. The negative growth episodes in the late 1970s and early 80s plunged GDP per capita in constant terms to its lowest level in this 60-year period in 1983. From 1984, however, per capita GDP entered an elongated stretch of continuous, albeit modest positive growth, gradually lifting per capita incomes again.

FIGURE 1.1
Structural analysis shows that Ghana's growth can be divided into three key periods: 1960-1993, 1993-2005, and 2005-present

Average annual GDP per capita growth by phase, Percentage



Source: World Bank, WDI.

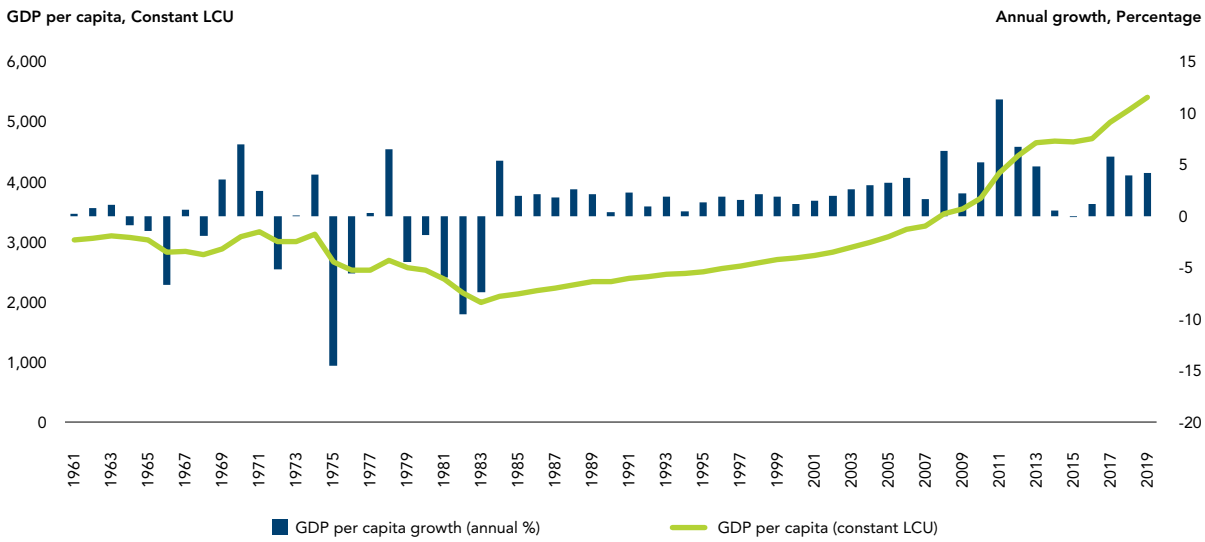
From the early 1990's growth started warming up. From the early 1990s a period of economic stability ushered in a new era of growth, with per capita GDP growth averaging 1.9 percent per year between 1993 and 2005, driven mainly by the expansion of the services sector. Political stability driven by the return to democracy under constitutional rule yielded a growth dividend. A new government in 2000 led reforms in private sector

development and macroeconomic management, providing the foundations for further growth. Ghana's success in poverty reduction over this period has been highlighted as exemplary across the region.

Growth then accelerated rapidly from 2006. Then after 2005, growth really accelerated, with a yearly average GDP per capita growth of 4.1 percent and aggregate GDP growth of 6.6 percent from 2005-2019. This is considerably above the average GDP growth for non-high-income Sub-Saharan African countries (2 percent) and for low-income countries of 2.6 percent, and slightly above lower-middle-income countries of 4.4 percent. GDP per capita almost doubled over these 15 years, after taking 45 years just to return to its 1960s level (see Figure 1.2). Structural change from the movement of labor from agriculture into services accelerated, FDI inflows grew rapidly and trade openness increased.

Per capita GDP growth peaked in 2011 at 11.3 percent, with the start of commercial oil production. The prior growth acceleration was also partly due to higher prices for Ghana's main commodity exports, notably gold and cocoa, as well as the start of commercial oil production. After peaking in 2011, GDP per capita growth declined steadily to -0.1 percent in 2015, falling far below IMF forecasts for growth between 2014 and 2016. The slowdown reflected a combination of declining commodity prices, energy rationing (partly due to the impact of a severe drought on hydropower output), and a major fiscal crisis in 2013.

FIGURE 1.2
It took 45 years just for Ghana to regain its 1960 level of GDP per capita, then 15 years to nearly double it



Source: World Bank, WDI.

The management of natural resource revenues posed new challenges for Ghana. In the early 2010s, industry became the major driver of growth and the concentration of exports in gold and oil left Ghana vulnerable to shocks. The direct share of mining in total value-added rose from 3 percent in 2010 to 12 percent in 2018 with the beginning of oil production and rising commodity prices. Government spending increased rapidly in the anticipation of oil revenues, a pattern that has been termed the 'pre-source' curse, whereby the discovery of natural resources can have negative effects on the economy even before any production has begun (Cust and Mihalyi, 2017). The contribution of natural resources to GDP became large, but was also very volatile, introducing new risks to macroeconomic stability. Growth over the past decade ranged from 11.3 percent to -0.11 percent GDP per capita growth. Instead of saving the increased revenues from oil, the government increased spending, such that today's savings rate to be about the same as 23 years ago.

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This natural resource driven growth also meant that while Ghana's performance in reducing poverty was impressive prior to 2012, between 2012 and 2016 poverty reduction was disappointing. In 2019, 11 percent of GDP stemmed from the two commodities of oil and gold.[11] This has meant that a sizable portion of Ghana's growth over the past decade has been jobless and the impact of growth on poverty reduction has declined. Between 2013 and 2019 nearly 20 percent of GDP growth was directly attributable to the mining sector, while employment in the sector in fact decreased.

After 2015, Ghana's economic growth performance improved, spurring optimism. Growth picked up after 2015, and the annual GDP per capita growth rate recovered to 5.8 percent in 2017. In the years prior to 2020, Ghana's economy was one of the fastest growing in Africa, with GDP per capita growing by an average of 4.1 percent per year in 2018-19. Robust export growth put the merchandise trade balance into surplus and contributed to reducing the current account deficit. Service exports and FDI inflows grew rapidly during this period and Ghana became one of the highest per capita FDI recipients in the region. A consistently tight monetary policy stance helped to progressively reduce the inflation rate. Strong net inflows on the balance of payments led to a steady growth in reserves. During this period Ghana also made strides in improving access to electricity and infrastructure.

Then then COVID-19 crisis hit. The crisis has substantially weakened Ghana's growth outlook. Due to the impact of the pandemic, the economy contracted in the second quarter of 2020 for the first time in 38 years by 3.2 percent, compared to a 5.7 percent expansion in the second quarter of 2019. Prior to the pandemic, economic growth was projected at 5.8 percent for 2020 and about 5.5 percent over the medium-term (2020-2023). Growth still remained positive in 2020 unlike in many countries but slowed to 0.4 percent in 2020. A substantial fiscal gap has arisen from the COVID-19 crisis as a result of reduced revenues, primarily from lower oil-related revenues and lower economic activity, and the need to increase expenditure, including in the health sector. The overall fiscal deficit is projected to more than double to 14.5 percent of GDP in 2020, up from a pre-COVID-19 crisis projection of 6.4 percent of GDP.

[11] Based upon the Ghana Statistical Service GDP by Industry data.

BOX 1.1

The impact of the COVID-19 pandemic on Ghana's economy

The COVID-19 pandemic has had significant adverse impacts in Ghana, despite direct health effects of the virus being relatively limited. The first COVID-19 case was reported in March 2020. In May 2021, there were about 93,000 confirmed cases, 800 deaths, and just under a million vaccine doses administrated. Despite keeping transmission of the virus to limited levels relative to many advanced countries, the effects of the pandemic on Ghana's economy have been significant for two key reasons. The economic impact has firstly been felt through Ghana's external trade and links with the global economy. Secondly, through the impacts of social distancing and closures, leading to a reduction in labor force participation, closure of businesses, disruption of public transportation, the closure of schools, and the closure of airport and seaports to passenger travel.

Poverty and social implications: Poverty and social effects have been felt primarily through loss of incomes in agriculture and particularly cocoa, services and especially hotels and restaurants, and manufacturing. Estimates indicate that poverty rates of people working in agriculture and manufacturing could be pushed up by as much as 10 percentage points. It has been estimated that the poverty rate of people working in the services sector could rise by 5.8 percentage points. The 3.7 million people who have incomes from the manufacturing sector currently have a poverty rate of 18.2 percent, but this could rise to 27.4 percent if their incomes were to fall by 20 percent due to the crisis. Elevated food price inflation due to the COVID-19 crisis is also likely to adversely impact poverty. At the peak of the lockdown, school closures affected an estimated 9.2 million students in kindergarten, primary, lower and upper secondary, as well as 0.5 million tertiary education students and 450,000 teachers in public and private institutions.

Despite keeping transmission of the virus to limited levels, the effects of the pandemic on Ghana's economy have been significant

Fiscal impacts: The fiscal impacts of the pandemic have been felt primarily through two, reinforcing channels: First, reduced revenues, mainly from lower oil-related revenues and lower economic activity. Tax revenues are projected to fall from a pre-COVID-19 level of 13.4 percent of GDP to 11.9 percent of GDP in the baseline scenario in 2020. Second, total expenditure is projected to increase to 23.2 percent of GDP in 2020, from a pre-COVID-19 level of 21.9 percent of GDP, as the Government spends more on health and support to individuals and businesses to mitigate the impact of the crisis. The crisis has hence halted the fiscal consolidation program the Government had embarked upon. The COVID-19 crisis-associated high expenditures and low revenues led to the suspension of the fiscal rule and the fiscal deficit is estimated at 16.2 percent of GDP in 2020.

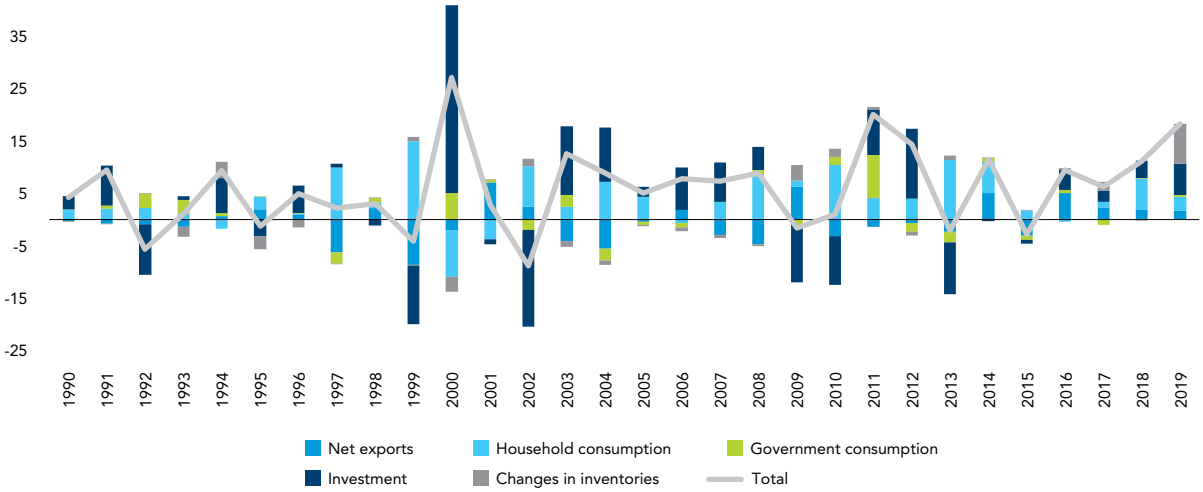
GDP impacts: Ghana's economy demonstrated some resilience as growth in GDP in 2020 remained positive at 0.4 percent, in comparison to many comparators in the region, and showed early signs of recovery in the second half of 2020 as business sentiments improved with the ending of lockdowns. The economic contraction was smaller in Q3 than Q2, thanks to strong year-on-year performance in the agriculture, manufacturing and tradable services sectors. The medium-term negative impact of the pandemic on growth will continue to be felt through low external demand, low commodity prices, particularly of oil, and lower FDI and tourism receipts. However, continued recovery could spur growth to 1.4 percent in 2021 and further to 3.6 percent by 2023.

Impact on businesses: The first COVID-19 Business Tracker Survey conducted by the UNDP, World Bank and Ghana Statistical Survey in May/June 2020 showed that around 40 percent of businesses had to close during the first wave, with 16 percent remaining closed after the lockdown's easing. Few firms laid off workers, but half of businesses reported reducing wages for around a quarter of the workforce. The second wave of the survey conducted in August 2020 found that 8 percent of businesses were still closed, while a quarter of businesses reported reducing waves for around 10 percent of their workforce.

Pre-COVID-19, Ghana's drivers of growth were becoming more favorable

FIGURE 1.3
On the demand side, growth has been driven by household consumption and, more recently, by investment

Contributions to GDP growth, by expenditure



Source: UN 2021, WBG 2021.

Growth accounting analysis of GDP on the demand side indicate that the past five years have been an exceptional period in Ghana's growth history with all factors mainly making a positive contribution to growth. Prior to 2015 there was more volatility in the direction of contributions, except for the period between 2005 and 2008. The main drivers of Ghana's recent growth phase since 2005 have been household consumption and investment. Household consumption was the main driver of growth between 2009 and 2015, with investment and government consumption volatile. However, after 2015, the contribution of investment has been the largest and household consumption has been more limited.[12] Relative to Ghana's peers between 2015 and 2019, Ghana has had a far higher contribution of investment to growth. The contribution of net exports to growth has been volatile over the past 30 years; however, there has been some positive contribution since 2015 as the country began to record a positive trade balance.

Growth accounting on the supply side shows that since 2005, growth has mainly been driven by accumulation of ICT capital and increased labor supply, while since 2017, TFP has become the main contributor to growth.[13] Between 2005 and 2016, labor quantity and ICT capital were the main drivers of growth, with a volatile contribution of TFP and a low contribution of non-ICT capital. Since 2016, the contributions of labor quantity and ICT capital have been declining with a rising contribution of TFP. Relative to Ghana's peers, since 2015 growth has been driven far more by ICT capital and far less than non-ICT capital, perhaps reflecting the strong performance of the ICT sector and investments in digital infrastructure. Another period with an important contribution of TFP was between 2008 and 2011.

[12] Investment is gross capital formation measured by the UN as the total value of the gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables for a unit or sector.
[13] This decomposition uses data from the Conference Board Total Economy Database. ICT capital includes computer hardware and equipment, telecommunication equipment and computer software and services. For Ghana it is estimated using data on total ICT expenditure from the World Information and Technology Services Alliances Digital Reports or proxied using trade data according to the commodity flow approach.

BOX 1.2

Benchmarking Ghana: structural, aspirational and regional peers

Benchmarking country performance relative to relevant peers enables the illumination of important characteristics, trends, and constraints in economic analysis. The practice is increasingly common in World Bank reports and is employed here to compare Ghana to its structural, aspirational, and regional peers. Ghana's regional peers are the other members of ECOWAS: Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo.

We also compare Ghana to its structural and aspirational pers as defined in the World Bank's 2018 Systematic Country Diagnostic for Ghana. Structural peers are countries with similar economic characteristics to Ghana in terms of being commodities exporters, agrarian economies with a similar population and income level. These are Cameroon, Côte d'Ivoire, Kenya, the Kyrgyz Republic, Mauritania, Myanmar, Nicaragua. Aspirational peers are countries that could be used as good examples of development for Ghana and those that had elements that Ghana may emulate. These are countries that are now upper-middle income countries with poverty rates half those of Ghana's, that were lower middle income and agrarian three decades ago: Algeria, Belarus, Colombia, Dominican Republic, Ecuador, Jordan, Paraguay and Peru.

In addition, Chapter 2 places a focus on services-led development and so we also compare Ghana to a group of 'services superstars'. These are countries that have experienced significant export and GDP Growth in high productivity services sectors: India, the Philippines and South Africa.

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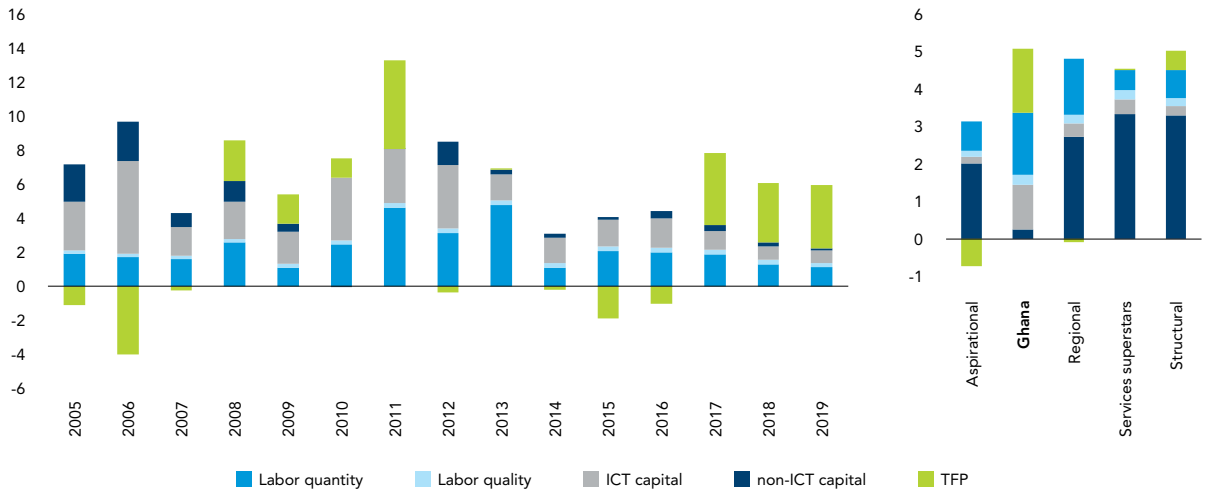
FIGURE 1.4
On the supply side, growth has mainly been driven by ICT capital and labor supply

Contributions to GDP growth, by expenditure in Ghana (left) and compared to peers between 2015-2019 (right)

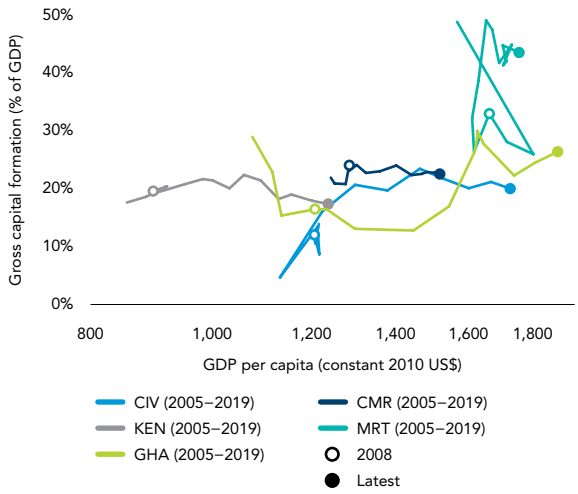


Source: World Bank staff calculations using The Conference Board Total Economy Database.

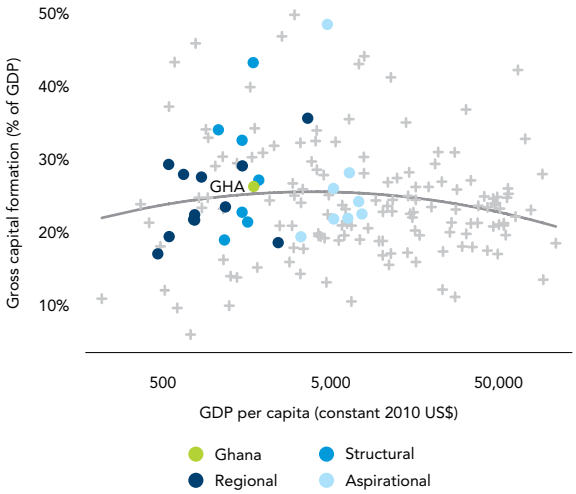
Recent growth has been characterized by limited capital formation. Over 2005 to 2019, which spans the beginning of commercial oil exploitation, gross capital formation only accelerated slowly. Ghana's average performance in 2015-2019 was in line with its income level and with that of the selected comparators. This performance explains the limited contribution of capital to GDP growth (see Figure 1.5). Physical capital accumulation is critical to develop the asset base necessary to support long-term growth, and for a country like Ghana which is fueling some of its growth by the exploitation of its natural resource (see Chapter 5), it is even more critical to replace natural capital with physical capital.

FIGURE 1.5
Gross capital formation has accelerated slowly

A) Over time, 2005-2019



B) Across countries, 2015-2019



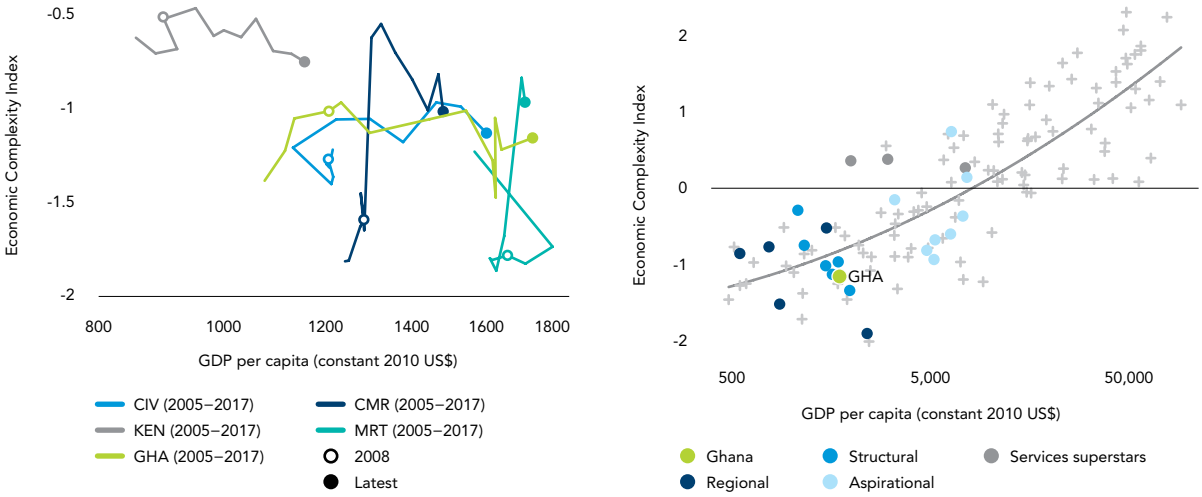
Source: World Bank staff calculations using data from WDI 2021.

Reflecting the importance of natural resources in driving growth, Ghana's economy is characterized by a low level of economic complexity. Economic complexity is a measure of the know-how of an economy related to the products it makes, calculated based on the diversity and nature of its exports. This measure has been shown to be a good predictor of a country's income level and of its future growth. Despite Ghana strong growth performance, economic complexity stagnated from 2005 to 2017. Its economic complexity stood below that of most structural peers and all aspirational peers. In particular, it stood below that of the services superstars country group. This indicate the need for Ghana to continue its process of economic transformation and climb the economic complexity ladder, to continue improving standards of living and to sustain growth.

FIGURE 1.6

Economic complexity has stagnated for the past decade and is below that of countries with similar income level

Economic Complexity Index and GDP per capita (2010 US$)



Source: World Bank staff calculations using data from AEC 2021 and WDI 2021.

Ghana needs to focus on economic transformation

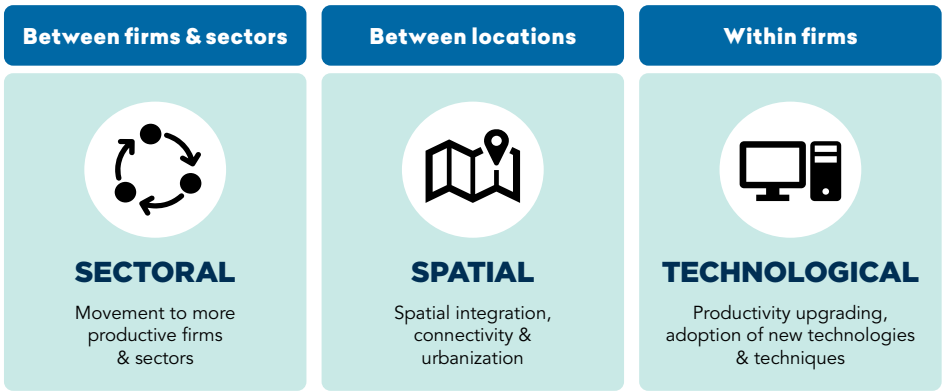
Ghana's economy faces the two major challenges of generating a large number of high-quality jobs and long-run productivity growth. There is a pressing need for job creation and particularly, the creation of high-quality jobs. Ghana's formal unemployment rate is around 6 percent, with youth unemployment at nearly 12 percent, but the employment challenge is even greater than these formal statistics suggest. Ghana's Statistical Service reports that more than 70 percent of jobs in Ghana were in the informal sector in 2015 and, of formal jobs, over 65 percent are categorized as vulnerable employment. There is also a pressing need to raise productivity. Productivity growth in Ghana over the past decade has been highest for extractives and agriculture, while productivity in services, Ghana's largest employment generator, has stagnated and productivity in manufacturing has declined.

Economic transformation occurs as people and resources shift from lower to higher productivity activities. By enabling workers (notably by enhancing their skills) to create and benefit from higher productivity activities, economic transformation raises their incomes and lifts people out of poverty. Importantly, the efficiency gains also allow sizable increases in production that in turn support more and better jobs (see Box 1.2). It can be achieved through the movement of workers and other resources between and within sectors (sectoral transformation),

or through workers staying within existing firms that benefit from within-firm productivity growth by adopting better technologies and capabilities (technological transformation). It can also be achieved through the movement of resources from low to higher productivity activities spatially, for example through urbanization, trade integration or heightened connectivity and linkages (spatial transformation). Within-sector productivity growth can stem from the adoption of new "hard" technologies (such as a better tractor or irrigation system on a farm) or new "soft" technologies (such as better management practices) that increase the efficiency of existing firms or as a result of the reallocation of resources away from the least productive firms towards more productive firms, including through entry of new firms and exit of no-longer profitable ones. It could also be achieved through the movement of workers from less-productive informal to more-productive formal employment (see Figure 1.7).

This report focuses on accelerating these three transformations. Chapter 2 considers Ghana's recent experience in sectoral and spatial transformation and how Ghana can accelerate these transformations. For spatial transformation, the focus of this report is primarily on global integration through trade, FDI and global value chains, with some discussion around urbanization. Chapter 3 considers technological transformation in Ghana and how Ghana can accelerate technological transformation, with a focus specifically on digital transformation.

FIGURE 1.7
Economic transformation can be driven by movement of workers between and within sectors, from upgrading within existing firms and from movement of resources spatially



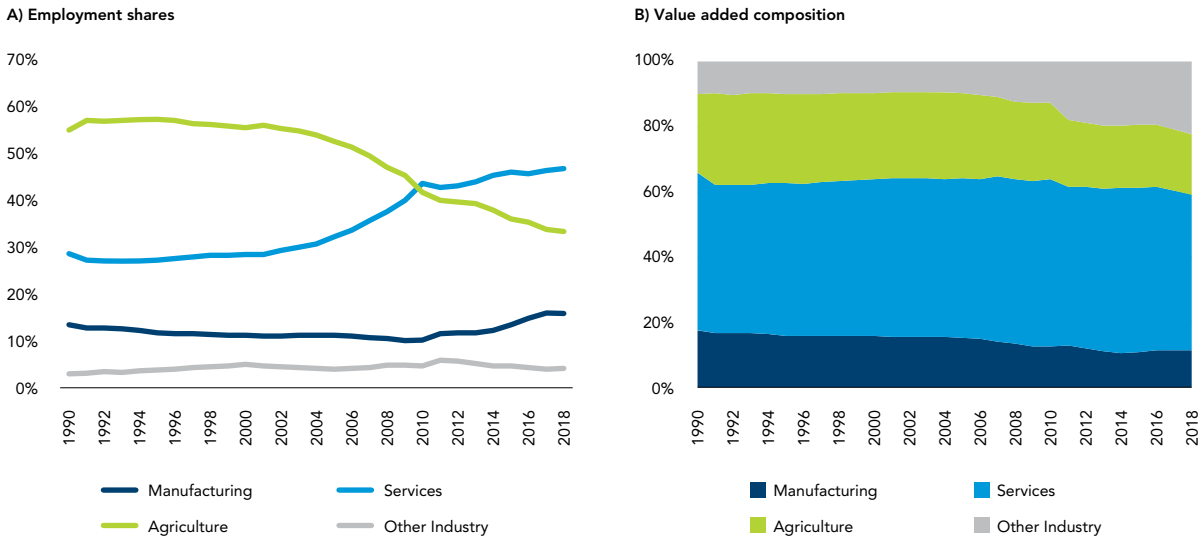
Source: World Bank staff elaboration.

Structural change in Ghana has accelerated since 2005

The composition of employment in Ghana has shifted away from agriculture, particularly after 2005, with the decline being offset mainly by services and only more recently by manufacturing. Between 1990 and 2018, the share of employment in agriculture declined from 55 percent in to 33 percent. The composition of value added has also shifted away from agriculture and towards services, but with an important role of the rise in extractives. Figure 1.8b shows that during the past decade there has been a substantial rise in the value-added share of 'Other Industry', largely due to the contribution of Mining and Quarrying, including oil and gas extraction, although this has not been accompanied by a concurrent rise in the employment share of this sector. This has resulted in a divergence in the patterns of employment and value-added shares by sector.

FIGURE 1.8

The composition of Ghana's economy has shifted away from agriculture and into services and extractives, with a slight rebound in manufacturing employment since 2014

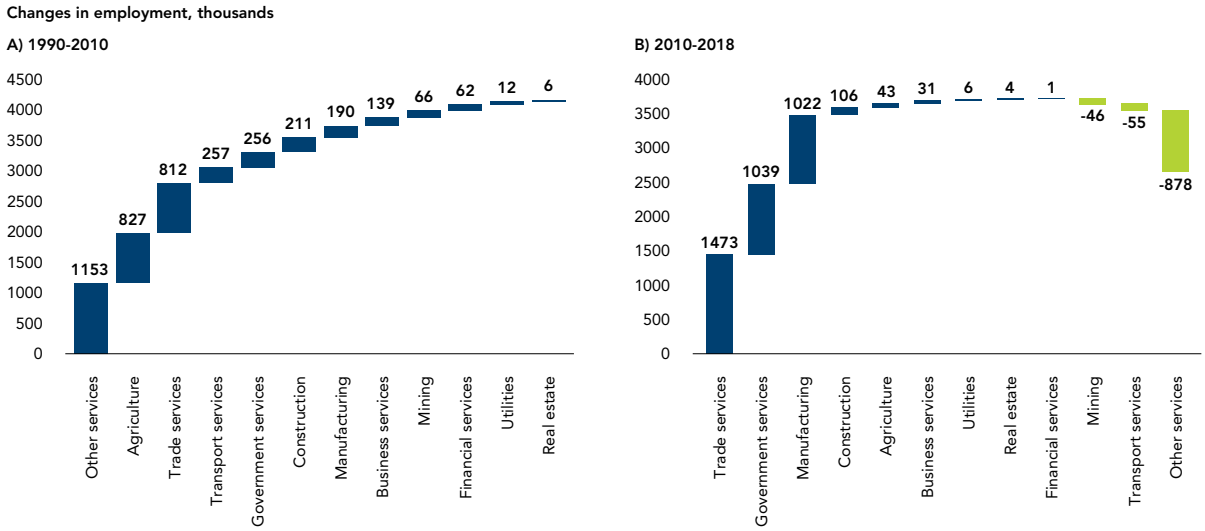


Source: GGDC Economic Transformation Database.
Note: Other Industry includes construction, utilities and mining and quarrying.

New jobs were initially created mainly in 'Trade Services' and 'Other Services' but recently major employment generation has occurred in 'Government Services' and Manufacturing as well. Between 1990 and 2010, Figure 1.9 shows that most of the employment creation in Ghana was in the economy's lowest productivity subsectors of 'Other Services', Agriculture and 'Trade Services', with Manufacturing making only a small contribution to employment growth. 'Other Services' comprises of the main categories of Arts, Entertainment and Recreation, Other Service Activities and Activities of Households as Employers. Trade Services includes the main categories of wholesale and retail trade, repair of motor vehicles and motorcycles and accommodation and food service activities. Between 2010 and 2018 this pattern had changed, with a decline in employment in Other Services and most employment generation occurring still in Trade Services and additionally in the mid productivity subsectors of Manufacturing and Government Services.

FIGURE 1.9

Between 1990 and 2010 most employment generation was in low productivity services, while since 2010 there has been a shift to mid-productivity services and manufacturing

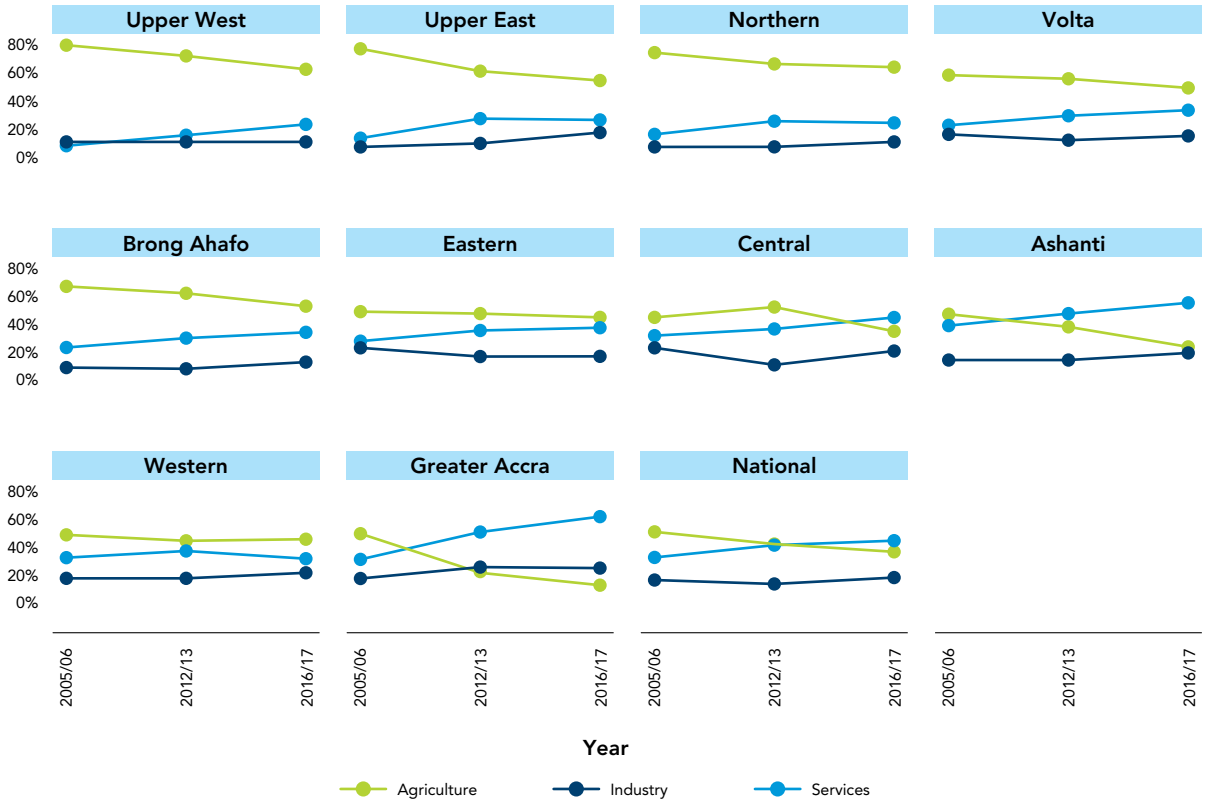


Source: GGDC Economic Transformation Database.

Structural change has been fastest in Ghana's cities. Household survey data shows that the shift from agriculture to services has not been experienced evenly across regions. In Greater Accra and Ashanti, the agriculture employment share approximately halved or more than halved between 2005 and 2016, while in other regions the decline was more modest. The only region without any meaningful decline in the agriculture employment share was the Western region (Paul and Raju, 2021).

FIGURE 1.10
Structural change has been fastest in Ghana's cities

Employment share by sector in Ghana's regions, Share percentage



Source: Paul and Raju (2021).

Yet, rapid structural change has made a limited contribution to growth

Although Ghana's economy experiencing considerable structural change over the past three decades, the contribution of structural change to growth has been limited. Over this period, 87 percent of all labor productivity growth was driven by within-sector productivity growth, with the contribution of structural change, meaning the movement of workers across sectors, contributing only 13 percent (see Table 1.1 and Figure 1.11) (Stapleton, 2021). This compares to a global average of around a third of all productivity growth stemming from structural change (Nayyar et al., 2021). Over the past decade in Ghana the contribution of structural change to productivity growth has even turned negative, implying that workers have been moving into less productive sectors.

TABLE 1.1

Structural change has contributed only 13 percent to total productivity growth, while within sector growth has contributed 87 percent

Productivity growth decomposition within and between sectors

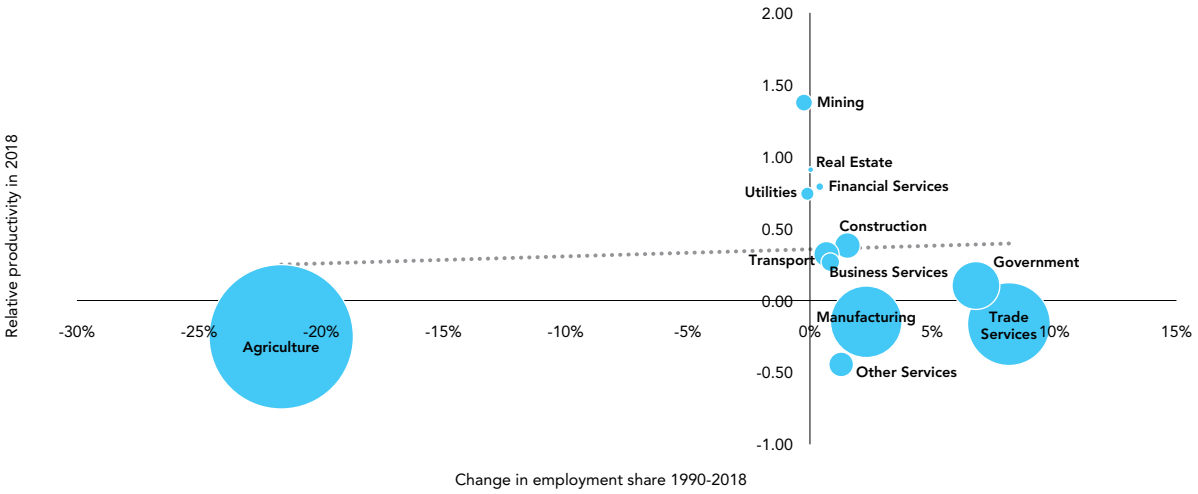
				Structural change	
Period	**Average annual productivity growth**	**Within-sector**	**Structural change**	**Static**	**Dynamic**
1990–2000	2.94%	2.90%	0.03%	0.46%	-0.43%
2000–2010	2.15%	2.21%	-0.06%	1.00%	-1.06%
2010–2018	3.23%	4.36%	-1.13%	2.75%	-3.88%
1990–2018	2.74%	2.37%	0.37%	0.90%	-0.53%

Source: World Bank staff calculations based on GGDC ETD data.
Note: Average annual productivity growth is the compound annual growth rate (CAGR), the structural change component reflects the contribution from workers moving into higher productivity sectors, the static component reflects workers moving into sectors with initially higher productivity, while the dynamic component reflects workers moving into sectors with higher productivity growth rates.

FIGURE 1.11

Structural change in Ghana has made a limited contribution to growth: expanding sectors have had either low productivity and created many jobs or high productivity and few jobs

Change in employment share 1990-2018 and relative productivity in 2018, by sector



Source. World Bank staff analysis using GGDC Economic Transformation Database.
Notes: Relative productivity is measured as the log of sectoral labor productivity divided by aggregate labor productivity. The bubble size represents the total employment of the sector.

High productivity services sectors played a greater role in structural transformation than manufacturing over the past three decades

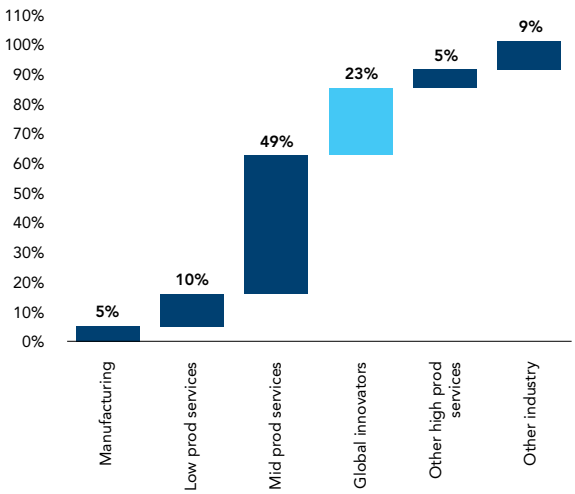
While the major gains from structural transformation have typically stemmed from the move from agriculture to manufacturing, in Ghana high productivity export-oriented services made a greater contribution to growth-enhancing structural change than manufacturing. Chapter 2 takes a detailed look at Ghana's services subsectors, categorizing them into groups. One group of services is particularly important in light of its tradability and capacity for scale, innovation and productivity spillovers: what has been termed the 'Global Innovator' services of financial and business services. Over the past three decades in Ghana these services made a greater contribution to productivity growth from structural change than the manufacturing sector (Figure 1.12A). Global innovator services were also among the fastest growing sectors in Ghana over the past three decades in terms of employment (Figure 1.12B).

But these high productivity export-oriented services have not been major job creators, particularly for low or middle-skilled workers. In 2018, employment in high productivity services sectors was very low with the combined employment share of Transport Services, Business Services, Financial Services and Real Estate lower than 5 percent. The bulk of all new employment generation over the past three decades has been in lower productivity services, which have also made the greatest contribution to productivity growth from structural change. Government Services, which includes the categories of education, human health and social work activities, accounted for 19 percent of all employment generation over the three decades, while Trade Services and Other Services accounted for 38 percent.

FIGURE 1.12

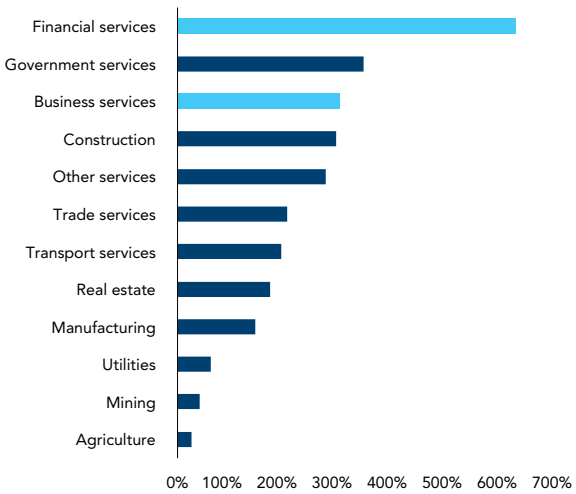
Export-oriented 'Global Innovator' services made a greater contribution to growth from structural change than manufacturing between 1990-2018, and these were Ghana's fastest growing sectors

A) Contributions to growth-enhancing structural change 1990-2018



Source: World Bank staff calculations using GGDC ETD data.

B) Employment growth rates 1990-2018



Source: World Bank staff calculations using GGDC ETD data.

Since 2010 Ghana has seen a manufacturing employment 'renaissance'

This pattern reversed over the past decade between 2010 and 2018, with a manufacturing employment 'renaissance' and a greater contribution of manufacturing to structural transformation than high productivity services. Ghana's manufacturing employment share grew from around 10 percent in 2010 to 16 percent in 2018, with particularly fast growth after 2014, implying the country has been 'reindustrializing' in terms

of employment shares. During this period, the manufacturing sector made a greater contribution to productivity growth from structural change than did high productivity services. However, during this period labor productivity in manufacturing simultaneously declined, counteracting the impact of an expanding manufacturing sector to productivity growth. In 2018 Ghana's manufacturing sector also had very low productivity at only around 30 percent higher than in agriculture. For comparison, in 2005 when China had a similar GDP per capita on PPP terms as Ghana, China's manufacturing sector was over 5 times more productive than agriculture.

The transition of workers from agriculture into informal activities, rather than formal ones, and limited movement into higher productivity formal activities could also suggest there are barriers to mobility or 'misallocation'. Much of structural change in Ghana has occurred through the movement of workers from agriculture into informal nonfarm activities, which remain of very low productivity. In many of Ghana's regions there was no change in the informal share of nonfarm employment over the past decade. The gap between formal and informal productivity varies across regions, with the gap greatest for Greater Accra. In Greater Accra, the formal sector is over 1.5 times more productive than the productivity of the next highest productivity region, while the informal sector is just over twice as productive. Paul and Raju (2021) have suggested that this could reflect 'misallocation', or the inability of resources to transition to more productive activities, particularly in urban areas and so reducing regional variation in formal-informal productivity gaps through raising the productivity of the informal sector in Greater Accra particularly could increase the contribution of structural change to growth.

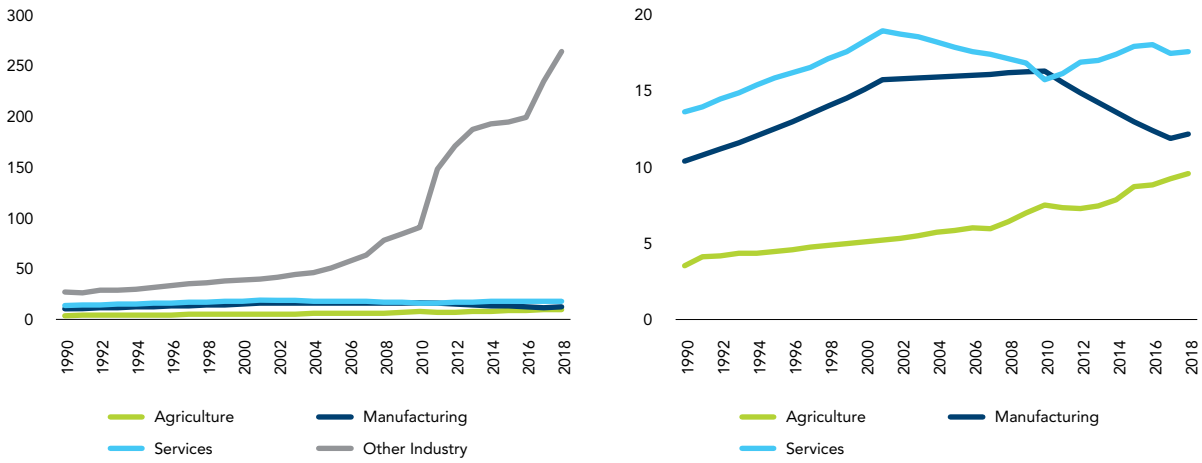
Within-sector productivity growth has been led by extractives and agriculture

Productivity growth within sectors in Ghana has been high, particularly after 2010, although this has been driven by rapid productivity growth for mining and a positive productivity story for agriculture. Labor productivity grew at an annual average of 2.9 percent between 1990 and 2010, dipping to an average of 2.1 percent between 2000 and 2010 and then rising to an average of 3.2 percent between 2010 and 2018. Excluding the mining sector, agriculture has had the highest labor productivity growth over the past three decades, with labor productivity nearly tripling. Productivity in services has stagnated, although trade services and transport services have experienced high labor productivity growth of 54 and 48 percent, respectively, over the past three decades. Labor productivity in 'Other Industry' has exploded (see Figure 1.13) due to the changing role of extractives. While there has been a trend of rising employment shares in manufacturing over the past decade, at the same time labor productivity in manufacturing has been declining (see Figure 1.13).

FIGURE 1.13

Labor productivity 'Other Industry' has grown rapidly, while agricultural productivity has risen steadily, services productivity stagnated and manufacturing productivity started to decline

Value added by sector, with and without 'Other Industry' (Thousand LCUs per worker) in 2018



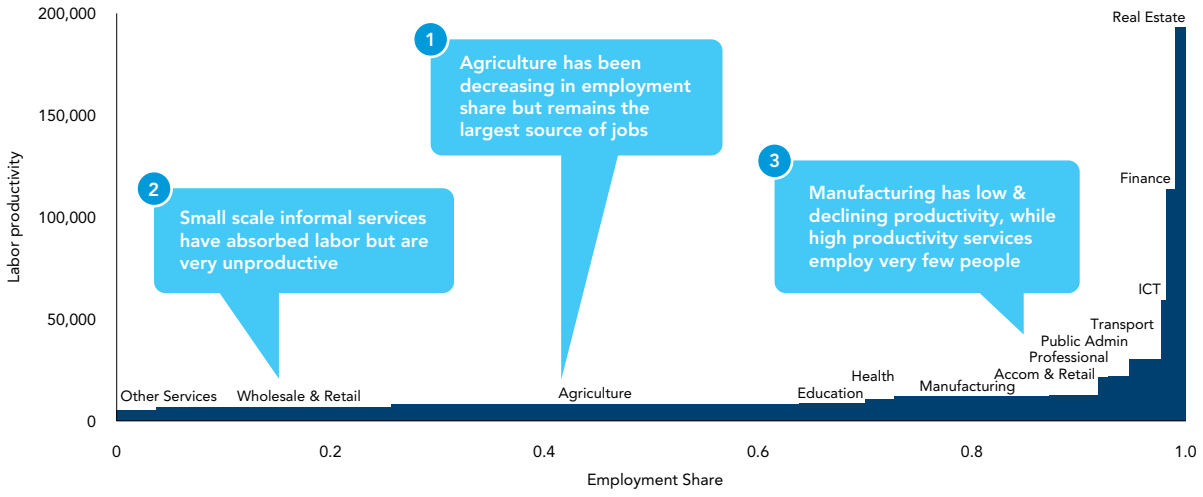
Source: World Bank staff calculations using GGDC Economic Transformation Database.
Note: 'Other Industry' Includes Mining & Quarrying, Construction and Utilities.

The jobs imperative: Ghana's employment 'missing middle'

The result of these patterns of economic transformation is that Ghana faces a 'missing middle' of employment opportunities in middle productivity sectors. Manufacturing in Ghana in 2018 was of very low productivity, at only 30 percent higher than in agriculture. For comparison, in 2005 when China had a similar GDP per capita in PPP terms as Ghana, China's manufacturing sector employed only a slightly larger share of the population (19 percent relative to 16 percent in Ghana in 2018) but was around 5 times more productive than agriculture. Services employment in Ghana is concentrated in the lower productivity sectors. While some high productivity services have expanded rapidly, they remain limited employers. For comparison with a country that has followed a services-led growth path, in 2009 when the Philippines had a similar GDP per capita in PPP terms as Ghana, Business and Financial Services employed around 5 percent of the labor force, relative to 2 percent currently in Ghana.

FIGURE 1.14
Ghana faces a 'missing middle' of mid-productivity employment opportunities

Employment shares and labor productivity (thousand LCUs per worker) by sector in 2015



Source: World Bank staff calculations using data from UN Statistics and Ghana Labour Force Survey 2015.

The need to create more and better jobs must be a top development priority for Ghana. Ensuring that economic growth is accompanied by increased access to productive economic opportunities, particularly among those at the bottom of the distribution, is critical for sustainable poverty reduction and to meet the aspirations of citizens. Beyond earnings, jobs are also a source of learning and a critical channel for social inclusion. The jobs challenge is becoming even more acute with Ghana's young and growing population. Ghana's population is projected to rise to 45 million by 2040 with 58 percent of the population under 30 years old by this point. This implies that around 10 million Ghanaians will enter the labor force between now and 2040. The current pace of job creation remains far below what is needed (UN, 2021).

BOX 1.3

What is productivity and why is it important for jobs?

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"Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."
- Paul Krugman (1994)

Productivity is an indicator of efficiency that captures how firms, industries, or the country transform inputs into the production of goods and services. The two most common productivity measures are labor productivity and total factor productivity. This report mainly focuses on labor productivity. Labor productivity captures the value of the outputs produced (or value-added) divided by the number of workers. This is determined by the amount of capital and other non-labor inputs available to workers, as well as the efficiency with which these inputs are used. TFP is derived as a residual of output once the impact of all measured inputs is accounted for, notably labor and capital. TFP therefore captures the efficiency with which all inputs are combined into the productive process.

A wide body of literature in economics has documented that cross-country productivity differentials are one of the most important determinants of differences in standards of living. In the long-term, how efficiently countries use all available inputs is the key determinant of differences in economic growth rates and resulting income levels (Caselli, 2016) The relationship between productivity growth and employment in the short run is not necessarily clear-cut, but productivity growth can lead to job creation, including for lower-skilled jobs, for several reasons:

- Productivity improvements that allow firms to produce more with the same inputs reduce marginal costs, often making firms more competitive and allowing them to expand production, creating more jobs directly.
- Productivity improvements that reduce costs can raise demand for the same and other products due to lower prices or higher wages, creating more jobs indirectly.
- Productivity improvements can also create new opportunities, new types of economic activity and new types of jobs.

Urbanization without industrialization has resulted in 'consumption cities'

Ghana has experienced rapid urbanization, without industrialization, with cities characterized as 'consumption cities' rather than 'production cities'. Ghana's urban population grew from 4 million to 16.5 million from 1984 to 2018. Today, around 56 percent of total population lives in urban areas and this value is projected to reach 63 percent by 2030. While historically, particularly in the experience of East Asia, urbanization was typically driven by either industrialization, defined as a rising role of manufacturing in the economy, forming a 'pull' factor into cities, or a green revolution forming a 'push' out of rural areas, in Ghana urbanization has been linked instead to the rising role of natural resources, with cities described as 'consumption cities', as opposed to 'production cities' (Jedwab, 2014; Gollin et al. 2016). For example, it has been shown by Jedwab (2014) that the production of cocoa in Ghana had a strong causal effect on the growth of cities, without these cities industrializing because resource windfalls are disproportionately spent on urban goods and services, giving rise to these consumption cities.

The result has been that Ghana's cities specialize in low-productivity services, with limited agglomeration effects and some major issues of uncoordinated informal growth. The manufacturing sector and tradable services typically have greater scope for agglomeration effects than non-tradable services. Consumption cities have therefore been shown to often produce more limited growth effects that those of production cities. In Ghana the high share of the workforce in low-productivity, often informal, services has resulted in a rise in informal settlements. Some 40 percent of Ghana's urban population live in informal settlements, and that population is growing at 2 percent per year. Service provision in informal settlements is precarious, limiting the potential of urban workers to find productive employment: only 20 percent of those living in informal settlements have access to improved sanitation. Urbanization in Ghana has therefore also brought exclusion, new poverty and lowering livelihood conditions, particularly for people living in underserved informal areas.

Spatial transformation will require increasing connectivity and access to formal housing in cities. Uncoordinated spatial expansion and limited connectivity is leading to inefficient urban expansion and sprawl. Accra, like most Ghanaian cities, is a very spread out, low-density city. Transport costs for goods are relatively high, and this lack of connectivity prevents Ghana's cities from seeing gains from agglomeration, specialization, and economies of scale. High capacity mass transport is virtually nonexistent even in Accra, where only 0.3 percent of commuters use public buses. And despite being a very spread out city, Ghana's cities have very low road density. This has environmental as well as congestion and efficiency impacts. Nationally, 60 percent of workers are forced to commute on foot (World Bank Group, 2015).

Economic transformation will not be possible without the foundations in place

Economic transformation requires a stable and enabling macro-economic framework, with sufficient domestic revenue mobilization and a financial sector that can support private sector development. Economic transformation will require human capital development to enable workers to transition into new jobs and sectors, to adopt new technologies and to create and run new businesses. It will also require improved digital and physical infrastructure to connect people to new opportunities and to drive technological transformation. These essential investments will all hinge upon sufficient domestic revenue mobilization, which is currently one of Ghana's major weaknesses. Ghana's tax to GDP ratio is lower than its peers and hinders these essential investments. In addition, it has been well documented that macroeconomic stability is one of the key determinants of long-run growth, while this has also been one of Ghana's weak points. Chapter 5 will hence focus on enhancing these two aspects to enable economic transformation. Economic transformation will also require a financial sector that can support private sector development, enabling firms to expand and invest in new capabilities. The link between financial sector development and the growth of the private sector has been well established but Ghana currently lags behind on access to finance. Chapter 4 hence focuses on ways to address these limitations.

An urgent need to repair the link between growth and poverty reduction

Over the last three decades Ghana experienced a significant reduction in poverty. Between 1991 and 2012 poverty levels steadily declined from 52.7 percent to 24.2 percent. Favorable economic conditions driven by high prices for cash crops, oil, and rapid urbanization contributed to expanding economic opportunities. Ghana also achieved a substantial increase in consumption among the bottom 40 percent of the population. Non-monetary dimensions of poverty also improved: assisted births and vaccination rates increased; fertility, mortality, stunting and underweight children under five years of age all decreased; and access to sanitation, electricity, and clean drinking water increased.

© Bill Wegener/unsplash.com

In recent years, however, the speed of poverty reduction has slowed and there is significant risk of reversal given the expected slowing growth due to the pandemic. The growth elasticity of poverty (the percentage reduction in poverty associated with a percentage change in GDP per capita) was 1.2 between 1991 and 1998, but declined to less than 0.1 between 2012 and 2016, indicating a 1 percent increase in GDP per capita led to less than a 0.1 percent reduction in poverty (see Table 1.2). The last nationally representative household survey completed in 2016 showed that between 2012 and 2016, the poverty level declined by only 0.8 percentage points falling to 23.4 percent. This was accompanied by a deepening of poverty as reflected by increases in the poverty gap from 7.7 to 8.4, and in poverty severity, from 3.5 to 4.3, between 2012 and 2016. Ongoing analysis using synthetic panels built from household surveys suggests that there are complex dynamics underpinning these aggregate poverty statistics. Although poverty levels have stagnated in recent years, there has been significant movement of people both in and out of poverty at the same time, with these movements in and out of poverty highly correlated with the sectors that households are employed in.

TABLE 1.2

The impact of growth on poverty reduction has declined over the past three decades

GDP Growth, Poverty Reduction, and Sectoral Drivers

	Annual GDP Growth	Annual GDP per capita growth	Annual poverty reduction	Growth Elasticity of poverty
1991–1998	4.4	1.7	2	-1.18
1998–2005	4.8	2.1	1.4	-0.55
2005–2012	7.7	5	1.1	-0.17
2012–2016	5.6	3.2	0.2	-0.07

Source: GLSS7 Poverty Profile Report, Poverty Assessment 2015; WDI Data; World Bank Macroeconomic Growth Accounting Tool; World Bank SCD (2018). Note: 2005–2012 only covers up to 2011.

A related challenge in Ghana is high and worsening inequality. The Gini index in Ghana stood at 43.5 in 2016, much higher than many other LMICs. Poverty reduction has been spatially asymmetric, worsening regional inequality. Ghana's Gini index has also been increasing over the past three decades; it stood at 38.4 in 1991. This indicates that while Ghana has made impressive economic progress, the share of gains captured by the wealthy has increased. The rate of growth in inequality in Ghana has outpaced China and India, as well as countries in the region like Nigeria, and Côte d'Ivoire. The wealthiest decile of Ghanaians currently account for 32 percent of the country's consumption, whereas the poorest decile account for only 1.7 percent. Between 2006 and 2013, consumption growth of the top decile was 40 percent faster than that of the bottom decile (Cooke et al. 2016).

Significant wealth gaps exist in Ghana, with northern regions disproportionately poor, unequal, and poorly covered in critical services. More than 80 percent of households in the North, Upper East, and Upper West regions are in the bottom 40 percent in terms of wealth. While access to improved water is moderately high throughout the country the Northern region has the lowest access at 78 percent. Access to improved sanitation remains low throughout much of the country, with northern regions having fewer than 40 percent of the population served. Women's literacy rates remain particularly low in rural areas at 46 percent relative to 71 percent in urban areas. Inclusive growth will hence require tackling these spatial inequalities and accelerating growth and poverty reduction in these poorest regions. Spatial transformation by improving infrastructure and digital connectivity in these regions will also be required to tackle this issue of inequality.

Responding early to the opportunities and threats from climate change

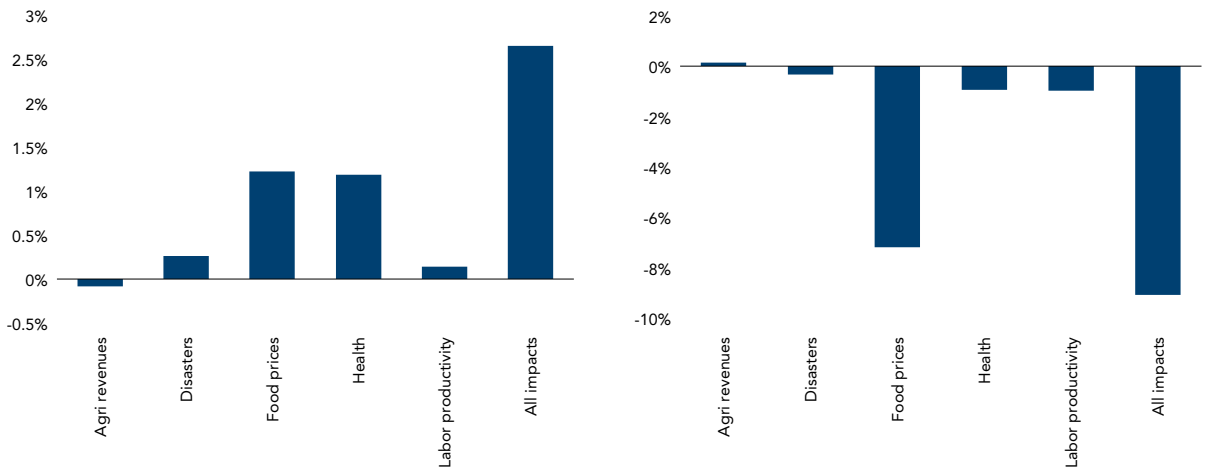
Climate change poses a major threat to Ghana's economy, particularly through the channels of rising food prices and worsening health outcomes. Even under an optimistic scenario with low climate impacts, it has been estimated by modelling from the World Bank's 'Shockwaves' Report by Hallegatte et al. (2016) that climate change could reduce Ghana's GDP by 9 percent by 2030 and push over a million people back into poverty. Climate change not only threatens agricultural revenues, but will also likely lead to higher food prices, increased prevalence of natural disasters, lower labor productivity and could magnify many threats to health, as poor people are more susceptible to climate-related diseases such as malaria and diarrhea. In Ghana the greatest effects are projected by this report to be felt through increased food prices and worse health outcomes (see Figure 1.15). Both higher food prices and worsening health outcomes are projected to push around 1.2 percent of the population below the US$1.9 poverty line by 2030 relative to the baseline, while 7 percent of the 9 percent negative GDP effects are projected to stem from rising food prices.

Ghana's agricultural and forestry sectors, which directly or indirectly employ 70 percent of the population, are very vulnerable to climate change, particularly in the north of the country. Northern Ghana is the most vulnerable to the negative effects of increased rainfall volatility, due to higher poverty rates, a drier climate, and more reliance on rainfed agriculture. Without climate change, the price of maize and rice are each projected to increase 60 percent. With climate change, however, the prices of maize and rice are projected to increase 153 percent and 121 percent, respectively. This would have major impacts on food security and nutrition throughout the country. Cocoa farming is especially vulnerable, as decreased humidity and changes in rainfall due to climate change can also increase incidence of pests and diseases, and alter the type of pests and diseases impacting cocoa farms (Choudhary et al., 2015). Resilience to the negative effects of climate change also varies across Ghana's regions. The highest dependency ratios are among rural, female-headed households and among older cohorts. Food insecurity is higher in the Upper East and highest among people with disabilities and the availability of assets in the household, which plays an important role in resilience, is lower in Northern and rural households.

FIGURE 1.15

Even under an optimistic scenario, climate change could reduce Ghana's GDP by 9 percent by 2030

Additional people below US$1.9 poverty line as a percentage of population (left) and change in GDP (right) by 2030



Source: World Bank Shockwaves Report modelling, Hallegatte et al. (2016)

Ghana's declining quantity of internal renewable water resources per capita, increasing deterioration of water quality and water related disaster events also continue to put Ghana's development at risk. Ghana's internal renewable water resources (IRWR) year 2020 was 975 m^3 per capita, about 40 percent less than the amount in year 2000 and below the FAO water scarcity threshold of 1,000 m^3 per capita. With business as usual, Ghana risks becoming a water stressed country by 2050 and its plans for economic growth and poverty reduction severely impacted across key development sectors — agriculture, energy, transport, tourism. Approximately 75 percent of Ghana's water courses affected by small-scale (and unregulated) mining. Municipal and industrial waste, fertilizers and pesticides find their way into the water bodies. Moreover, deforestation and ensuing erosion, haphazard urban development, and the resultant impact of climate change are leading to recurrent flooding and droughts across the country.

It will be essential to provide poor people with social safety nets as well as developing targeted climate resilience measures, such as the introduction of heat resistant crops and disaster preparedness systems. The impacts of disaster risks on poverty are large because poor people are exposed to hazards more often, lose more as a share of their wealth when hit, and receive less support from family and friends, financial systems, and governments. Efforts to reduce disaster risks are therefore complementary to reducing poverty. In Ghana it has been estimated by the World Bank's 'Beyond the Gap' report by Rozerberg and Fay (2019) that around 14 percent of the population are exposed to moderate or high risk of floods and over half of these live below the US$5.5 a day poverty definition. Half of Ghana's 540-km coastline is vulnerable to erosion and flooding as a result of sea-level rise. While the country's flagship safety net programs[14] have expanded and strengthened over the years, these programs need to incorporate a structure that will allow government to expand coverage, raise benefit amounts, or adjust frequency of benefits distribution during negative shocks. Adaptative social protection systems could be investigated to improve preparedness, particularly to natural disasters and food security emergencies.

The increased prevalence of natural hazards will magnify the challenges of already strained and fragile infrastructure systems and it will be essential to invest in more resilient infrastructure. Unreliable electricity grids, inadequate water and sanitation systems, and overstrained transport networks already pose major costs to individuals and firms in Ghana. It has been estimated by the World Bank's 'Lifelines' report that in Ghana 18.1 percent of transport assets are exposed to earthquakes, 4.5 percent are exposed to cyclones and 20 percent are exposed to floods, meaning that the total exposure rate of transport assets to natural hazards is 38 percent. It will also be essential to invest in more resilient infrastructure to mitigate the worst effects of climate change.

COVID-19 recovery measures could play a role in making the recovery more resilient, sustainable, and set in place pathways to decarbonization. 'Building back better' with a green economic recovery could serve to both mitigate future risks and generate long-term growth. It has been recently shown that several green interventions can create twice as many jobs from the money invested than a business-as-usual package that supports demand without sectoral targeting.[15] Ghana needs to jumpstart growth and put people back into work in ways that are greener, leverage new technology and seize new opportunities. The right investments will need to be fast, labor-intensive in the short run, and have high multipliers and co-benefits, including for air pollution, climate and resilience. Some investments with these characteristics include clean physical infrastructure such as in renewable energy assets and grid modernization, building efficiency investment in the form of renovations and retrofits, research and development in clean technologies, rural support and investment in climate smart agriculture.[16] It will also be essential for the recovery measures to be inclusive and engage women and youth in productive activities.

[14] Livelihood Empowerment Against Poverty (LEAP) cash transfer program; the Labor-Intensive Public Works (LIPW); the Ghana School Feeding Program (GSFP); the National Health Insurance Scheme (NHIS) and the Education Capitation Grant (ECG) and Productive Inclusion (PI).
[15] See for example, https://blogs.worldbank.org/climatechange/how-create-twice-many-jobs-integrating-climate-policies-covid-19-economic-recovery
[16] https://www.financeministersforclimate.org/sites/cape/files/inline-files/Better%20Recovery%2C%20Better%20World%20FINAL.pdf

Realizing Ghana's ambitious goals for future growth

The Government of Ghana has the vision and aspiration to reignite growth in Ghana after the COVID-19 pandemic. The Coordinated Programme of Economic and Social Development Policies (CPESDP) laid out the target to at least double GDP per capita between 2017 and 2024, an ambitious goal that would entail achieving average annual economic growth rates of at least 7.2 percent between 2017 and 2024. This plan placed a particular focus on reviving and strengthening manufacturing, solving Ghana's energy crisis, and aggressively promoting exports. To ensure a quick recovery from the pandemic the government has created the medium-term Ghana COVID-19 Alleviation and Revitalization of Enterprises Support (CARES) program to mitigate the impact of the pandemic on the lives and livelihoods of Ghanaians.

In addition to a first 'stabilization' phase, the pandemic recovery CARES program also has a medium term 'revitalization' phase to boost economic recovery between 2021 and 2023. This second phase aims to accelerate the Ghana Beyond Aid agenda through improvements in business regulations, digitization to improve quality and transparency of public service delivery, expanding access to finance for Ghanaian business, skills training, and energy sector reform. The program targets the creation of 420,000 productive jobs in the formal sector (of which 85 percent in the private sector). It envisions structural reforms in the business environment to support economic diversification and plans to refocus key government flagship programs for increased efficiency, leverage digitization and advance financial sustainability.

Ghana's President has also previously expressed the aim to "build the most business-friendly economy in Africa" and foster the competitiveness of Ghanaian firms. The Government's CPESDP also proposed an ambitious agenda that aims to develop a competitive private sector by focusing on reducing the high cost of doing business, resolving the energy constraints for businesses, lowering the overall tax burden on business, and instituting new incentive packages, targeting agro-processing, pharmaceuticals and light manufacturing, especially garments and textiles. This strategy document has also laid out the goal to formalize Ghana's informal economy. In addition to these aims, the Ministry of Business Development has articulated the ambition to make Ghana the most entrepreneurial country in Africa, particularly targeting start-ups and youth businesses. This report aims to provide new research and analysis on many of these priority areas for the Government of Ghana to understand in more depth how these ambitions can be achieved, with concrete steps forward to achieve this agenda over the next twenty years.

Accelerating the transition to upper-middle income status

Without reforms, Ghana's economy is currently projected to reach upper-middle income status by 2037 in a 'business as usual' (BaU) scenario. In a 'business as usual' scenario, annual real GDP growth is projected to peak in 2024 and then remain elevated at over 5 percent for the following 15 years.[17] Real GDP per capita growth is projected to also bounce back and peak in 2024, then remain elevated at just under 4 percent for the next fifteen years.

Under a 'bright horizons' scenario with reforms to drive economic transformation, Ghana's economy could reach upper-middle income status by 2032, five years ahead of 'business as usual'. This scenario would involve important reforms to raise productivity in manufacturing, high productivity 'global innovator' services and Ghana's lowest skilled services sectors. It would also include improvements in foundational skills, the impact of the full implementation of the AfCFTA and growth in net FDI inflows, as well as avoiding some of the direct negative effects of climate change resulting from rising temperatures. In this scenario, Ghana's economy would be 25 percent larger in 2040, relative to the 'business as usual' scenario (see Figure 1.16).

[17] Projections based upon the latest World Bank MFMod estimations (for 2020 to 2023) and the OECD SSP2 long-term growth rates (for 2023 to 2040).

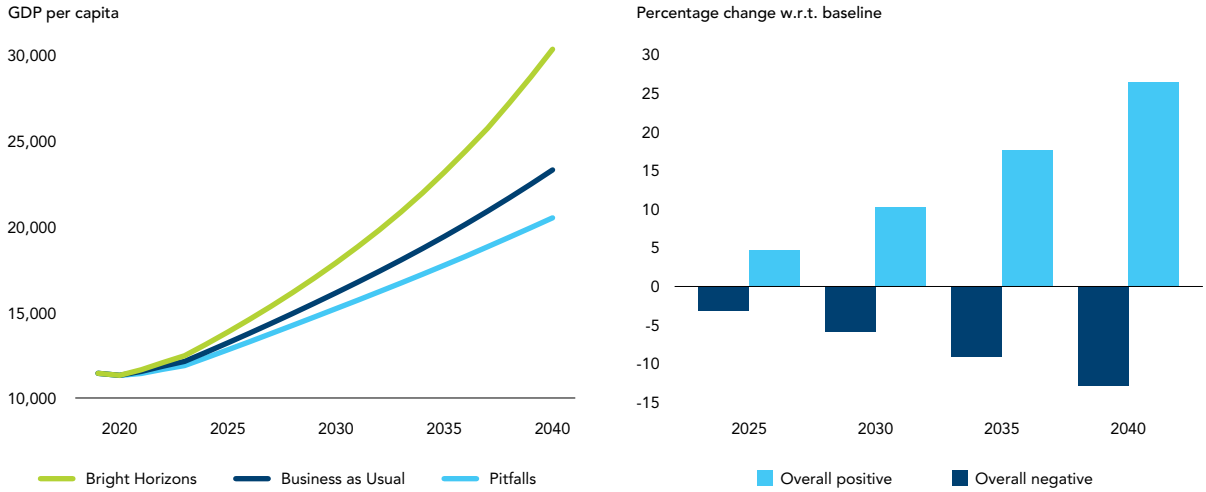
Under a 'pitfalls' scenario, however, Ghana would only reach middle income status by around 2040. This scenario would involve being negatively affected by some of the direct impacts of climate damages associated with a 1-degree temperature increase, declining productivity of manufacturing, high productivity 'global innovator' services and the lowest productivity service sectors, and also a decline in FDI inflows. In this scenario, GDP would be around 12 percent lower by 2040 than under a business as usual scenario.

The greatest impact on GDP would be from reforms to raise the productivity of export-oriented global innovator services and manufacturing. Reforms that lead to a 2 percent increase in TFP and a 1 percent increase in low-skilled labor productivity in ICT, and business services would have the greatest prospective impact on GDP by 2040 (see Figure 1.17). Reforms that lead to the same productivity growth rates in Financial Services

FIGURE 1.16

Under a 'Bright Horizons' scenario Ghana's economy could be 25 percent larger by 2040

Real GDP per capita by scenario (left) and real GDP differentials by scenario (right)

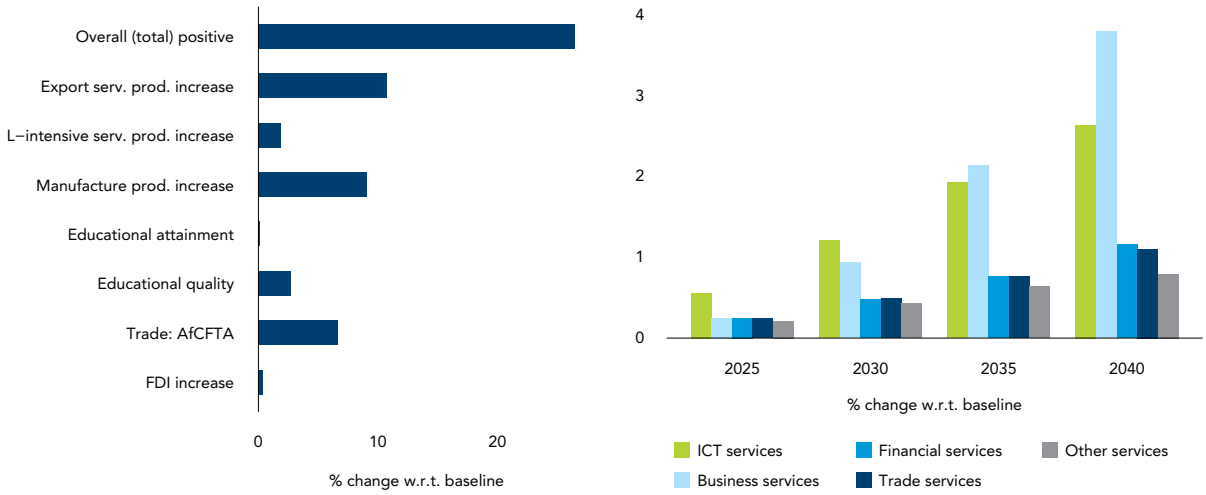


Source: World Bank staff calculations using MANAGE CGE model (Rojas-Romagosa, 2021).

FIGURE 1.17

The greatest effects would be from reforms to raise the productivity of the ICT, business services and manufacturing sectors

Real GDP level effects by 2040 in bright horizons scenario (left) and by services subsector and scenario (right)



Source: World Bank staff calculations using MANAGE CGE model (Rojas-Romagosa, 2021).

or Ghana's lowest productivity services sectors of Wholesale and Retail Trade and Other Services would have a more muted effect on GDP. Reforms that lead to the same productivity growth rates in Manufacturing would have an impact that is just over two thirds that of the combined effect for the five services sectors considered.

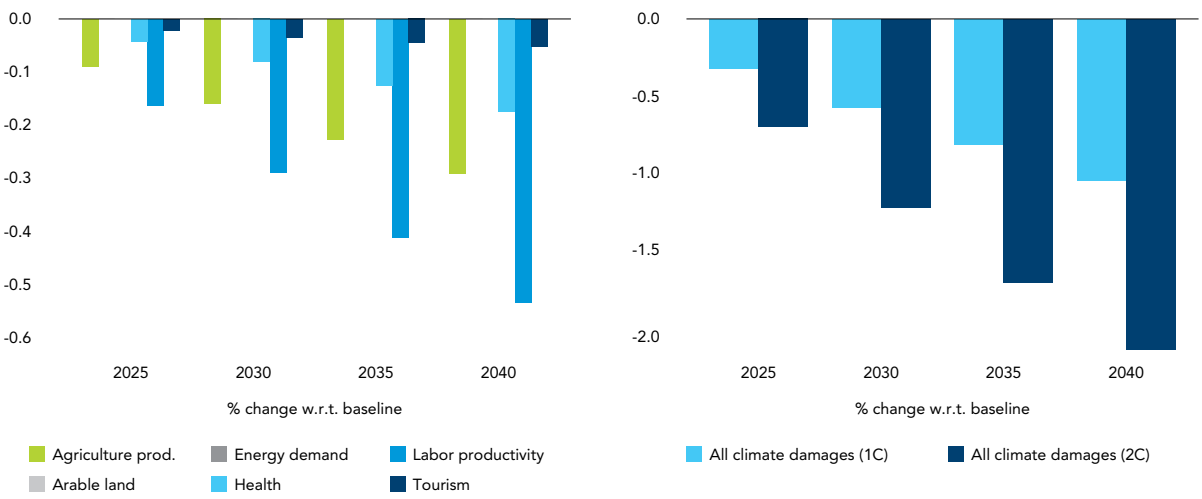
The full implementation of the AfCFTA would also have a major impact on growth. The 'full' implementation of AfCFTA is simulated taking changes in trade and real income gains as estimated in the World Bank's AfCFTA report (2020), which defines full implementation to include tariff cuts, NTM reductions and trade facilitation measures. The combined effect of the full implementation would be to raise GDP by approximately 7 percent by 2040 relative to business as usual. The effects of a 1 percent growth in FDI inflows are far more limited.

The effects of improved education quality on GDP are far higher than the effects of increased educational attainment. Improvements in educational attainment, through increased years of education, translate into a gradual shift in the education levels of the total work force. The bright horizons scenario for educational attainment assumes that Ghana achieves the targets for enrollment rates by education level as laid out in the Ghana Education Strategic Plan (ESP). This would result in a limited increase in GDP by 2040 of under 1 percent. The bright horizons scenario for educational attainment assumes that between 2021 and 2040 a one standard deviation improvement in the Ghana National Education Assessment (NEA) test scores is achieved, which is a regional standardized test. This has a far greater impact on GDP, leading to around a 2.7 percent increase in 2040 relative to business as usual.

In the 'pitfalls' scenario, the climate damage from the heat effects of a 1 degree warming is expected to shrink Ghana's GDP by at least 1 percent in 2040 relative to the baseline. The values for the climate change damage functions are taken from Roson and Sartori (2016). They provide benchmark estimations of six damage functions for temperature increases associated with climate change. These evaluate the impacts of climate change through only the channel of rising heat, so estimates should be treated as a minimum lower bound of the potential effects of climate change, with various further ways in which climate change could have effects that are not modelled here, but modelled above in the estimates above from the World Bank Shockwaves report. Most notably, these estimates do not include any impact from extreme weather or natural disasters In Ghana the most negative effects from rising heat are estimated to be felt through reduced labor productivity due to increased heat and reduced agriculture productivity from increased temperatures, particularly maize (see Figure 1.18). The effects of climate change on Ghana's GDP for 2 degrees of warming are approximately double those for 1 degree.

FIGURE 1.18
The greatest impacts of rising heat from climate change would be felt by labor productivity

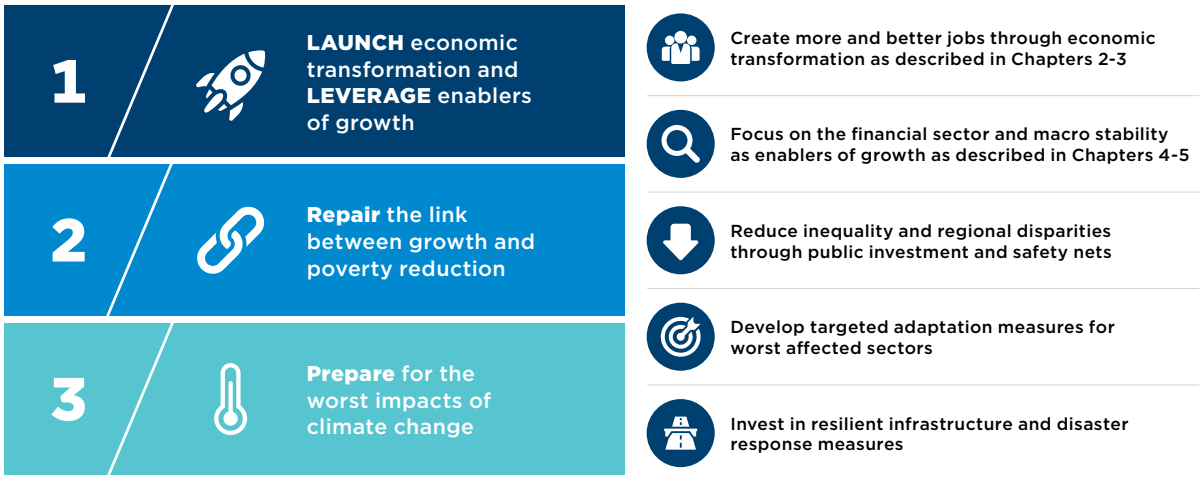
Real GDP level effects of 1 degree warming (left) and totals for 1 and 2 degrees (right)



Source: World Bank staff calculations using MANAGE CGE model (Rojas-Romagosa, 2021).

How can Ghana revive long-term inclusive growth?

To revive long-term more inclusive growth, Ghana will need to focus on three key priorities. Firstly, Ghana will have to focus on job creation from economic transformation and developing the key enablers of growth, the subjects of Chapters 2-5 of this CEM. However, in addition Ghana will also need to take additional measures to ensure that growth is inclusive and the link between growth and poverty reduction is repaired. Finally, Ghana will also need to prepare in advance for the impacts of climate change and set in place a growth path that will be resilient to the impacts of climate change both through its effects on the climate and its effects on global demand.



Source: World Bank staff elaboration.

POLICY PRIORITY 1

Create more and better jobs by launching economic transformation and leveraging enablers of growth

The first priority for Ghana will be to focus on economic transformation and creating an enabling environment for growth as laid out in this report. Economic transformation will lay the foundations for long-term growth that can reduce poverty, raise living standards and create jobs. This will feed into the other two key priorities listed below. Chapters 2 and 3 will provide detailed recommendations on launching economic transformation. Chapters 4 and 5 will provide detailed recommendations on generating an enabling environment for growth by ensuring the macro framework and financial sector support firms and the economy.

POLICY PRIORITY 2

Ensure that growth is inclusive and tackle Ghana's rising inequality and spatial disparities

In addition to the key agenda of driving long-term growth through economic transformation, Ghana will have to play close attention to the inclusivity of growth and set in place a framework for redistribution and poverty alleviation. This can be achieved through improving social safety nets, investing in public infrastructure, education and health, a focus on opportunities for lower-skilled workers and improving services for underserved regions and populations.

POLICY PRIORITY 3

The gains from priorities 1 and 2 will be in vain if Ghana does not prepare now to avoid the worst effects of climate change

Ghana will need to invest in targeted measures to reduce exposure to climate risks in agriculture. It will need to improve resilience in infrastructure and set in place better preparedness systems for natural disasters. It will need to prepare social safety nets for future crises. Finally, it will need to make sure its growth, trade and industrialization strategies are prepared for shifts in global demand resulting from climate action to both take advantage of opportunities and minimize investments in areas that are financially unviable in the long term because of the global push for decarbonization. Chapter 5 provides several ways in which Ghana can use its macro-fiscal toolkit to achieve this goal.

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PART 1

LAUNCH ECONOMIC TRANSFORMATION

Creation of sufficient, quality jobs will require Ghana to launch deeper economic transformation. Growth on its own is necessary, but not sufficient to deliver more and better jobs, particularly for poor people. What is needed are productivity gains across the range of jobs where poor people are actively engaged or those to which they are able to transition to. This part of the report focuses on sectoral and spatial transformation (Chapter 2) and technological transformation (Chapter 3). Chapter 2 sheds new light on Ghana's recent patterns of structural change, Ghana's performance in trade, integration into global value chains and FDI and takes a detailed look at Ghana's services subsectors, the jobs they create and their transformative potential. Chapter 3 provides new analysis on the state of Ghana's digital infrastructure, digital skills and the digital and complementary technologies being adopted by Ghana's firms and microenterprises.

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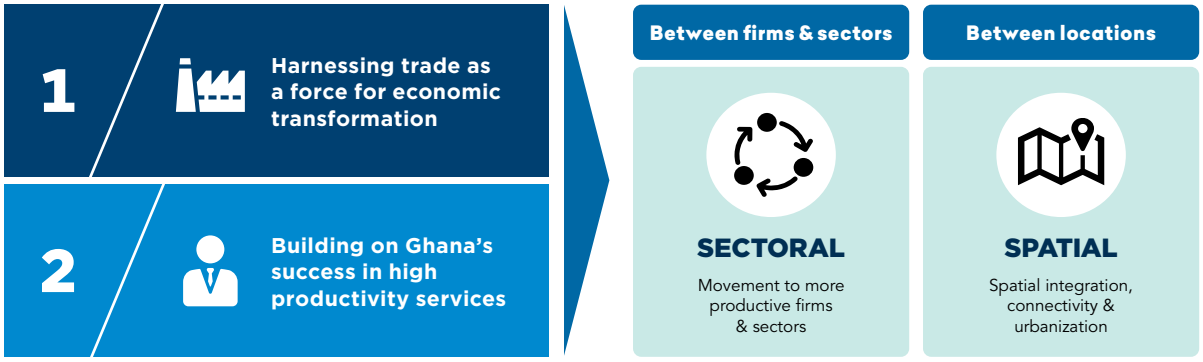
CHAPTER 2

Trade and the Changing Role of Services

Historically very few countries have managed to deliver long-run growth without significant structural transformation and the major gains from structural transformation in developing countries has generally been from the rise of manufacturing. However, paths to structural transformation are changing and we should not expect the future to necessarily look like the past. Ghana's path of structural transformation has not been the typical one, but that does not mean that there won't be new opportunities. High productivity export-oriented services have been some of Ghana's best performing sectors and drove the major gains from structural change over the past three decades. They are increasingly interlinked with other areas of the economy, embedded in goods production and exported. Manufacturing in Ghana has only taken off in terms of employment in the past decade and remains domestically focused and low productivity. Trade has historically been one of the major drivers of structural and spatial transformation, but in Ghana it has not been harnessed sufficiently to drive structural transformation, with goods exports becoming more concentrated in primary commodities this decade and the trade share with the continent declining. The AfCFTA offers a major opportunity to reverse this trend, but to really benefit, deep reforms will be required on trade facilitation. FDI and services exports in Ghana have been very promising, not only in extractives. Ghana's 'global innovator' services have high potential but Ghana specializes in the higher-skilled segments of these services, generating very few jobs for lower-skilled workers. Ghana will need to attract investment into lower-skilled segments of these services to harness their transformative potential. With services increasingly used as inputs in manufacturing, reforms to benefit services simultaneously boost manufacturing competitiveness: Ghana does not need to choose between manufacturing and services, both aims are increasingly intertwined.



This chapter evaluates the extent to which sectoral and spatial transformation have contributed to growth and job creation in Ghana and how Ghana can accelerate these transformations. It first discusses changing global patterns of structural and spatial transformation, with a focus on global integration. It then brings together several different data sources to shed light on recent patterns of trade, FDI and global value chain participation in Ghana and how they have contributed to economic transformation. Finally, it takes a detailed look at the performance of Ghana's different services industries. Using LinkedIn data, household survey data and data on services trade and task offshoring, it evaluates the characteristics of jobs in detailed services subsectors in Ghana and the opportunities and limitations of services-led development.

Structural and spatial transformation have been central to growth, but the future may be different to the past

One of the key insights on the process of long-term economic development is that it has rarely been achieved without structural transformation. The countries that have managed to reduce poverty and grow rapidly, historically and more recently, have been those that were able to diversify away from agriculture into modern economic activities with higher productivity and the capacity to drive innovation and generate positive spillovers to other areas of the economy.

Historically, the major development gains from structural transformation stemmed from the transition from agriculture into manufacturing. The characteristics of the manufacturing sector that made it so conducive to development, as exemplified by East Asia's success in export-led growth, have been its propensity to generate large-scale employment opportunities for lower skilled workers and its capacity for innovation, exploiting economies of scale and productivity spillovers. In short, the manufacturing sector has typically generated such development dividends because it has provided better paid job opportunities for large numbers of low skilled workers moving out of agriculture and subsequently placed those workers on a productivity growth path through opportunities for learning-by-doing generated from trade and innovation (Davies et al., 2021).

More recently, several developing countries have also experienced important gains from structural change through the movement from agriculture directly into export-oriented services. There is growing evidence that some of the features of the manufacturing sector that were historically conducive to development, such as this capacity to employ large numbers of low skilled workers at a productivity premium and the potential for scale, innovation and productivity spillovers, may not be specific to manufacturing per se, but increasingly

exhibited by some export-oriented service industries. In India particularly, the positive contribution of structural change to economic growth after the 1990s was largely down to the expansion of high-productivity export-oriented service activities such as IT, business process outsourcing (BPO), and other business services.

The manufacturing and services sectors are not what they used to be. There has been a growing debate about the extent to which the path of manufacturing-led development will generate the same development gains for future developing countries as it did in the past in light of the declining labor intensity of the manufacturing sector globally, climate policies that will require decarbonization, the increased potential for automation of manufacturing production and the slowing growth and regionalization of global value chains. Services are also increasingly tradable. There have also been suggestions, for example by Baldwin (2019) and Baldwin and Forslid (2020), that digital platforms, the rise in remote working and machine intelligence, will facilitate outsourcing of tasks and jobs, enabling new waves of offshoring of various services activities to lower-income countries.

At the same time, the growing complementarities between manufacturing and services mean that the lines between manufacturing and services are increasingly blurred. Manufacturers increasingly use services either for their own production needs or for their customers, for example sales and after-sales services bundled with goods. As a result, services are growing in importance to develop a competitive manufacturing sector. This is a process expected to intensify given the role that the generation and use of data will play in increasingly interconnected "smart" factories. The traditional path of structural change was for countries to first move from agriculture into manufacturing and then to move up the value chain of manufactured goods by diversifying out of the "production" of goods into services e.g. design and R&D, or those embedded in goods during postproduction, such as after-sales support and other add-on services. However, with these services accounting for a greater share in the manufacturing product's supply chain, having competitive service sectors first could later trigger the expansion of manufacturing sectors through boosting manufacturing competitiveness.

To maintain broad-based growth over the next few decades, Ghana will have to develop a strategy to further move labor from low productivity jobs to higher-productivity jobs in manufacturing or higher-productivity services

They typical path of structural transformation into manufacturing was also previously accompanied by spatial transformation, but now spatial transformation often occurs without structural transformation. Historically, there was a strong relationship between urbanization and industrialization. However, Gollin et al. (2016) have shown that this relationship has broken down for most developing countries over the past decade and that resource exports have caused an increase in urbanization rates, with the rise of 'consumption cities' where a larger fraction of workers are employed in non-tradable services such as commerce and transportation or personal and government services. This contrasts with 'production cities' from earlier patterns of structural transformation, were a larger fraction of workers were engaged in manufacturing or tradable services.

Trade expansion and integration have historically been central to creating new, higher-productivity jobs that facilitate growth through structural and spatial transformation. To maintain broad-based growth over the next few decades, Ghana will have to develop a strategy to further move labor from low productivity jobs, mainly in agriculture and low-productivity services, to higher-productivity jobs in manufacturing or higher-productivity services. Trade and integration into global value chains provide opportunities to facilitate this growth-enhancing structural and spatial transformation by allowing for economies of scale to be exploited through access to larger markets and through providing an avenue for technology diffusion and productivity spillovers.

BOX 2.1

Understanding Ghana's manufacturing employment 'renaissance'

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The pattens we document in this CEM for structural change and the manufacturing sector in Ghana have a lot of similarities to those experienced in other countries in sub-Saharan Africa. Diao et al. (2021) have shown that labor productivity growth in manufacturing has been disappointing across Africa over the past decade and that countries with a strong contribution of structural change to growth (Ethiopia, Malawi, Senegal, and Tanzania, especially) experienced little labor productivity growth within their non-agricultural sectors. They argue that this pattern is not consistent with a supply side model of growth driven by productive improvements in manufacturing but instead is most likely explained by an increase in demand for urban products — whether due to transfers from abroad, public expenditures, or income gains in agriculture.

These authors show that for Tanzania and Ethiopia, the expansion of the manufacturing sectors was not accompanied by an expansion of formal employment in manufacturing, unlike in Taiwan and Vietnam. They also show there is a sharp dichotomy between larger firms that exhibit superior productivity performance but do not expand employment much, and small firms that absorb employment but do not experience any productivity growth. They argue that standard explanations for the lack of employment growth in the most productive manufacturing firms are inadequate but that the reason for the limited employment expansion of the most productive firms might stem instead from the nature of technologies used by these firms.

Relatively large firms in the manufacturing sectors of Tanzania and Ethiopia are significantly more capital-intensive than what would be expected on the basis of the countries' income levels or relative factor endowments. This is especially true of the larger, most productive firms, where capital intensity approaches (or exceeds) levels observed in the Czech Republic, a country that is around twenty times richer. They conclude that the imperative of competing with production in much richer countries at similar quality levels makes it difficult to undertake large shifts in production technique.

Kruse et al. (2021) have also studied the rising manufacturing employment share in Africa over the past decade. They document that in sub-Saharan Africa, the share of workers in manufacturing rose by 1.2 percentage points to 8.4 per cent during the period 2010–2018, an important reversal of the prior de-industrialization trend. They show this rise in the employment share is driven by the absorption of workers by unregistered small manufacturing firms. By separating countries into those that are manufacturing exporters and non-exporters, they show that domestic rather than foreign demand appears related to industrialization. They conclude that small-scale firms in sub-Saharan African have increased production of (low-) quality goods to meet rising demand by domestic consumers.

Harnessing trade as a force for economic transformation

Trade, FDI and global value chain integration are key parts of the Government of Ghana's development agenda. The Government's new export strategy seeks to leverage the manufacturing sector to diversify the export base, including trade in services and to integrate deeper into GVCs. In October 2020, the Government launched the new National Export Development Strategy (NEDS), which envisages growth in non-traditional exports (NTEs) from US$2.8billion to US$25.3billion over a 10-year period, to be accompanied by deep structural transformation and a competitive export-led industrialized economy. The Government has also stated its aim is to "build the most business-friendly economy in Africa"; through diversification of the export base, further integration into global value chains (GVCs) and promotion of intra-Africa trade.

Ghana faces an historic opportunity as the secretariat of the AfCFTA. The full implementation of the AfCFTA will create the largest free trade area[18] in the world, connecting 55 countries with a combined US$3.4 trillion market economy of 1.3 billion people. This has great potential to boost intra-African trade, promote industrialization, create jobs and improve the competitiveness of African industries on the global stage. Furthermore, the agreement could offer major opportunities for investors- both domestic and foreign, to do business with a single set of trade and investment rules across the continent. The agreement aims to reduce all trade costs and enable Africa to integrate further into global supply chains — it will eliminate 90 percent of tariffs, focus on outstanding non-tariff barriers, and ultimately aims to create a single market with free movement of goods and services. Cutting red tape and simplifying customs procedures could bring significant income gains.

Yet, trade is not a silver bullet, the gains from the AfCFTA will not be automatic and, to date, trade has not been a force for sufficient job creation or economic transformation in Ghana. Ghana's outstanding export performance has been driven primarily by extractives, which offer limited scope for job creation, export concentration is rising, sophistication is declining and significant barriers to trade and global value chain participation remain. Trade also has distributional effects and benefits will not be automatically shared evenly. The full implementation of the AfCFTA still faces major obstacles, which will need to be overcome if Ghana is to reap the benefits.

Ghana has had an impressive export performance, but without diversification

Ghana's export performance over the past decade has been outstanding and Ghana's trade to GDP ratio has increased rapidly. Total trade in goods and services expanded from a volume equivalent to 55 percent of GDP in 2010 to 72 percent of GDP in 2019. Exports of goods and services increased by an annual average of 13.2 percent, with per capita exports doubling in value between 2010 and 2019. This has placed Ghana as the 8th most dynamic exporter globally and the 5th in Africa.

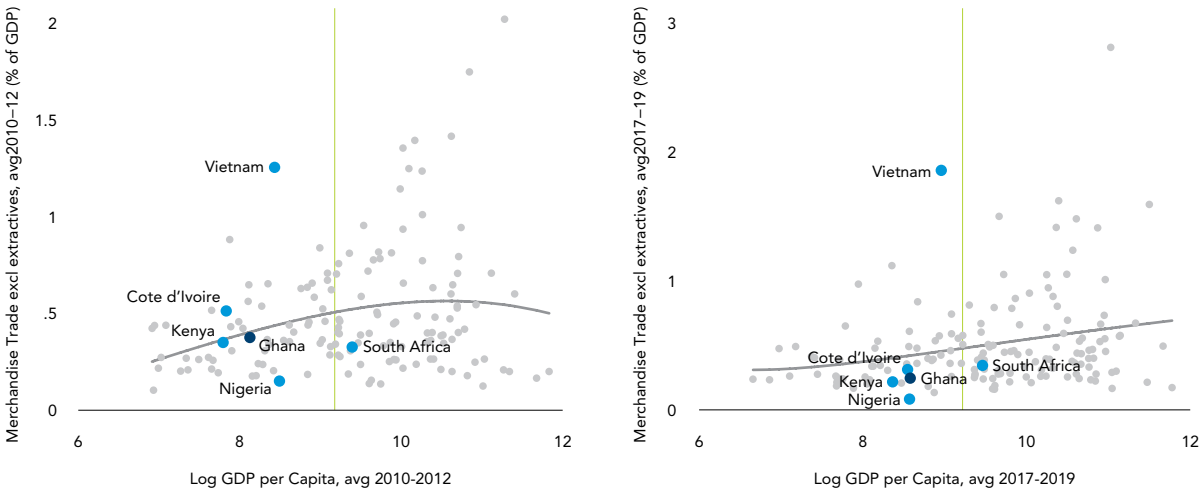
But growth in exports of goods has been fueled by extractives and exports are increasingly concentrated in primary commodities, offering limited scope for productivity spillovers or employment generation. Excluding extractives, trade in goods declined from 39 percent of GDP in 2010 to 31 percent of GDP in 2019 (Figure 2.1). Since 2010, when oil and gas exploration started, Ghana's total extractive exports increased nearly 3.5 times in trade value, from 66 percent share in 2010 to 71 percent of merchandise exports in 2019. Extractive exports are evenly distributed between gold and oil: 55 percent and 45 percent of extractive exports in 2019, respectively. Ghana's level of diversification in exported products lags most comparators, outperforming only Nigeria in 2019. Additionally, since 2011, Ghana's exports have become less sophisticated, bearing less resemblance to the typical export basket of high-income countries as measured by the income content of exports.

[18] AfCFTA is the largest free trade area in terms of the size of participating countries. As at April 2020, 54 African countries had signed the AfCFTA agreement, 24 countries had deposited their instruments of ratification, and only Eritrea is yet to sign the agreement.

FIGURE 2.1

Ghana's merchandise trade excluding extractives is lower than expected

Ghana: Merchandise trade excluding extractives, Ghana and comparators



Source: World Bank staff calculations using data from UN Comtrade and WDI. Note: (i) The relationship between the merchandise trade (excluding extractives) as a share of GDP and income per capita is explained by the fractional-polynomial prediction; (ii) The extractive sector includes minerals (HS 25-26), fuels (HS 27), and precious metals (HS 71); (iii) Ghana's exports are constructed by using the 'mixed mirror' method (the mirror data for all sectors except HS71 gold).

Export opportunities for other goods remain untapped

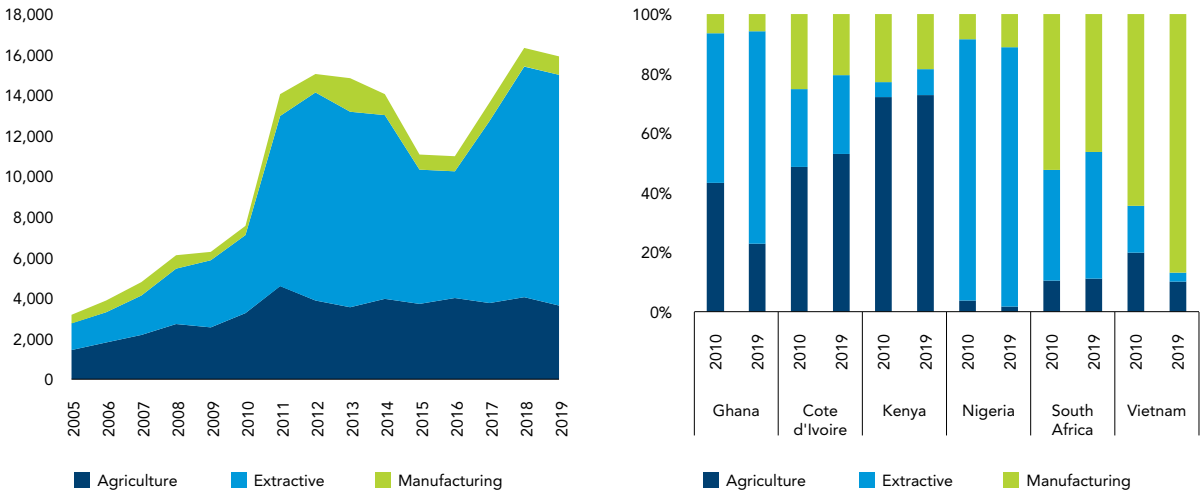
Manufacturing exports remain a small share of total exports and their growth has been modest. Manufacturing exports nearly doubled in value but declined in share from 12 percent to 7 percent between 2010 and 2019 (see Figure 2.2). There were no light or complex manufacturing products included in Ghana's top 20 export products by value between 2015 and 2017. Ghana's manufactured exports comprise primarily of medium technology or resource-based manufactures, with limited high-technology products.

FIGURE 2.2

Manufacturing exports have increased only modestly over the past decade and remain a very small share of Ghana's goods exports

A) Ghana goods exports by category, US$ million

B) Ghana and peers, goods exports by category



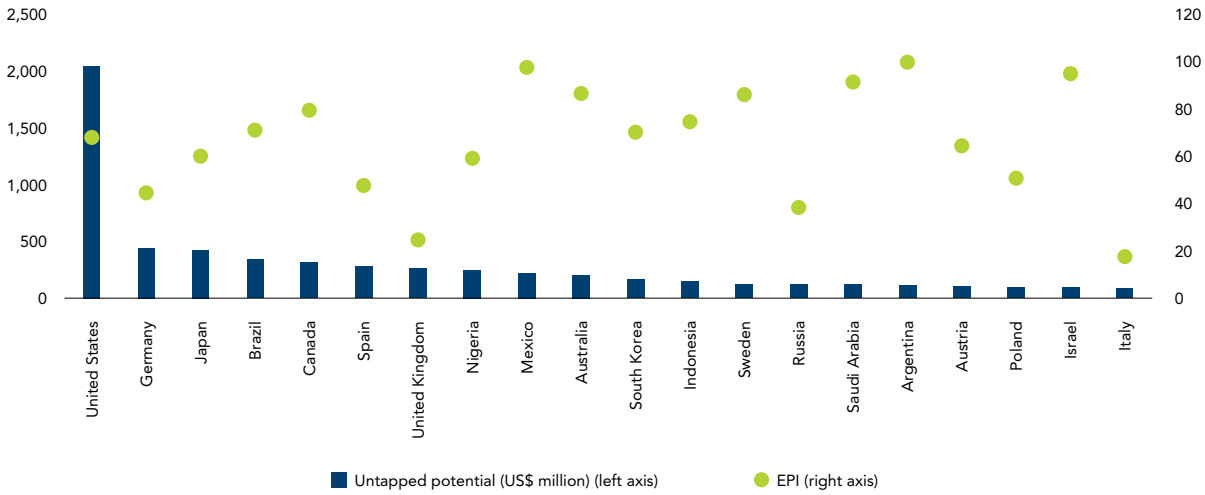
Source: World Bank staff calculations using data from UN Comtrade.
Note: (i) The extractive sector includes minerals (HS 25-26), fuels (HS 27), and precious metals (HS 71); (ii) the export data for Ghana are constructed using a 'mixed mirror' method (the mirror data for all sectors except HS71 gold), the imports are directly reported. The data for Kenya are based on the mirror method.

According to gravity model estimations, Ghana's merchandise exports have huge untapped potential. Ghana's Export Potential Index[19] (EPI) shows that Ghana's merchandise exports should have been 32 percent higher[20] than the observed values during the past decade. At the industry level, Ghana's top three sectors with the greatest untapped export opportunity ('missing trade') were textiles and clothing, electronics, and chemicals. In terms of the processing stage and end-use sectors, Ghana's top three sectors with the greatest export opportunity ('missing trade' value) are final apparel, final electronics, and intermediate electronics.

FIGURE 2.3

Ghana's merchandise exports have performed far below potential over the period 2010-2019

Ghana: EPI and Missing Exports in Top 20 markets, average 2010-2019 (US$ million)



Source: World Bank staff calculations.

Ghanaian goods exports have been on the rise to Asia and on a decline to Africa over the past decade. In 2019, the largest destination for Ghana's merchandise exports was Asia which accounted for 43.4 percent share in goods exports, out of which China and India received 16.7 and 14.2 percent share, respectively. The African market for Ghana's exports has declined in importance from 63.1 percent share in 2010 to 17.7 percent share in 2019, which could be explained by the fact that extractive products are mainly destined to advanced economies' markets. Within Africa, the most important export markets for Ghana have been SADC[21] led by South Africa and ECOWAS[22] led by Burkina Faso.

From commodity exporter to commodity and services exporter

Another major driver of Ghana's export growth has been the rapid rise of services exports. Exports of services increased fivefold between 2014 and 2018 and Ghana's services sector is now the largest contributor to value added exports. Much of the growth in Ghana's services exports stemmed from the category of 'Technical, trade related and other business services', which includes architectural, engineering, scientific, and other technical services, waste treatment and de-pollution, agricultural and mining services, operating leasing services, trade-related services and other business services (Figure 2.4).

[19] Export Potential Index (EPI) varies between 100 and -100. The maximum value is obtained when observed bilateral trade flows are equal to 0, but the model predicts positive exports to the destination market, while the minimum value (i.e., -100) is obtained when the predicted value is equal to 0, and the observed values are positive. The EPI is defined as follows:

$$Export\ Potential\ Index_{i,t} = \left(\frac{\sum_j \hat{X}_{i,j,t} - \sum_j X_{i,j,t}}{\sum_j \hat{X}_{i,j,t} + \sum_j X_{i,j,t}}\right) * 100$$

[20] For a given export potential, the relationship with respect to the observed trade flows is calculated as follows:

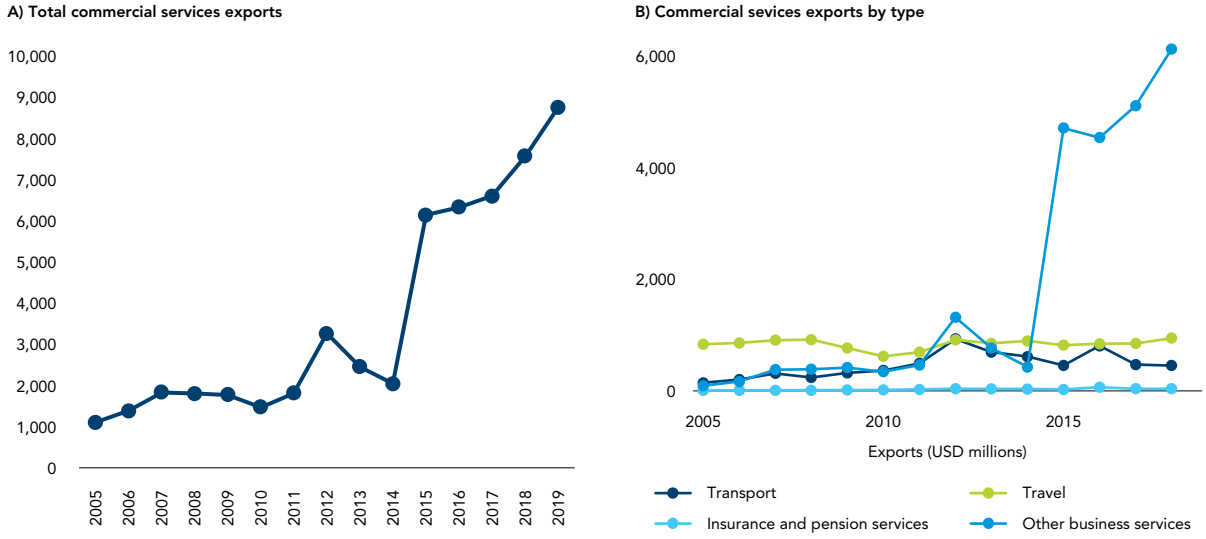
$$\hat{X} = \frac{1 + \frac{Export\ Potential}{100}}{1 - \frac{Export\ Potential}{100}} * X$$

[21] Southern African Development Community (SADC).

[22] Economic Community of West African States (ECOWAS).

FIGURE 2.4

Ghana's services exports increased fivefold between 2014 and 2018, with the rise mainly driven by services embedded in commodities exports



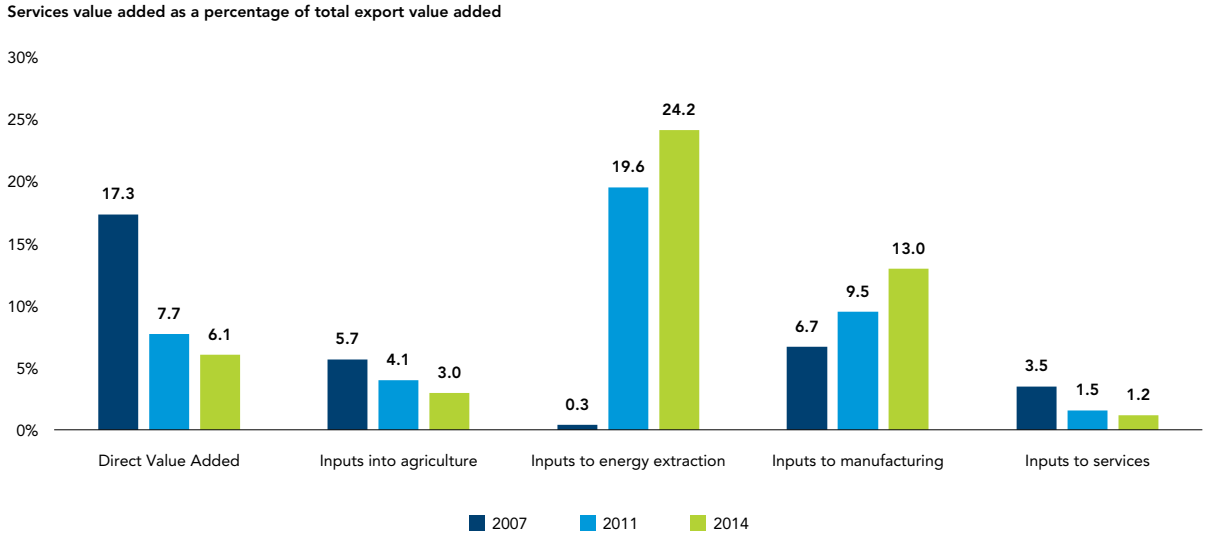
Source: WTO Trade in Services Database.

Source: WTO Trade in Services Database.

While this has implied the diversification of exports towards services, a big chunk of the increase in services exports corresponds to services that are embedded in commodities exported from Ghana. In Ghana, services generate nearly a half of total export value added, outperforming all comparators. The services share of value-added exports increased by 19 percentage points, from 25 in 2004 to 44 in 2014. Such increase in the importance of services in Ghana has been driven by the services that support oil exports, and which accounted for one-half of services value added in 2014 (or 24 percent of total export value added). Meanwhile, over one-third of services added value supports manufacturing exports (or 13 percent of total export value added). Ghana's services value added mostly contributes to other exports sectors in the economy, indicating a high integration with other sectors as only one-eighth stays within the same sector (as a direct value added) or 6.1 percent of total export value added.

FIGURE 2.5

Half of Ghana's value-added exports from services came from inputs into energy extraction



Source: World Bank staff calculations.

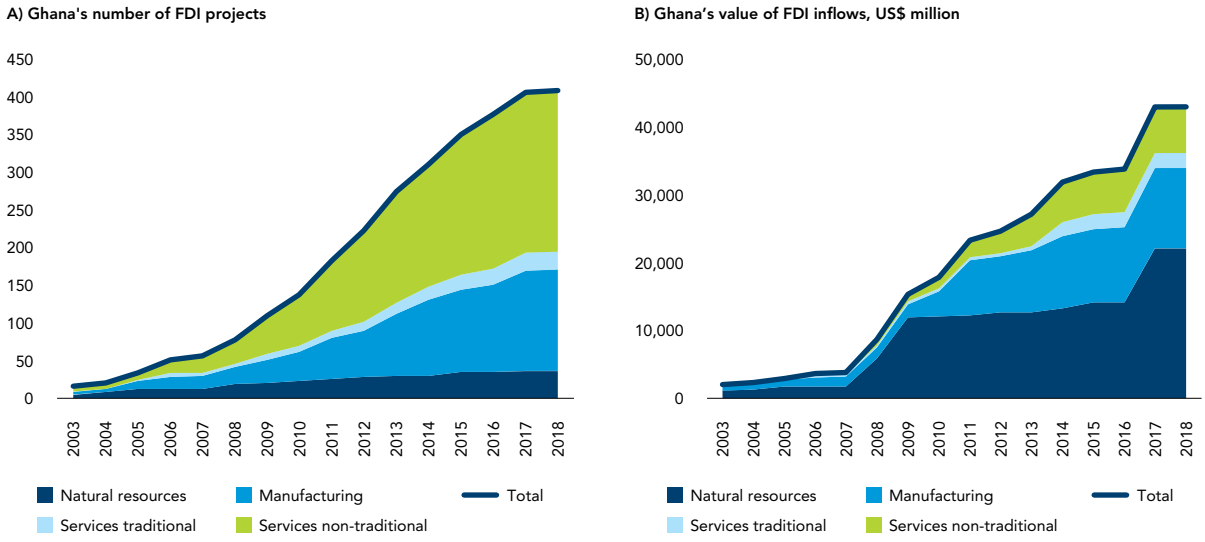
Ghana has been one of the largest FDI recipients in the region, with extractives only half of the story

Ghana's outstanding FDI performance has also been primarily driven by extractives, although also with an important contribution of manufacturing and high-productivity services sectors. Majorly boosted by the oil sector, FDI inflows in Ghana increased very rapidly in the mid-2000s to reach an average of US$3 billion per year in 2014, being even on par with Nigeria. Beyond investments in extractives and their transformation, which accounted for half of total inflows between 2003 and 2018, manufacturing and services were also important destinations of FDI, with manufacturing accounting for 28 percent of inflows between 2013 and 2018 and services accounting for 22 percent (Figure 2.6). Within manufacturing, the greatest share of inflows has been into metals, accounting for 41 percent of total manufacturing inflows between 2003 and 2018, chemicals, accounting for 17 percent and food and tobacco, accounting for 13 percent. Within non-traditional services, which comprises of all services excluding tourism, warehousing and storage and transportation, the greatest recipients have been communication, accounting for 41 percent of total non-traditional services inflows between 2003 and 2018, real estate, accounting for 29 percent and financial services, accounting for 21 percent.

Manufacturing appears to have been the largest source of job creation from FDI. The sector creating the most jobs, according to FDI Markets data, has been food and tobacco, accounting for 45 percent of all manufacturing FDI jobs created over this 15 year period, followed by the automotive sector, which has created nearly 10 percent of jobs, despite accounting for only 4 percent of inflows. Within non-traditional services, the greatest share has been created by communications, accounting for 33 percent of non-traditional services FDI jobs over this fifteen-year period. It is worth noting that in Ghana FDI flows into manufacturing have had twice the job creation impact per dollar invested than services and over five times the impact for natural resources.[23]

FIGURE 2.6

FDI inflows into Ghana increased nearly tenfold between 2007 and 2018, with half of inflows into natural resources



Source: Financial Times FDi Markets Database.

[23] It is worth noting that FDI Markets data uses announcements of FDI projects, not final realizations and so may not be highly accurate.

Great expectations for the AfCFTA, but major benefits will require more than tariff reductions

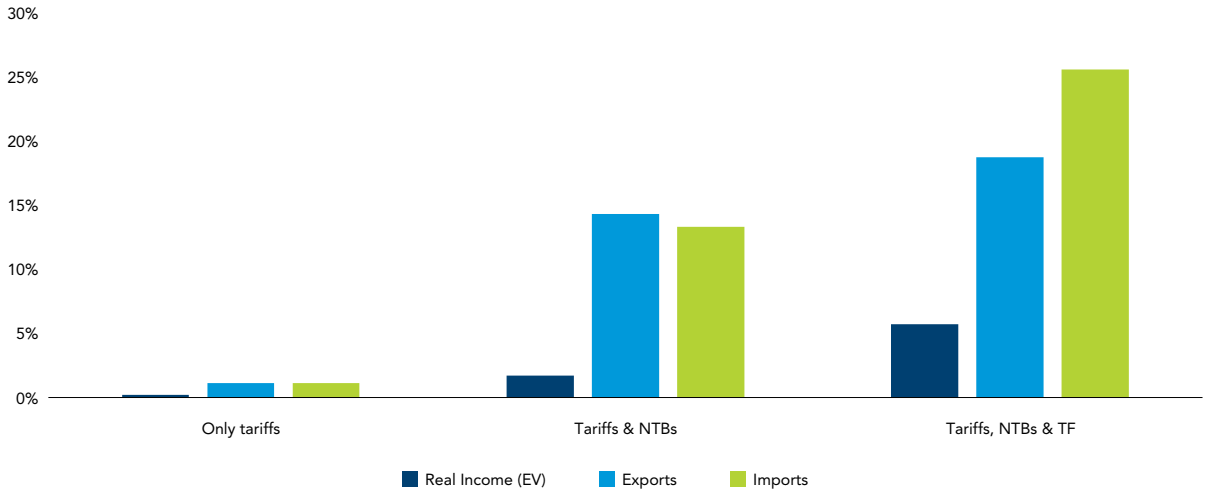
Ghana could stand to gain substantially from the AfCFTA, which has the potential to boost trade and regional value chains in Africa and reverse the pattern of Ghana's declining trade share with the continent. It has been estimated by the World Bank AfCFTA Report (2020) that total real income gains from full implementation of AfCFTA across the continent could reach 7 percent by 2035. For Ghana the estimates range from 6 percent to below 1 percent, depending whether the trade facilitation agreement is implemented or only the reduction of tariffs. Trading under the first phase of AfCFTA began in January 2021 with the progressive reduction of tariffs on intra-continental trade starting with a 90 percent elimination of tariff lines over a five-year period, followed by an additional 7 percent of tariff lines to be eliminated over a five-year period from 2025.

Achieving the full potential of the agreement will depend on putting in place significant policy reforms and trade facilitation measures. For Ghana, the gains from tariff reductions alone are relatively limited with an increase of 0.2 percent in real income by 2035 relative to the baseline (see Figure 2.7). This is because other barriers to trade with the continent are a far greater impediment to trade than tariffs. The greatest gains for Ghana are estimated to come from the implementation of trade facilitation (TF) measures in line with the Trade Facilitation Agreement (TFA), leading to halving of trade costs. Trade facilitation measures involve improving border infrastructure and reducing the cost of administrative procedures, ultimately making it easier for African businesses to integrate into regional and global value chains. The combination of tariff reductions, cutting non-tariff barriers (NTBs) and trade facilitation measures would lead to an increase of 5.7 percent in real income when compared to the baseline. An intermediate scenario without full trade facilitation measures but with NTBs on both goods and services reduced on a most favored nation (MFN) basis is estimated to lead to a more modest 1.7 percent increase in real income by 2035.

FIGURE 2.7

The major gains from the AFCFTA for Ghana will come from trade facilitation measures, with tariffs making only a limited impact

Estimated percentage deviations from the baseline by 2035 for AfCFTA scenarios



Source: World Bank AfCFTA Report 2020.

With full implementations of tariffs, NTBs and trade facilitation measures, Ghana's exports to Africa could be twice as high as they would be otherwise in 2035. In the scenario with tariffs, NTBs, and trade facilitation, intra-AfCFTA trade is estimated to grow substantially, with Ghana seeing its exports to the region increase by 94 percent by 2035 relative to the baseline, or a US$5 billion difference. Its imports from AfCFTA

partners would increase 79 percent relative to the baseline, by US$12.5 billion. Heightened integration with AfCFTA countries would mean that Ghana's share of exports to the region would increase from 9 percent in 2020, to 16 percent in 2035, while without the trade facilitation measures, the increase would only from 9 percent in 2020 to 10 percent.

Manufacturing would be the major beneficiary sector and wages for lower skilled workers would benefit the most. Manufacturing is estimated to be the sector with the highest increase, with growth of up to 78 percent in terms of total exports relative to the baseline, which is an equivalent of 11 billion in 2014 US dollars. Exports of wearing apparel, chemicals, wood, agricultural and food products see the greatest potential with communications growing the fastest among services sectors. The potential wage effects would be largest for unskilled workers and women, but all workers would benefit. It is estimated that the income gains would lift 0.2 million additional people out of extreme poverty by 2035.

There are still major constraints to Ghana's export diversification

Ghana has not significantly cut tariffs over the past decade and trade-weighted tariffs remain high, particularly on imported raw materials and intermediate goods, potentially hindering manufacturing competitiveness. Ghana's simple average MFN (11.95 percent) and applied tariff (12.41 percent) have not significantly changed over the past decade and trade-weighted MFN and applied tariff rates in 2019 remained high and above those of its comparators. In terms of processing stages, Ghana's tariffs on imported raw materials and intermediate goods, particularly, exceeded those of its comparators, with the most protected sector being raw materials at 17.3 percent (as a trade-weighted average MFN rate), compared to 12 percent in 2010. Ghana's trade-weighted MFN rate on imported intermediate goods was 9.2 percent, exceeding all comparators. The trade MFN tariff on imported capital goods also exceeded most comparators. While 26 percent of imports were free in 2010, only 9 percent were free in 2019.

There are several ways Ghana could improve global value chain participation. Ghana does not seem to offer a high level of buyer sophistication, scoring only 3 out of 7 in the WEF's indicator measuring buyer sophistication. Ghana's local suppliers also do not seem to provide enough quantity and quality. Ghana scores 4.1 out of 7 in the WEF's local supplier quality indicator and 4.6 in local supplier quantity. Ghana could also improve on FDI and technology transfers (4.3 out of 7), as well as on value chain breadth (3.9 out of 7). Additionally, only 9.2 percent of firms in Ghana have internationally recognized quality certification, representing the lowest percentage among both structural and regional peers.

Ghana's transport and logistics operations place it at the forefront of West Africa but Ghana's ambition to become a regional logistics and transport hub still faces several obstacles. Maritime cargo volume has experienced rapid growth of 7.6 percent on average over 2010–2020, with container volumes growing at the same rate. Ghana's trade-related infrastructure is good by regional standards and there have been important investments in recent years, including the expansion of the container terminal in Tema. Seventy percent of the road network is in good or fair condition and the distribution of Ghana's infrastructure networks generally reflects the spatial distribution of economic activity. However, transport and logistical service performance improvements have been uneven. While container traffic has grown in Ghana, the share of container traffic remains low and stagnant, which points to an absence of modernization of freight transport. Transit traffic to hinterland neighbors has been a source of growth in port and transport activities, but transit volumes as a share of total port activity remain relatively low. Ghana is in the bottom third for the Logistics Performance Index (LPI) 2018. The latest LPI survey shows Ghana slipping back after progressing 41 ranks — from 129 to 88 in 2016 — to ranked 106th country out of 160 in the last survey.

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Building on Ghana's strong performance in high productivity services

The strong performance of Ghana's high-productivity export-oriented services has offered promise for the prospects for services-led development in Ghana. Between 2000 and 2012, growth in Ghana's global innovator services employment share was on a par with that in India and the Philippines. ICT particularly has been one of Ghana's best performing sectors over the past decade and contributed 3.3 percent of the country's GDP in 2020, growing 23 percent in 2020 despite the pandemic. The Government of Ghana aims to establish Ghana as the leader in ICT innovation in Sub-Saharan Africa by 2023 and to position the country as a regional hub for digital services. The BPO industry is also part of the government's transformational agenda to develop Ghana's services sector, with the Accra Digital Centre a BPO hub created by government with the aim to spur further growth in the sector. Ghana's recent selection as the host country for the AfCFTA could also be a major factor in encouraging foreign companies to use Ghana as a base for expansion into the AfCFTA, as has been seen recently with the relocation decision of Twitter.

FIGURE 2.8

ICT has been one of Ghana's fastest growing sectors, averaging 19 percent growth 2014-2020

Contribution of Information and Communication sector to GDP and the sector's growth rate

Source: Ghana Statistical Service.

For services to drive sufficient job opportunities through economic transformation, they will need to meet the dual objectives of providing many jobs for low and middle skilled workers and spurring innovation, economies of scale and productivity spillovers. High productivity, export-oriented global innovator services comprising finance, ICT and business services have often faced the limitation in their development potential that that they have been typically intensive in skilled labor. Countries like India and the Philippines have been the exception, rather than the rule, in attracting segments of these services sectors that have been more labor intensive. More labor-intensive tradable services — transportation, wholesale and retail trade, and accommodation and food services — on the other hand, are also traded internationally but are typically less offshorable and have lower capacity to spur innovation and productivity spillovers. Ghana will have to navigate this dichotomy, expanding both groups of services to achieve these dual objectives and catalyzing lower-skilled employment growth in global innovator services and innovation and productivity growth in labor intensive tradable services.

Global innovator services in Ghana are elite employers for the economy's highest skilled workers

Currently, Ghana's global innovator services employ relatively few, with employees being highly skilled and highly paid. In 2016, the average worker in manufacturing in Ghana had not completed secondary school and had 8.8 years of education. Financial and insurance services, on the other hand, was the most highly skilled sector in the economy, with the average worker holding a tertiary degree and having 14.2 years of education. In the information and communications sector, the average worker had 13.8 years of education, while for the professional, scientific and technical services sector it was only slightly lower at 12.6 years. Individuals working primarily in the information and communication, finance and insurance and professional, scientific and technical services sectors also had average incomes 3.2, 2,3 and 1.4 times higher than in manufacturing, respectively (Figure 2.9).

FIGURE 2.9

Ghana's high productivity, global innovator services remain very highly skilled and highly paid

Average incomes (left) and average years of education (right) for workers in global innovator services relative to manufacturing in 2016

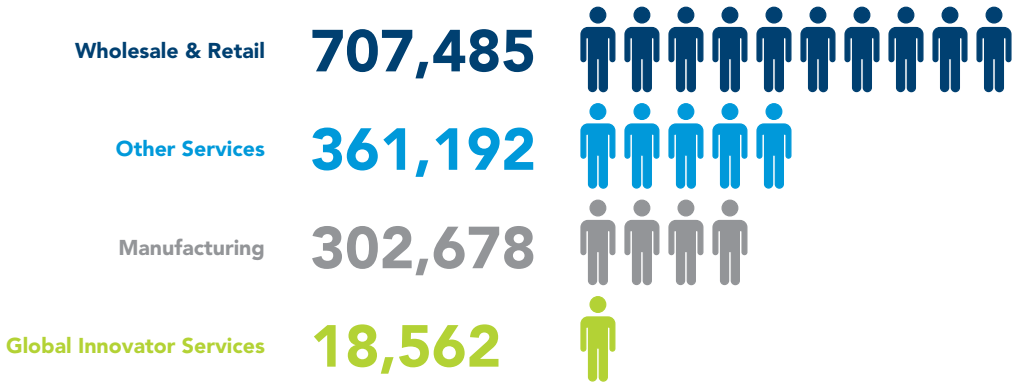
Source: World Bank staff calculations using GLSS Wave 7 survey data.

Global innovator services in Ghana are not just generators of 'good' jobs, but 'great' jobs. Employment conditions in these service sectors are also currently far more favorable than in manufacturing. In 2016, individuals of similar education, age, gender and region working in the finance and insurance sector earned 31 percent more, were 34 percent more likely to have a contract, 17 percent more likely to have health insurance and 24 percent more likely to have social security than those in the manufacturing sector. For the information and communications sector, workers of similar observable characteristics were 28 percent more likely to have a contract, 15 percent more likely to have health insurance and 23 percent more likely to have social security. For the professional, scientific and technical services sector those statistics stand at being 28 percent more likely to have a contract and 19 percent more likely to have social security, relative to in manufacturing, but with no difference in probability of having health insurance.

The only services subsectors that rival manufacturing in terms of the number of jobs for workers with only a primary school education or below are Other Services and Wholesale and Retail. According to weighted data from the GLSS 7th wave in 2016, the Wholesale and Retail Trade sector employed just over twice as many individuals with only a primary school education as the manufacturing sector (see Figure 2.10). The 'Other Services' sector employed a roughly similar number of workers with only a primary school education as in manufacturing. The global innovator services, on the other hand, employed very few workers with only a primary school education. In total, these sectors are estimated to have employed around 19,000 workers with only a primary school education in 2016, only around 6 percent as many as in manufacturing. The vast majority of all of these lower skilled jobs in global innovator services, or 87 percent of the total, were in Professional, Scientific and Technical services, with ICT and Finance and Insurance together only employing around 2,500 workers with only a primary school education or below.

FIGURE 2.10
Global innovator services employ very few lower skilled workers

Estimated number of workers in each sector with only a primary school education or below



Source: World Bank staff calculations using GLSS Wave 7 survey data.
Note: Results weighted by household sampling weights. Employment is defined as being employed in the week before the survey was conducted and all estimates are weighted using household survey weights. The industry of employment is defined as the individual's industry of their primary job during the previous week.

Jobs are concentrated in the higher-skilled segments of global innovator services

A deep dive into the types of jobs in global innovator services using LinkedIn profiles reveals that jobs in Ghana appear more concentrated in Finance than other Global Innovator services relative to comparators. LinkedIn users represent only a subsection of the labor market, which has typically been shown to be skewed towards higher-skilled, white collar and urban workers. This subset of workers is therefore not representative of the wider economy but serves as a useful barometer when studying the detailed composition of specific white-collar services industries. Relative to three other 'Services Superstars', countries that have seen rapid growth in output and exports of global innovator services over the past two decades: South Africa, the Philippines and India, Ghana has a higher share of LinkedIn profiles in Finance and a lower share in Corporate Services and Software and IT Services (see Figure 2.11).[24] For example, the combined share of profiles in Corporate Services and Software and IT Services in Ghana was 25 percent, compared to 54 percent in India, 39 percent in the Philippines. Ghana's composition is more similar to that of South Africa, which has only 28 percent in these categories and a distribution more skewed towards Finance.

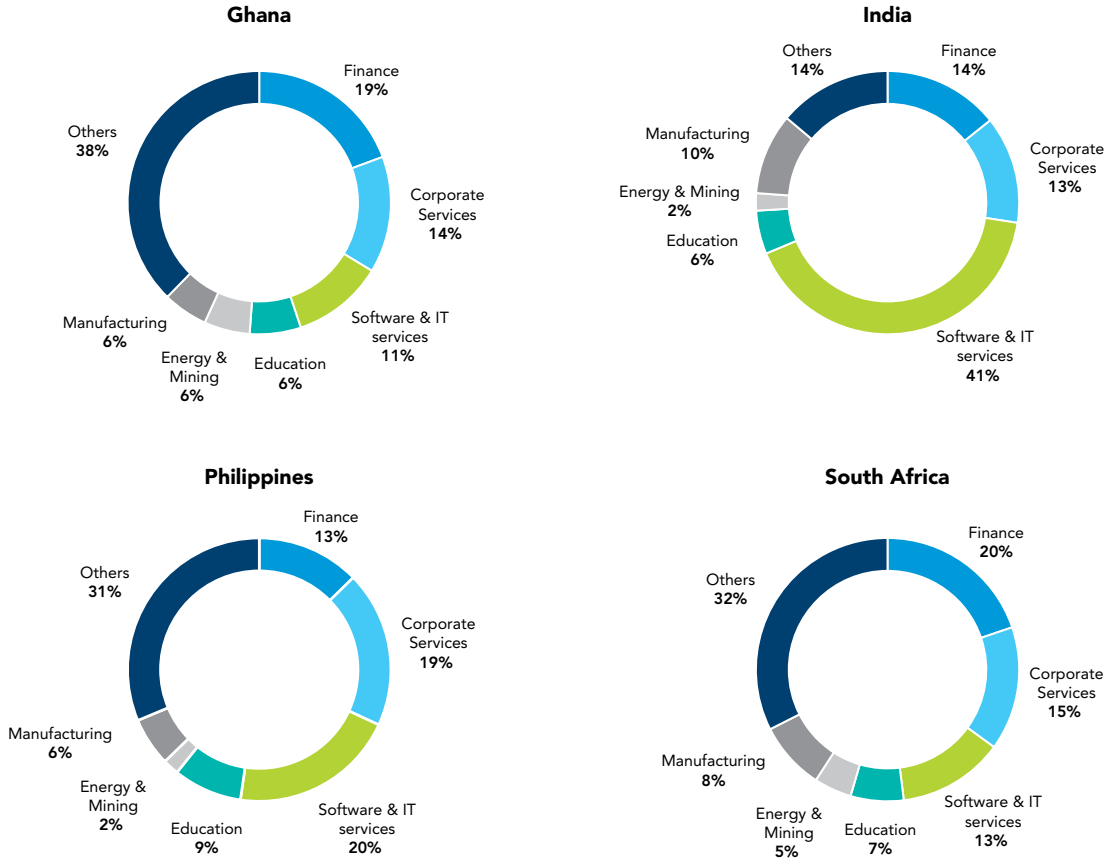
Within Corporate Services, Ghana has a far higher share of profiles in Accounting and a far lower share in Outsourcing/Offshoring. In the Philippines, for example, Outsourcing/Offshoring accounts for nearly half of all profiles in this category, while Ghana has less than 1 percent (See Figure 2.12A). In India it represents 12 percent. This category is likely to have some of the greatest potential development impacts in terms of its tradability and potential for productivity spillovers. Ghana's regional peers even have a higher share of profiles in this category at 3.4 percent, while South Africa has 4.3 percent. Instead, Ghana has a far higher share of profiles within Corporate Services in Accounting, making up over half of profiles in this category, relative to peers and particularly to the Philippines and India.

Ghana also has a lower share of low-skilled workers on LinkedIn in almost all industries than all of these other countries. Software and IT Services is the sector with the highest share of profiles with only a high school degree or below for most countries and that share stands at 7 percent for India, 2.3 percent for the Philippines and 4.2 percent for South Africa, while in Ghana it is just above 1 percent. In every single industry except for Energy and Mining, Ghana has a lower share of profiles with only a high school degree or below (see Figure 2.12B).

[24] In Ghana the share of LinkedIn profiles relative to total formal jobs as measured in the GGDC ETD data is 0.122, compared to 0.146 in India, 0.231 in the Philippines and 0.45 in South Africa. Ghana therefore has a lower share of the population using LinkedIn than the services superstars, but it is not far off the ratio of users to formally employed population in India.

FIGURE 2.11
Global innovator services employ very few lower skilled workers

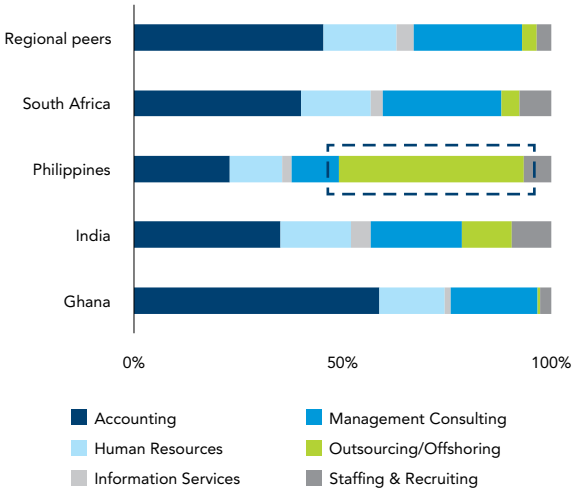
Estimated number of workers in each sector with only a primary school education or below



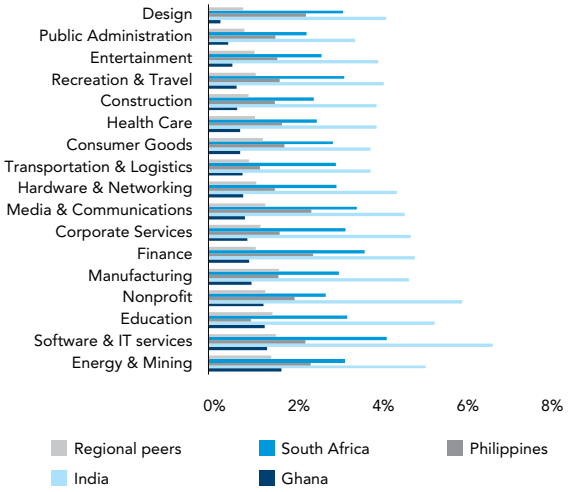
Source: World Bank staff calculations using LinkedIn profile data.

FIGURE 2.12
Ghana's LinkedIn users work in higher skilled segments like Accounting rather than Outsourcing/Offshoring (left) and Ghana has far fewer low-skilled workers on LinkedIn (right)

A) Breakdown of Corporate Services LinkedIn profiles



B) Share of LinkedIn profiles with only a high-school education



Source: World Bank staff analysis using LinkedIn data.

Telecommunications is the largest component of Ghana's ICT sector. In 2017, telecommunications accounted for 85 percent of ICT gross value added and 37 percent of employment. IT support services were the second largest component, accounting for 13 percent of GVA and 28 percent of employment. Digital services offerings of telecommunications companies have grown particularly rapidly due to mobile money services (ICT sector diagnostic, 2018).

Offshoring of global innovator services to Ghana is still limited

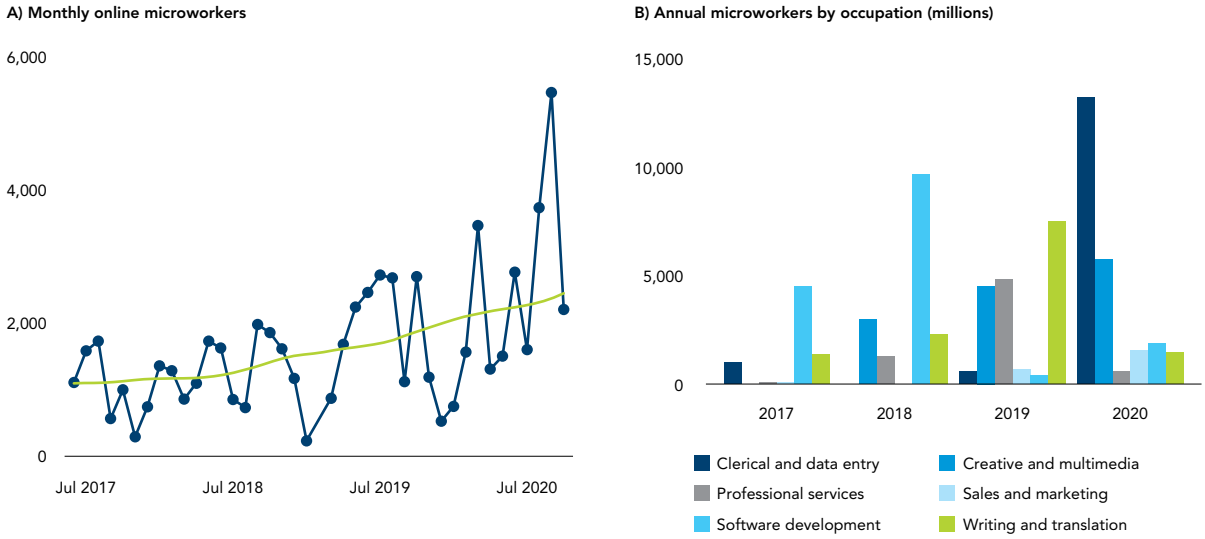
Other countries that successfully pursued a services export-led development path did so in part due to a substantial rise in offshoring from high-income countries. There has also been growing discussion about the prospect of digital technologies enabling greater offshoring or outsourcing of activities from high-income to lower-income countries, for example through digital platforms that make it easier for firms to contract out activities to workers in other countries. Baldwin (2019) and Baldwin and Forslid (2020), for example, have suggested that software robots and digital platforms will facilitate outsourcing of tasks and jobs, making services more easily tradable and enabling the offshoring of services to lower-income countries. There is growing evidence that services are increasingly tradable.

Ghana has experienced a rapid rise in its service exports over the past decade but growth in offshoring of global innovator services appears more modest. Growth in exports of services categories other than 'Other Business Services', as defined above, has been gradual, albeit still promising. Services offshoring from the UK to Ghana, Ghana's largest services export destination, for example, nearly tripled over the past two decades, with particular growth in telecommunications services and business management services. Ghana is the UK's fifth largest services offshoring destination in Africa after South Africa, Nigeria, Mauritius and Kenya.

While 'microwork' task outsourcing platforms have taken off on a large scale in Kenya, Nigeria and South Africa, task outsourcing to Ghana is more nascent. According to data from the iLabour Project, which scrapes and collates data on the number of projects and workers completing projects on four of the largest English language online freelancing or online outsourcing platforms, Ghana ranks 8th in sub-Saharan Africa

FIGURE 2.13

Task outsourcing to Ghana via digital platforms has risen steadily, but remains limited relative to Nigeria, Kenya and South Africa



Source: World Bank staff analysis using iLabour project data.

Source: World Bank staff analysis using iLabour project data.

in terms of number of workers completing projects on these platforms. Task outsourcing to Ghana on these platforms has risen steadily since 2017, with a particular jump in platform use in 2020, perhaps sparked by the COVID-19 pandemic and a rise in remote working. Around 20,000 workers conduct microwork on these platforms annually in Ghana. There has been a shift from predominantly software development occupations in 2017 and 2018 to writing and translation tasks being most prevalent in 2019 and now data entry and clerical tasks dominating in 2020.

However, microwork platforms in Ghana are mainly used by women and young people, contributing to poverty alleviation in rural areas. Remarkably, in the country, microwork platforms are used more by women than men, of which 56 percent have a secondary school certificate, and almost 60 percent were unemployed (Research ICT Africa, 2017). In the country, there are 19 microwork platforms in use, such as 15ghana.com and freelancer.com, through which local talent is satisfying local and global demand (Insight2Impact 2019).

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Services also play a key and growing role in other areas of the economy

The increase in the importance of services — or the 'servicification' — of the Ghanaian economy means that sectoral linkages between services and goods production have grown stronger. Services played a key role as an input supplier to other exporting sectors: the share of total value added that is generated in services and that gets exported embedded in a good grew three-fold, from 10 to 32 percent between 2004 and 2014 (Ganz and Varela, 2018). Recent research (van de Marel and Shepherd, 2019) has also shown that over the last thirty years the role of trade in services in production processes (both of tangible goods and other services as well) has grown exponentially (Miroudot et al., 2013).

The increase in the share of services embedded in production and exports of Ghanaian products makes competitiveness in services more important than ever for overall competitiveness. Despite significant improvements over the last decade-plus, potential to increase backbone services competitiveness in Ghana remains untapped. Using World Bank Enterprise Surveys, Ganz and Varela (2018) have shown that in Ghana, firms — especially those that are integrated into the global marketplace and the highly productive — still perceive service provision as a major constraint on their performance. Increased efficiency in backbone services provision can be brought about by reducing the regulatory burden on firms, by opening services sectors to trade and investment, and by encouraging competition at home. When done strategically and efficiently, such reforms can result in reduced prices of services inputs, increased varieties, and improved quality.

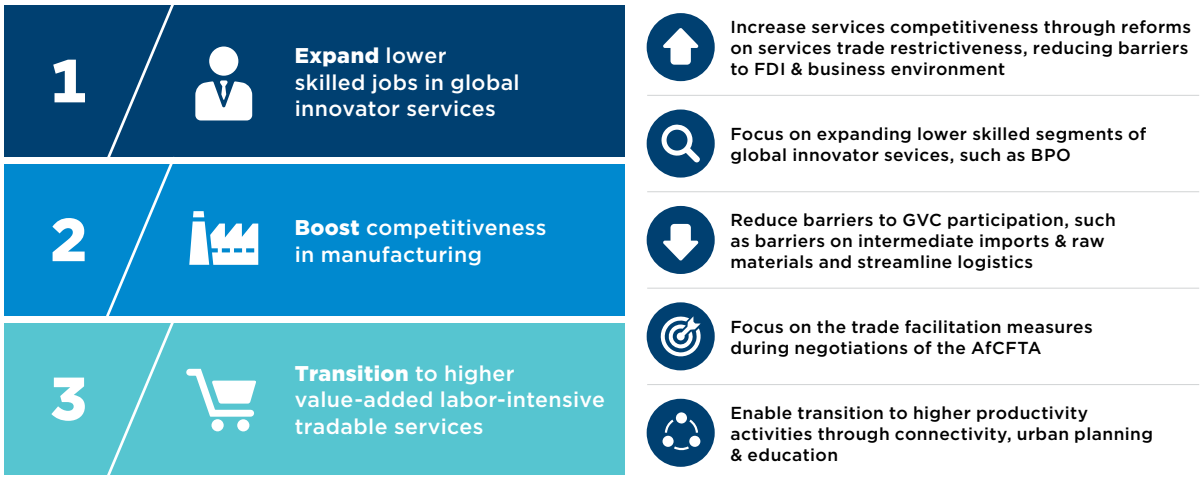
Reforms to improve services competitiveness have an amplified effect, also benefiting manufacturing

There are important restrictions affecting trade in services in Ghana, which could be limiting FDI and the expansion of high productivity services sectors. Using data from the OECD's Services Trade Restrictiveness Index (STRI), Echandi (2021) has shown that for trade in services when compared to other African countries, Ghana is far from being the most restrictive country. However, when placed in comparison with international averages by broad sector, Ghana's STRI position in most sectors shows slightly more restrictive policies. In most of the sectors covered by the STRI (transport being the exception), i.e. telecommunications, financial, professional and distribution services, Ghana shows a higher than average index, showing a more protectionist stance across the board. This suggests scope for reform progress, notably in sectors such as telecoms and professional services where Ghana could expect to develop. Notably, all FDI projects in Ghana require prior approval and are affected by minimum capital requirements, which not only entails trade costs in terms of red-tape, but a certain degree of uncertainty as authorities have the legal authorization not to approve the establishment of certain projects. FDI screening is a practice that has become non-typical in most other developing countries. In fact, less than 30 percent of the countries worldwide still have it -and those that do, tend to fall in the lower-income categories. In addition to prior screening and minimum capital requirements, acquisition and use of land and real estate by foreigners is restricted.

Ghana could leverage its international trade negotiations on services, in particular in the AfCFTA, to amplify the government's existing efforts to modernize and diversify the country's potential on trade in services, attract investment and foster policy coherence. Ghana's GATS commitments are currently quite limited and the gap between Ghana's commitments and actual de facto regulations is very high, at more than 70 percent. Trade in services agreements negotiated by Ghana could hence be adjusted to: (i) lock-in the existing level of openness for trade in services in Ghana, (ii) increase the level of confidence of services providers by improving regulatory transparency and predictability of remaining barriers to trade and (iii) lock-in future domestic reforms reducing the level of protectionism for trade in services in the country. This would bring Ghana more in line with trade partners.

How can Ghana accelerate sectoral and spatial transformation?

To enable the kind of sectoral and spatial transformations that generate sufficient job creation, Ghana will need to focus on reforms targeting three key segments of the economy. Firstly, to capitalize on the strong progress of Ghana's global innovator services, Ghana will need to focus on expanding lower-skilled segments of these services, such as BPO. Secondly, to counteract the trend of declining productivity in manufacturing, Ghana will need to boost competitiveness in manufacturing. Finally, Ghana will need to facilitate the transition to higher value-added segments of labor-intensive tradable services sectors like transportation, wholesale and retail, accommodation, and food.



Source: World Bank staff elaboration.

POLICY PRIORITY 1

Expand lower-skilled jobs in global innovator services, particularly ICT and business services

This could be achieved through a two-pronged approach that focuses on a) cross-cutting reforms to boost services competitiveness, including reducing services trade restrictiveness, reducing barriers to FDI in services and improving the business environment and b) a targeted approach to expand and attract FDI into the lower-skilled segments of these services, particularly BPO and other IT-enabled services, to provide more jobs for a wider portion of the Ghanaian workforce. Reforms to improve services competitiveness will also benefit the manufacturing sector due to manufacturing-services linkages.

POLICY PRIORITY 2

Boost competitiveness in manufacturing through reforms on goods and services trade competitiveness

This could be achieved through reforms that reduce barriers to GVC participation, improving transport and trade-related logistical services, particularly inland connections, and through reductions in NTBs and trade facilitation measures enacted by the AfCFTA countries. It could also be achieved through a targeted approach for high potential sectors.

POLICY PRIORITY 3

Transition to higher value-added labor-intensive tradable services

Productivity in some of Ghana's tradable services sectors is extremely low. For example, in 2015, labor productivity in Wholesale and Retail Trade was even lower than in agriculture. Ghana will need to transition to higher-value added segments of these services through FDI, attracting and cultivating large firms and developing the tourism sector after the pandemic. It will also need to improve mobility, connectivity and urban planning to enable these transitions. Chapter 3 will also discuss ways to facilitate this transition through raising productivity in existing firms, and particularly MSMEs, from the adoption of improved capabilities and technologies.

Detailed Recommendations

POLICY PRIORITY 1

Expand lower-skilled jobs in global innovator services, particularly ICT and business services

Boost services trade competitiveness	• Adjust trade in services agreements negotiated by Ghana to: lock-in the existing level of openness for trade in services (standstill commitment). • Adjust trade in services agreements to increase the level of confidence of services providers by improving regulatory transparency and predictability of remaining barriers to trade (by publishing a services regulatory audit recently concluded for Ghana). • Adjust trade in services agreements to lock-in future domestic reforms reducing the level of protectionism for trade in services in the country (ratchet mechanism).
Improve the services FDI policy environment	• Reduce or eliminate prior screening and minimum capital and other requirements and restrictions to FDI projects. Reduce to the extent possible restrictions on acquisition and use of land and real estate by foreigners. There are no minimum capital requirements in countries like South Africa, Mauritius and Egypt. • Improve coordination across agencies on access to land for FDI projects. • Harmonize the system for access to land for FDI projects so as to eliminate competing guidelines issued by different institutions, making the process clearer for investors. • Conduct a review of the efficacy of the existing EPZ and consider whether an upgrade could be beneficial.
Expand existing policies to attract FDI in services into the lower-skilled segments of these sectors, particularly BPO and other IT-enabled services	• Rationalize and better target incentives that support ICT sector development by reducing qualifying conditions such as minimum export requirements to avail free zone facilities for ICT-related organizations. • Consider replicating the Accra Digital Center in other technology parks. • Consider introducing targeted policies to facilitate and encourage ICT service providers to set up and scale operations in Ghana.

POLICY PRIORITY 2

Boost competitiveness in manufacturing through reforms on goods and services trade competitiveness

Reduce barriers to GVC participation	• Improve customs and trade facilitation measures by reviewing the implementation of the trade facilitation roadmap and considering the consolidation of all trade facilitation forums into a center of expertise as an enhanced National Trade Facilitation Committee created under the WTO Trade Facilitation Agreement. • Consider a review of intermediate input and raw materials tariffs, taking into account high level policy objectives and potential impacts on domestic suppliers.
Improve investment climate and business environment	• Implement the Investment Climate reform action plan defined under the IEE-ACP agenda, with the following key priority areas: a. Removing barriers to investment and market entry by developing a coherent national investment strategy across agencies b. Implementing cross-cutting business regulatory reforms through the formal establishment of an inter-ministerial committee ("DBRIMC") and technical working groups for reforms c. Supporting the design and implementation of an investor grievance mechanism d. Improving standards and quality processes of Ghana Standards Authority
Improve transport and trade-related logistical services	• Improve the transit environment by removing VAT (zero-rating) on transit services, improving customs connectivity with neighbors through the implementation of the ECOWAS SIGMAT solution, and removing redundant checkpoints along the Tema-Paga trade corridor. • Improve ports operations by considering adopting a new transshipment regime, creation of the enabling environment for economically and financially feasible containerized transit regime for traders, and improving coordination with operators on the setting of fees.
Focus on NTB reductions and trade facilitation measures and implementation of the AfCFTA	• Pursue implementation of modern risk management techniques and a comprehensive effort to pursue a voluntary compliance relationship with the trade community through increased outreach, informed compliance and incentivized benefits for trusted traders including an Authorized economic operators scheme. More active implementation of trade facilitation measures from the WTO TFA, the AfCFTA's trade facilitation annexes and current regional trade facilitation obligations. • The World Bank is already providing support in all stages of the AfCFTA process. Continue the existing agenda, with particular focus on services trade and negotiating Phase 2 including investment, competition and intellectual property rights. • Continue with the for "Boosting Intra-Africa Trade" project, prioritizing trade facilitation and services.

POLICY PRIORITY 3

Transition to higher value-added labor-intensive tradable services

Facilitate the expansion of large and high growth firms in labor-intensive tradable service sectors	• Consider expanding targeted support to first-mover private sector investors to help to open new markets and mitigate higher start-up costs and risks. • Consider a review of measures to incentivize new firms to enter markets, with focus on improving procedures to start and operate new businesses by reducing minimal capital requirements and procedures and fees for registering a business.
Encourage growth, formalization and upgrading in existing labor-intensive tradable service firms	• Align better the Government's and donors' eco-system support for small businesses and entrepreneurs. • Consider reviewing the regulatory and tax environment creating the incentive for firms to stay small or informal.
Increase mobility, connectivity and urban planning	• Improve urban transport connectivity and mobility. • Tackle spatial inequality through improving rural infrastructure and public transport. • Continue the institutional and policy reform dialogue that have been undertaken under different transport sector projects to ensure that investments in the transport sector are sustained in the long run. • Increase supply of affordable urban housing. One priority area is through reforms to the laws and regulations relating to housing to strengthen the provisions for contract enforcement and allow for expeditious foreclosure proceedings. In addition, operationalization of the new land Act in relation to land acquisition and registration will be important to ensure sustainable land administration and management and effective land tenure and security.

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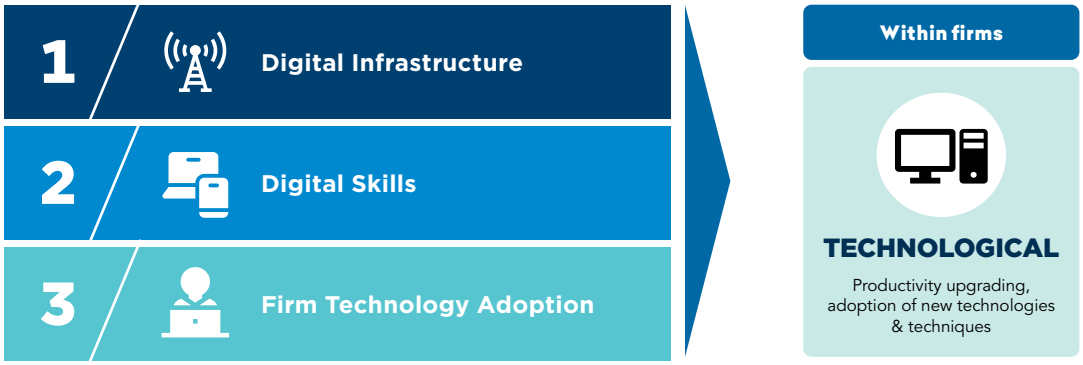
CHAPTER 3

Technological Transformation and Ghana's Micro-enterprises

The adoption of new technologies has historically been a major driver of long-term economic progress. This Chapter focuses primarily on the adoption of digital technologies, which have recently led to drastic declines in transaction costs — search costs, replication costs, communications costs, tracking costs, and verification costs, creating new products, services, jobs and industries. For Ghana, digital technologies offer the potential for much-needed upgrading in existing firms and creating new job opportunities. Capitalizing on the opportunities from digital and complementary technologies firstly requires having the digital infrastructure in place. Ghana has succeeded in rapidly developing its mobile internet network, resulting in high coverage, but nearly two thirds of Ghanaians still do not use the internet, reflecting still limited affordability, low digital literacy and demand. Speeds of mobile internet are still low given limited adoption of 4G services, while fixed broadband speeds are a lot higher, but very costly, resulting in very low uptake. Secondly, it requires a workforce with sufficient foundational and digital skills. Digital skills are now among the most in-demand skills for white-collar workers in Ghana but there is a major digital skills gap, particularly for advanced digital skills. Learning outcomes in Ghana remain low, limiting the development of the foundational skills required to make the most of new technologies. While most of Ghana's larger firms are now benefiting from the key technologies associated with Industry 3.0 — smartphones, computers and the internet — many smaller firms and those in manufacturing still do not use the internet or computers, while the use of these technologies among micro-sized firms is even more scarce, leaving plenty of opportunities for further technological upgrading.



This chapter explores the extent to which technological transformation can drive growth and job creation in Ghana and how to accelerate this transformation. It focuses on digital technologies specifically as a key enabler of complementary technologies as well. It starts by providing new analysis conducted by the World Bank and GSMA on the state of digital infrastructure in Ghana, with a focus on mobile internet and policies to accelerate mobile internet adoption. It then evaluates Ghana's performance on foundational and digital skills, using data from LinkedIn, Facebook and the IFC's Global Skills Survey. Finally, it provides new and detailed analysis on the use of digital and complementary technologies in Ghanaian firms using the new Firm Adoption of Technology Survey conducted in Ghana in April 2021 and analysis on the use of digital technologies among micro firms in Ghana using data from the Research on ICT in Africa (RIA) survey.

Digital technologies and why they matter

For better and for worse, digital technologies, from computers to smartphones to robots, 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. Given the prevalence of digital or computerized products and solutions in today's economy, digital technologies are a key driver of overall technological progress and so form the focus of this chapter. Both of the most recent 'industrial revolutions' have been driven by digital technologies: the third industrial revolution has been characterized as the takeoff of computers and the internet in the 70s and 80s and 'Industry 4.0' was coined as the use of 3D printing, Artificial Intelligence (AI), Internet of Things (IoT) and smart machines. Digital technologies of various forms have now changed the way we can learn, work, trade, socialize, produce goods, access public services and access information. This has been even more apparent during the COVID-19 pandemic. However, Ghana is currently capturing only a fraction of this growth and opportunities from digital technologies and also could be adversely affected by their downsides.

Digital technologies offer potential to drive much needed productivity improvements and upgrading in Ghana's firms. Chapter 2 documented how Ghana has suffered from a lack of productive employment opportunities for workers moving out of agriculture, limiting the contribution of structural change to growth. It also highlighted the stagnating and declining productivity in services and manufacturing, respectively. Digital technologies together with complementary analog technologies could help to raise the productivity of existing firms and generate more and better jobs. There is a wide body of evidence that the adoption of digital technologies by enterprises can reduce various types of costs (e.g. search, replication, transport and monitoring costs as well as networking and organization costs), leading to higher productivity, higher sales and/or better and more jobs (Goldfarb and Tucker, 2019). However, digital technologies are a double-edged sword and can also have negative effects on economies as well, ranging from labor displacement, to the concentration of markets and wealth, to altering the way in which we consume information. 'Low-skill biased' technologies that complement the work of lower-skilled workers, such as certain technologies in agriculture or agribusiness also have the potential to reduce poverty and improve the livelihoods of lower-skilled workers.

The future is not what it used to be: digital technologies can also lead to the creation of entirely new industries, jobs and business models. The internet has changed the way economies of scale are achieved, particularly with online service delivery. Digital platforms have changed the matching of buyers and sellers, altering the impact of asymmetric information. New industries have sprung up doing things we couldn't even imagine five or ten years ago. In Ghana there are still relatively low levels of domestic demand for many mass consumption products, such as processed food and tourism, retail, and hospitality services, meaning that there are many opportunities for innovative new or lower-cost products and services driven by emerging technologies. For example, Ghana has seen substantial growth in demand for financial products over the past few years due to digital financial solutions. According to the World Bank's Global Findex, the share of Ghanaian adults (over 15 years of age) with a formal financial account increased by 42 percent between 2014 and 2015 due to the prevalence of digital financial solutions. Without sufficient basic digital infrastructure and a workforce with digital skills, Ghana could miss out or get left behind.

Spotlight on Ghana's MSMEs

Private sector employment in Ghana is dominated by MSMEs and MSMEs also provide livelihoods to a large proportion of the youth population. According to the 2015 Integrated Business Establishments Survey (GSS, 2017), 98 percent of the 640,000 business establishments in 2015 in Ghana were micro or small. About one-tenth of establishments were formal, with the remaining 90 percent being informal. MSMEs accounted for 83 percent of persons engaged in businesses and for 73 percent of turnover. Thus, promoting the formalization and growth of MSMEs is critical to creating more and high-quality jobs. MSMEs also provide the main job opportunities for Ghana's youth population. The 2015 GLFS estimates that 40 percent of Ghanaian youth have no education, and only 3.8 percent have acquired a tertiary education qualification. An effective growth strategy will need to provide productive economic opportunities to these individuals and harness their potential in a way that has not been achieved to date.

Building the backbone: Digital infrastructure

Increasing access to the internet is one of the great challenges of our time and has taken even more importance since the outbreak of COVID-19. As a general-purpose technology, the internet can have transformative impacts. Studies have shown that expanding mobile broadband coverage and connectivity in Africa reduces poverty[25] and increases sustainable development[26] and economic growth. Ghana's telecommunications sector has experienced impressive growth thanks to early liberalization and deregulation of the market since the late 1990s. Strong competition has resulted in near ubiquitous mobile coverage and a high mobile penetration rate.

Ghana has made rapid progress in mobile internet infrastructure and coverage is high

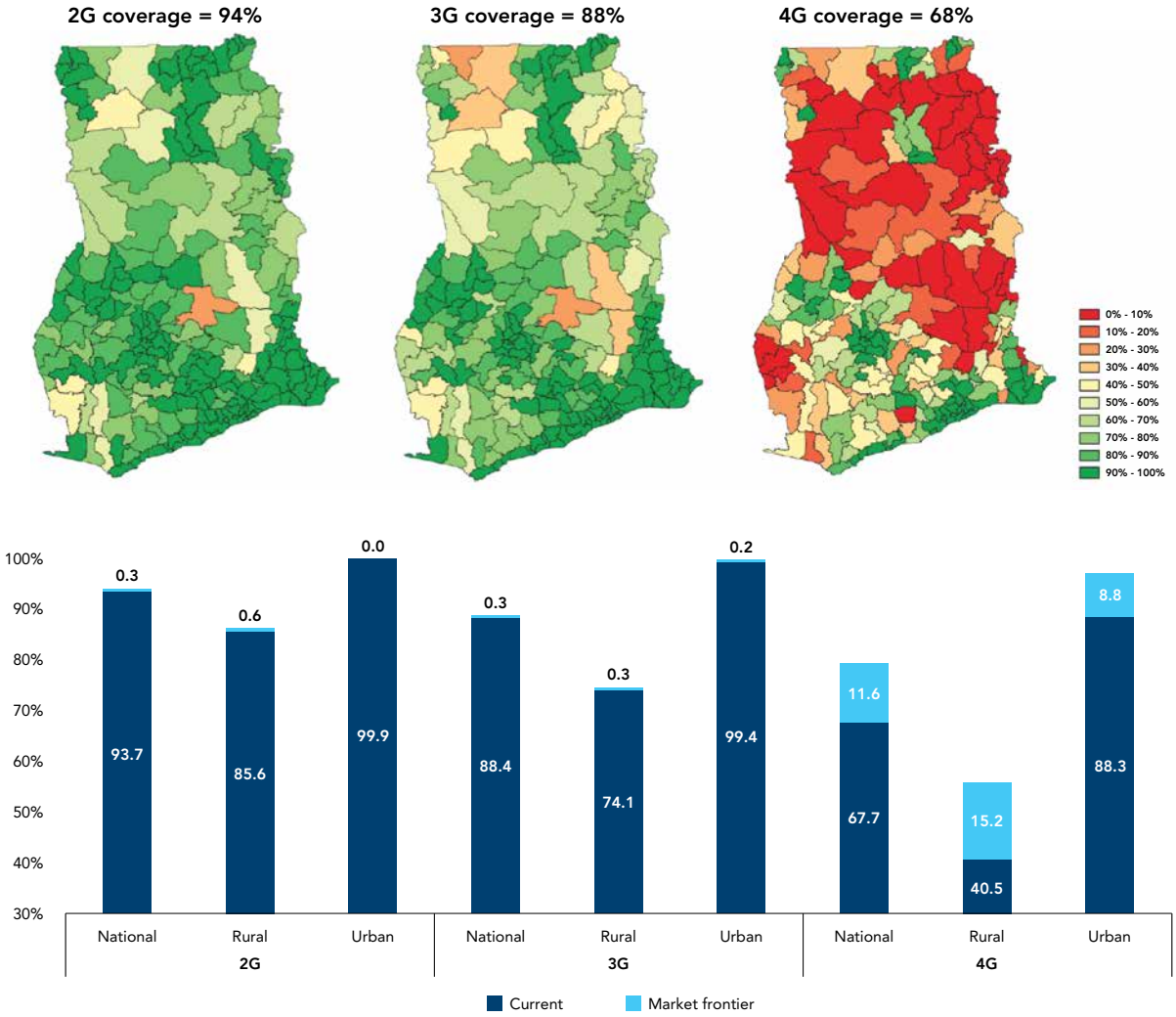
In Ghana 2G and 3G mobile internet coverage is high and has almost reached the market frontier. New preliminary research from the GSMA (2021) estimates that 94 percent of the population had 2G coverage, reaching the market frontier, which represents the area which is already covered by a mobile network and is hence is financially sustainable to extend internet coverage to. Coverage in urban areas is either currently or expected to be more than 99 percent. This means that the remaining populations that will not have coverage are almost entirely in rural areas, many of them sparsely populated. 3G coverage stood at 88 percent of the population in 2019, also close to the market frontier, with 99 percent coverage in urban areas and 74 percent in rural areas (see Figure 3.1).

[25] See for example GSMA and World Bank (2020).
[26] See for example Rotondi et al. (2020).

FIGURE 3.1

In Ghana 2G and 3G mobile internet coverage is high, while 4G is more limited, particularly in rural areas

Share of population with mobile internet coverage by type



Source. GSMA analysis of data sourced from mobile operators, GSMA Intelligence, Center for International Earth Science Information Network (CIESIN), household survey data and Earth Observations Group. Coverage is calculated based on site data provided either in 2019 Q4 or 2020 Q1 and so may have since increased.

4G coverage is lower at 68 percent of the population, with a stark rural-urban divide, but Ghana performs ahead of many of its peers. 4G coverage is below the market frontier, estimated at just under 80 percent, but Ghana has wider coverage than most comparators, except for Rwanda (see Figure 3.2). The low coverage mainly stems from rural areas, which have coverage of only 41 percent, particularly in the north of Ghana, while coverage in urban areas is high at 88 percent. 3G and 4G coverage are expected to approach 2G coverage, if the right regulations are in place. 4G coverage is expected to increase in the coming years due to the higher expected demand. Almost all the expected gains in mobile broadband coverage will come from upgrading existing 2G-only sites (given that additional coverage from new 'greenfield' sites[27] is likely to be limited, as highlighted by the market frontier for 2G).

[27] 'Greenfield' sites refer to the deployment of new mobile sites in their entirety, including passive (e.g. tower, mast) and active elements (e.g. base station or radio network controller). They provide coverage to populations that previously had no network coverage for any technology. 'Brownfield' sites refer to the upgrading of existing sites to provide 3G and/or 4G connectivity. Upgrades can either involve the installation of new hardware and equipment or, if single radio access networks are deployed, they can be upgraded simply by activating the 3G and/or 4G radio bearers.

BOX 3.1

Data for development in Ghana

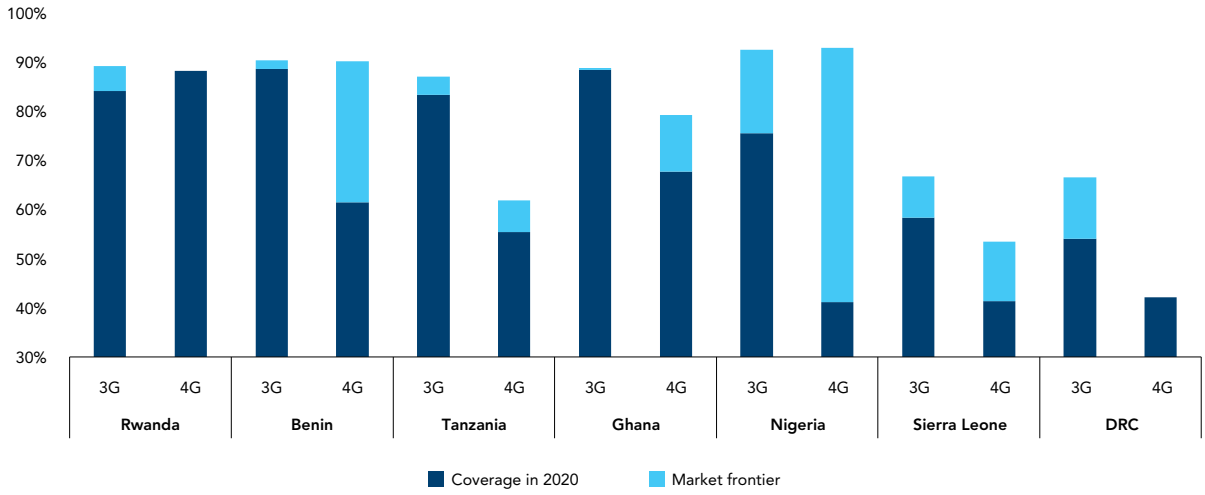
The recent World Bank World Development Report 2021 'Data for Better Lives' highlights the growing role of data in the digital economy and lays out a framework for how data can support development. One pathway is the use of data by governments and international organizations to support evidence-based policy making and improved service delivery. Another pathway is the use of data by civil society to monitor the effects of government policies and by individuals to enable them to monitor and access public and commercial services. A final pathway is the use of data by private firms in the production process — use that fuels their own growth as well as wider economic growth. However, these same pathways create openings for data to be used in ways that harm people. For example, through the government pathway, data can be abused for political ends, such as politically motivated surveillance or discrimination along lines of ethnicity, religion, race, gender, disability.

A well-designed data governance framework will be essential for countries to capture the full economic and social value of both public intent and private intent data and leverage synergies between them. Currently, Ghana performs well on many metrics relating to digital freedom and openness of information, offering positive signs for its ability to navigate data governance. This has been one of Ghana's major advantages and has been cited as a reason for the recent choice of Twitter to relocate to Ghana. Going forward to reap the benefits of data to support development, Ghana will have to strive to maintain this strength and develop a data governance framework that ensures that infrastructure, laws, economic policies, and institutions work together to support the use of data in a way that aligns with each society's values, while protecting individuals' rights over use of their data.

FIGURE 3.2

3G and 4G mobile internet coverage in Ghana is higher than most comparators

Coverage by technology in seven countries, current and market frontier



Source: GSMA analysis of data sourced from mobile operators, GSMA Intelligence, Center for International Earth Science Information Network (CIESIN), household survey data and Earth Observations Group. In Rwanda, a single wholesale network operator provides 4G services, so no market analysis was carried out to determine the additional coverage that might be provided by mobile operators.

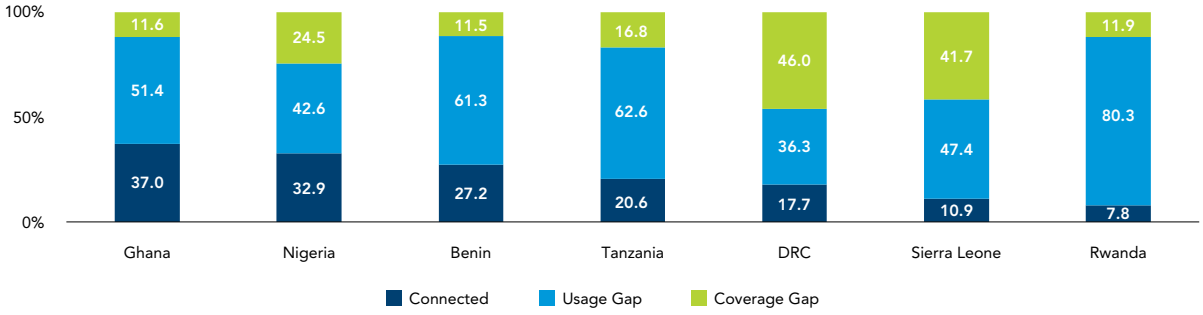
Despite high coverage, two thirds of Ghanaians still don't use the internet

Despite high network coverage, most of the populations is still not connected to mobile internet. Only 37 percent of the population uses mobile internet, with the 'usage gap' at 51 percent, while the 'coverage gap' stands at only 12 percent (see Figure 3.3). Research from GSMA (2021) shows that mobile users that are aware of mobile internet but do not use it are most likely to cite digital skills and literacy, affordability (including for handsets and data plans) and relevance as the main barriers to adoption. Affordability will remain a key barrier to adoption without policy and regulatory reform. On the demand side, more affordable handsets and data plans have driven an increase in mobile internet adoption, which has enhanced the business case to deploy 3G and 4G. Ghana has met the affordability target set by the Broadband Commission to make 1GB of monthly data cost less than 2 percent of average monthly income per capita. In 2020 the cost was 1 percent of average monthly income per capita, lower than all comparators and the SSA average (see Figure 3.4). As a result, adoption levels in Ghana are higher than the average seen in SSA.

FIGURE 3.3

Despite high network coverage, only 37 percent of Ghana's population uses mobile internet

Connectivity, usage and coverage gaps



Source: GSMA analysis of data sourced from mobile operators, GSMA Intelligence, Center for International Earth Science Information Network (CIESIN), household survey data and Earth Observations Group. Adoption is calculated based on the number of unique mobile (internet) users relative to total population.

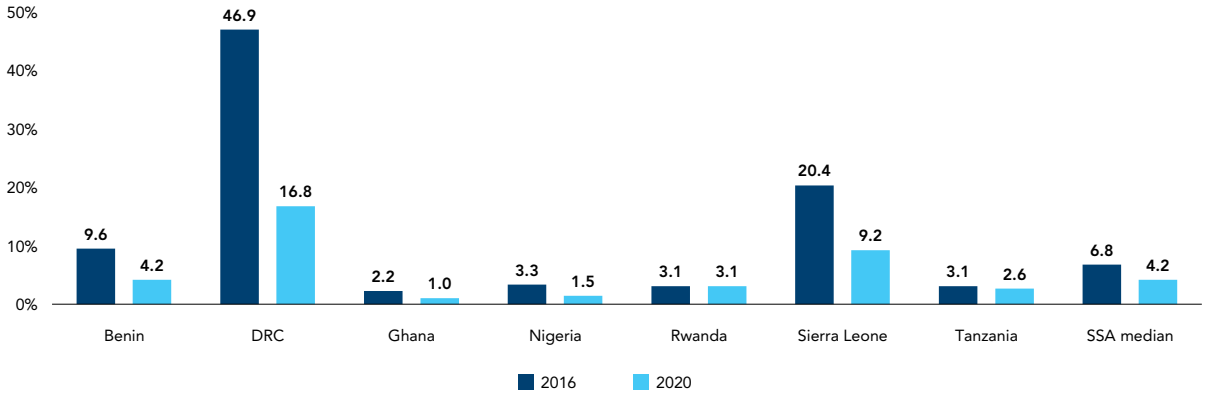
The market alone will not deliver universal connectivity. Analysis from GSMA (2021) suggests that based on the current trends of coverage and adoption, the goal of universal connectivity by 2030 will not be met by Ghana. Nationally, mobile internet adoption is expected to reach 53 percent by 2030, though with a significant urban-rural gap. More than 70 percent penetration by 2025 could be met in urban areas, but will be more challenging in rural areas. Policy reforms and public interventions will therefore be necessary to narrow that gap and bring connectivity to everyone. However, the impact of these will be enhanced — and in some cases contingent — on the innovations that are being led by private sector and supported by Governments and international organizations. The emergence of affordable smartphones and 'smart feature phones' has been particularly important in reducing device costs in many countries.

Enabling policies can increase network coverage and adoption. Analysis from the GSMA (2021) suggests that policy reforms to enable active infrastructure sharing, reduce sector-specific taxes and apply tech-neutrality in spectrum bands could increase mobile broadband coverage by 10 percentage points by 2030 and bring around 2 million people online on their mobiles by 2030. Infrastructure sharing, which can involve the sharing of physical mast and energy supply, sharing of radio access networks or allowing mobile customers to use networks provided by other operators, can reduce costs and investment risks for operators seeking to expand coverage in new areas, as well as increasing service-based competition. Spectrum policies where governments and regulators release sufficient spectrum at affordable prices and allow licenses that are technology neutral can increase network coverage, especially in rural areas. Finally, aligning tax policy with best practice principles could also drive significant gains in both network coverage and adoption.

FIGURE 3.4

Mobile internet is increasingly affordable in Ghana

Cost of cheapest monthly 1GB data plan as a percentage of monthly GDP per capita (2016 and 2020)



Source: GSMA analysis of Tarifica data.

Ghana's mobile telecoms market is heavily concentrated and heightened competition could decrease prices and expand connectivity. There are four main competitors in the mobile telecoms market in Ghana: MTN, Vodafone, Tigo and Airtel. There are numerous Internet service providers, estimated at 52 by 2020, but MTN controls approximately 70 percent of the mobile market share by number of subscriptions.[28] After MTN was found to possess "significant market power" by the regulator in early 2020, Ghana's National Communications Authority (NCA) decided to implement a set of policies directed towards the reduction of MTN's market share and encourage competition among all service providers. Among the specific actions are to offer lower connection rates for smaller competitors of the mobile data market, setting of floor and ceiling pricing on all telecommunication services (voice, data, texts, and mobile money), and enforce non-exclusionary pricing. Malasquez et al. (2021) have simulated the potential effects of increased competition in the Ghanaian mobile services market on poverty rates, estimating that decreasing the market share of MTN from 65 to 30 percent would lead to a price reduction of between 20.7 and 38.5 percent, inducing 5-16 percent of new users and reducing the poverty headcount rate by 0.52.

Spectrum licensing prices, in particular, also appear to represent a major barrier to digital infrastructure growth in Ghana. The NCA has generally been quite efficient in developing a strategy and engaging in public consultations to auction spectrum in Ghana (see Box 3.3 for metrics on Ghana's performance in telecoms regulation). However, the industry considers that prices being achieved through these auctions are prohibitive, and likely to strangle its growth. In 2015, the NCA sold 800 MHz of 4G spectrum for US$67.5 million to MTN, which was the only operator who could afford the high fees (DE4A Ghana, 2019).

In addition to these policy reforms, investment will still be needed to make mobile broadband coverage and adoption universal by 2030. Even with additional reforms it is very likely that additional investment will be required to fully achieve universal internet access by 2030. Subsidies to cover the expected losses on unprofitable sites and cover the capex and opex costs that cannot be recovered by expected revenue could further fill the adoption gap. GSMA (2021) estimates that for Ghana, infrastructure and handset subsidies could further increase mobile broadband coverage by 13 percent and bring around another one million people online on their mobiles by 2030.

[28] As of the first quarter of 2017, MTN Ghana controlled 47 percent of mobile voice services, 56 percent of mobile data services, and 60 percent of broadband wireless access through its 4G services.

BOX 3.2

Telecoms regulation in Ghana

The cross-cutting role of telecom services in supporting development has become increasingly apparent over the last decade, a role further highlighted by COVID-19, which has prompted even more urgent calls for universal affordable connectivity. To achieve this goal, co-ordinated national strategies are needed which ensure all of the required elements of an enabling telecom regulatory environment are present. The World Bank's Regulatory Watch Initiative (RWI), made possible by the support of the Digital Development Partnership, provides analysis on some of the key regulatory features in national telecom environments, evaluating the extent to which a country has implemented an enabling telecom regulatory environment — one that encourages private capital mobilization by minimizing barriers to entry while supporting open and competitive markets for telecom infrastructure services. The RWI ascertains the regulatory situation in a country by measuring the best practice "attainment level". This attainment level corresponds to the gap between the current regulatory situation and the best practice, calculated as a percentage. A 100 percent score is given when the identified best practice has been adopted.

The RWI shows that Ghana generally performs well in terms of telecoms regulation, with a few exceptions on international access and spectrum management. Ghana is the top performer in ECOWAS in terms of Licensing and Authorizations and Fair Markets but has a low performance in terms of International Access and on certain metrics related to Spectrum Management and Regulatory Governance (see Figure 3.5). Most notably, Ghana's worst performing metrics are for having international traffic taxes and limited transparency relating to spectrum management. Ghana has a minimum rate for incoming international traffic, limiting international access and its regulator doesn't openly publish its National Frequency Plan online, hindering transparency.

FIGURE 3.5

Relative to peers, Ghana has a strong overall performance in terms of telecoms regulation, with the exception of international access

RWI indicators for Ghana in 2021

Cluster	Indicator	
Licensing and Authorizations	Market Openness	83%
	Infrastructure Licensing	100%
	Transparency of Award Procedures	67%
Fair Markets	SMP Regulation in Place	83%
	Favorability of OTT Regulation	100%
	SMP Enforcement	67%
	RIO Availability	50%
International Access	Exclusivity Not Permitted	33%
	Absence of International Traffic Taxes	17%
	Regulation of International Access	50%
Spectrum Management	Procedures	100%
	Tariffs	33%
	Transparency	17%
	Assignment	100%
Regulatory Governance	Independence	50%
	Financing	33%
	Universal Service Fund	83%
	Transparency	83%

Source: RWI

Fixed broadband access is far more limited than mobile internet

Compared to the rapid growth of the mobile market, broadband infrastructure development in Ghana is less advanced. In particular, the fixed broadband network (including copper, fiber, or cable) is far less widely used. In 2019, the number of fixed broadband users per 100 population was only 0.19 (ITU, 2020). This share of fixed broadband users has also barely changed over the past decade. The end user price of 5GB of fixed broadband was estimated as 12.8 percent of monthly GNI per capita by the ITU (2021). This places Ghana at 11th in Africa in terms of the affordability of broadband, compared to 6th in Africa in terms of the affordability of mobile data. Providing reliable and fast broadband connectivity for ministries, departments and agencies (MDAs), and metropolitan, municipal and district assemblies (MMDAs) across the country is still challenging. The eTransform Ghana project has been providing support to reduce the connectivity gap in government offices and public institutions.

Broadband speeds are high, while mobile internet speeds are inadequate for remote working. In light of the high cost and very limited uptake of fixed broadband, mobile internet is the main source of internet in Ghana. According to the Speedtest Global Index, in 2021 Ghana ranks 129th in the world in terms of mobile internet speeds with an average speed of 13.26 and 74th in the world in terms of fixed broadband speed with a speed of 51.93. Ghana's mobile internet speeds are lower than most comparators. It is clear that countries with the most robust Internet infrastructure also rank the highest in the Global Competitiveness Report: the faster the speed, the more consumers can transact business and access services online.

BOX 3.3

How Ghana's CARES program proposes to boost digitization

As part of the CARES program, the Government of Ghana plans to:

a. Expedite implementation of Government digital initiatives such as the National ID, digital address systems, land records digitization, Ghana. Gov etc. and consolidate them for synergistic improvements in economic productivity and service delivery.

b. Introduce initiatives to digitize fiscal revenue collection, to support a cashless society, online education delivery, etc.

c. Invest, consolidate, strengthen, and expand the national fiber network backbone in order to expand and improve internet connectivity.

d. Promote increased digital literacy.

e. Support Ghanaian technology entrepreneurs to build tech hubs and to export IT-enabled services such as business process outsourcing (BPO), etc.

Source: Elaborated from Ghana Digital Acceleration Project Concept Note, using CARES program report, 2020 (Page 14 & 15).

Investing in people: Foundational and digital skills

"Emerging economies are in the middle of a technological shift that is bringing change to the nature of work. Whatever the future holds, investment in human capital is a no regrets policy that prepares people for the challenges ahead"

– The Changing Nature of Work, World Bank 2019 World Development Report

Foundational and digital skills are required for the workforce to adopt to, and innovate with, new technologies. Digital skills, as defined in Box 3.4, range from basic skills enabling individuals to make rudimentary use of digital devices like mobile phone and computers to advanced skills of specialist professionals in ICT-related occupations. The foundational skills of basic literacy and numeracy have been defined as the necessary stepping-stones to facilitate access to opportunities in education and in the labor market (World Bank, 2020). Digital and foundational skills are essential for individuals to adopt new technologies and reap the benefits of them, as well as avoiding their adverse impacts.

Foundational and digital skills are essential for both driving technology adoption in existing firms and enabling workers to transition to more productive firms, sectors and entrepreneurial opportunities. The declining contribution of agriculture to Ghana's economy and structural change towards the services and manufacturing sectors discussed in Chapter 2 suggests that there are many workers who need to be equipped with the necessary skills needed for job opportunities in services or manufacturing. The limited expansion of Ghana's highest productivity sectors could also reflect that workers struggle to transition into new firms and industries due to a lack of foundational skills. One of the objectives of the government's overall theme of 'Sowing the Seeds for Growth and Jobs' is to develop leadership skills, quality education, entrepreneurship, job skills, and creative skills.

Skills acquired early in life cement the foundation for learning that occurs into adulthood; skills beget skills. People who do not have a strong grasp of foundational skills, including literacy, digital fluency, and numeracy, struggle to attain new or more advanced skills later in life. Like counterparts across other parts of Sub-Saharan Africa, many children in Ghana's schools are not learning the basics. This lag in learning at the primary stage can cascade through a child's years of schooling and later affect preparedness for the workforce.

Basic digital skills are now among the most demanded skills in Ghana

In Ghana, findings from the 'global digital skills survey' conducted by the IFC in 2018 suggest that around 60 percent of new online hires in Ghana need basic digital skills. The Ghana section of the global digital skills survey conducted by the IFC in 2018 surveyed around 80 chief executives of global and African education institutions, investors in education, policymakers, and Ghanaian human resource professionals about their demand for digital skills. Results suggested that 60 percent of employment opportunities for new digital hires, so skewed towards white-collar job opportunities, currently require basic digital skills, while 35 percent require intermediate skills and 25 percent require advanced skills.

The most demanded digital skills are basic skills such as computer literacy, web research, using basic software, online transactions, social media, and email communication. Among the top 10 most demanded skills in general, two were digital skills: computer literacy and application of technology. These represented just over 20 percent of weighted mentions, a higher share than in SSA and all markets globally.

BOX 3.4

Defining 'Digital Skills'

The IFC (2019), building on the work of the United Nations Education, Scientific and Cultural Organization (UNESCO)'s report, Digital Skills for Life and Work, defines digital skills as follows:

Basic Digital Skills are "entry-level functional skills required to make rudimentary use of digital devices and applications." With basic digital skills, users are typically able to operate devices like computers and smartphones, access and store information from online resources, and set up online accounts and profiles.

Intermediate Digital Skills enable individuals to use digital tools for more significant task-oriented purposes. Intermediate skills are "the skills that enable an individual to make substantive and beneficial use of online applications and services," while the OECD defines them as a set of generic information and communication technology skills that can be utilized to complete tasks. They are often required for professional growth and are applicable to a range of job profile requirements.

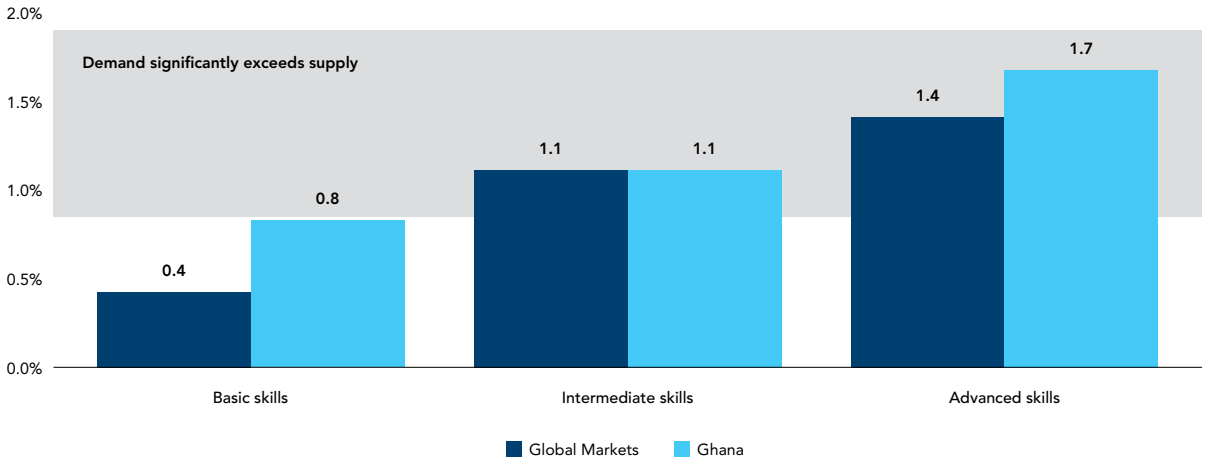
Advanced Digital Skills allow people to use technology in transformative ways. UNESCO defines these as "the group of skills that form the basis of specialist information and communication technology occupations and professions." These occupations include, but are not limited to, computer programmers, artificial intelligence experts, and data scientists.

Source: IFC (2019)

FIGURE 3.6

Respondents reported than demand exceeds supply for all skills, but there is a major skills gap for advanced skills

Percentage of survey respondents mentioning each skill



Source: IFC (2019).
Note: Methodology for demand-supply index: A positive value on the index indicates that demand exceeds supply and a negative value indicates the opposite. The magnitude of the index reflects the extent of the demand-supply gap. For the gap index, the responses have been weighted as per the rank assigned to them with the following weights: D>>S = 2, D>S = 1, D=S = 0, D<S = -1, D<<S = -2, and then normalized for each geography to account for difference in the number of responses.

This survey suggested that demand exceeds supply for all digital skills, particularly for advanced digital skills. Both education specialists and employers surveyed in the global digital skills survey noted that economies require more of all skill levels than are currently available. In Ghana, respondents believed that the greatest skills gap is for advanced skills and this was even higher than the skills gap reported for advanced skills in global markets. In Ghana respondents also suggested there was a far higher skills gap for basic skills than respondents in other parts of the world (see Figure 3.6).

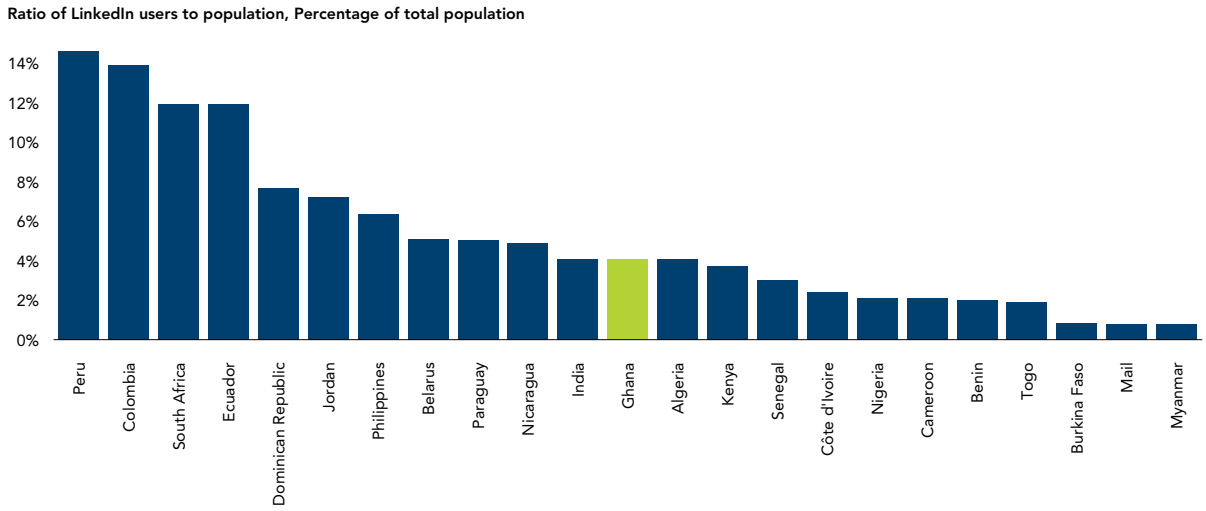
Ghana has made impressive progress in educational attainment, but learning outcomes are still low

In terms of general education Ghana performs well on attainment but lags behind on the quality of education. Ghana's Human Capital Index (HCI) was 0.45 in 2020, which implies that a child born in Ghana today can be expected to be 45 percent as productive when she grows up as she could be if she enjoyed complete education and full health.[29] The HCI has three main components, namely survival to age 5, education, and health. The expected years of schooling in Ghana is 12.1 years, which is significantly higher than the average for SSA and the average for LMICs. However, the learning adjusted years of school (LAYS), which discounts time spent in school by a factor measuring how much children learn, is only six years. This means that children are learning for only half the time they spend in school.

The harmonized test scores used in the World Bank HCI show low learning outcomes. Results from the foundational reading and numeracy assessment conducted in 2017/18 survey show that average test scores among primary-school age children were very low at 20.8 percent and 11.3 percent for reading and numeracy, respectively. There are no significant differences in reading scores among girls and boys, but gender disparities emerge in numeracy scores. Further, children in the poorest wealth quintile score 10 times lower than those in the richest quintile on the reading assessment and six times lower in numeracy assessment. Children in the northern parts of the country including the Northern, Upper East, Upper West and Volta regions perform considerably worse than those in the Greater Accra and Western regions. Further, the percentage of children that complete the BECE varies significantly by wealth quintile. Less than 10 percent of 15-year-old children in poorest quintile have passed BECE compared to about 30 percent in the richest quintile.

FIGURE 3.7

The ratio of LinkedIn users to population in Ghana is around 4 percent, more than in other regional peers but less than in higher-income countries



Source: World Bank staff calculations using LinkedIn data.

[29] HCI ranges from 0 to 1, where a score of 1 can be interpreted as stating that a child will grow up to be an adult who as productive as she would be under the benchmark of complete education and full health.

Ghana's LinkedIn users list far fewer digital skills than users globally, but more than in Ghana's comparators

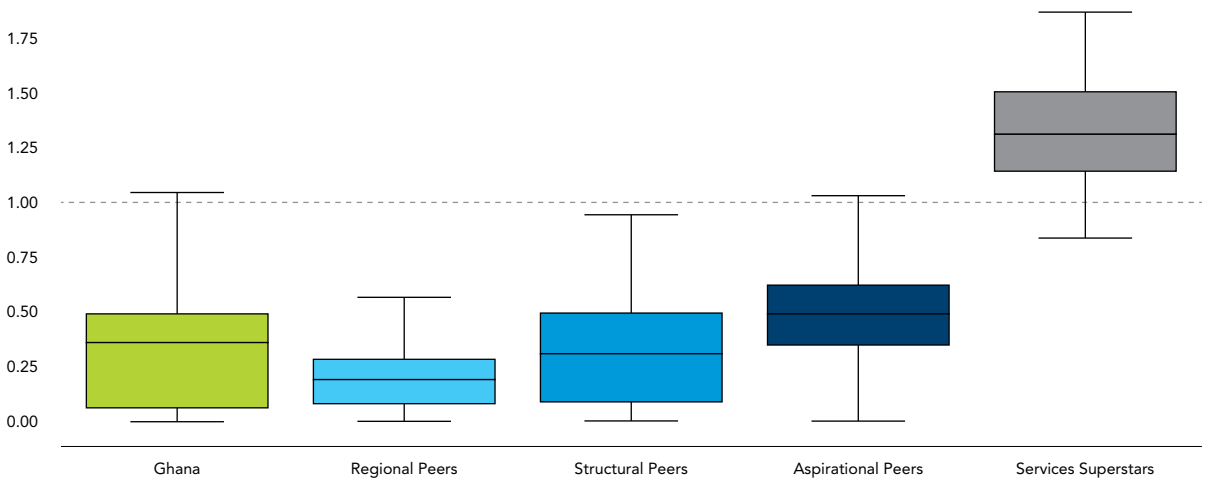
Measuring the availability of digital skills is challenging, although LinkedIn profiles can offer one barometer of their prevalence. This next section uses data from self-reported information by LinkedIn users and therefore reflects a relatively narrow, nonrandom subset of the working-age population. This subset consists primarily of tech-savvy, white-collar professionals employed in knowledge-intensive sectors, such as ICT and professional services. Additionally, these user-generated data have large heterogeneity across users in their willingness to report their specific skills and in the interpretation of different skills across cultures and countries, influencing the interpretation of cross-country skill comparisons. Nonetheless, the LinkedIn data offer value, specifically for the skill composition of the labor force, where other sources of data are limited. Although all members of the LinkedIn platform have at least some basic digital skills as a prerequisite, this section narrowly focuses on business related digital skills, which differs from the IFC (2019) definition above.

Having a LinkedIn profile in itself can be a proxy for basic digital literacy and Ghana exhibits moderate levels of digital literacy on this metric. Ghana currently has a ratio of LinkedIn users to its total population in 2018 of just under 4 percent. This ranks ahead of most regional peers and many structural peers, putting Ghana in the top ranks for Africa. It also has a similar ratio to India, as discussed in Chapter 3. However, Ghana is still behind most aspirational peers and the other services superstars. South Africa, for example, has more LinkedIn users than its population.

The prevalence of digital skills among Ghana's LinkedIn users is less than half that of the global average, although Ghana performs ahead of regional and structural peers. Ghana's penetration of digital skills on LinkedIn is just under 50 percent of the average global adoption. On this metric Ghana performs above its regional and structural peers, which have penetration around or under 25 percent of the global adoption level but just below aspirational peers and far below the 'services superstars' group. Ghana also performs above the SSA average. For Ghana's highest performing digital skill, however, Ghana is above the global average adoption (see Figure 3.8).

FIGURE 3.8
Ghana's LinkedIn users list a far lower share of digital skills than users globally

Penetration of digital skills in Ghana and peer groups



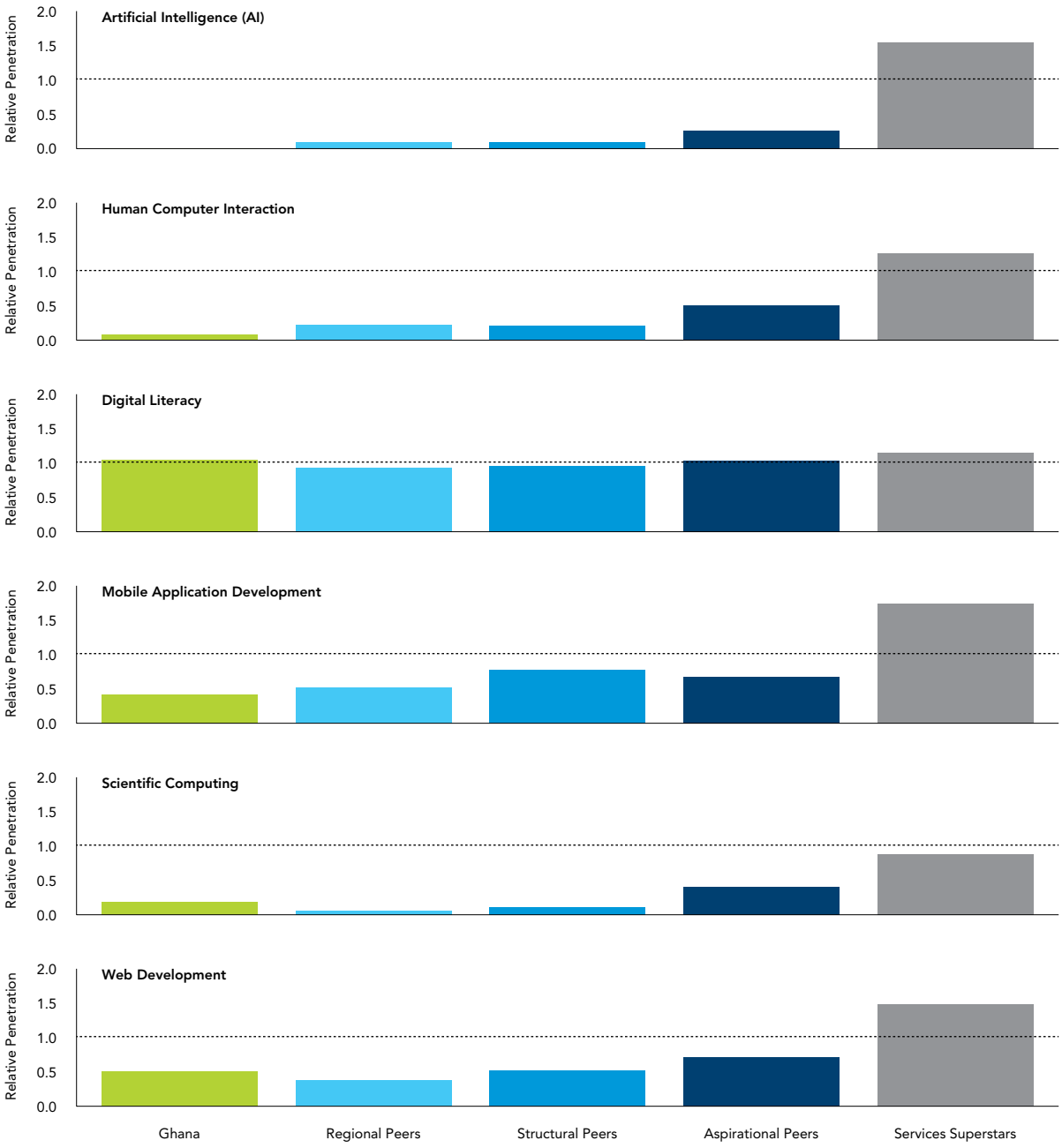
Source: World Bank staff calculations using LinkedIn data.
Note: On the relative penetration axis, 1 represents the global average adoption of a skill. population of each country. Penetration of digital skills is measured as the sum of the penetration of each digital skill across occupations in a given country, divided by the average global penetration of digital skills across the same occupations. Skill group penetration is defined as the percentage of the top-50 individual skills that belong to a given skill group (that is, if 5 of the top-50 skills for data scientists in South Africa fall into the artificial intelligence skill group, artificial intelligence has a 10 percent penetration for data scientists in South Africa).

There is a high prevalence of skills related to general digital literacy among Ghana's LinkedIn users, but far lower prevalence of specialist skills. The penetration of skills related to digital literacy such as use of Microsoft Office is similar in Ghana to the average globally and above regional and structural peers. However, the prevalence of specialist skills relating to artificial intelligence or human-computer interaction was almost non-existent and below regional and structural peers. In some areas, such as web development, Ghana outperforms peers but prevalence is still far below the global average (see Figure 3.9).

FIGURE 3.9

Ghana performs well in terms of general digital literacy, but has low levels of specialist skills except for web development

Adoption of various digital skills in Ghana and regional peers



Source: World Bank staff calculations using LinkedIn data. Note: On the relative penetration axis, 1 represents the global average adoption of a skill.

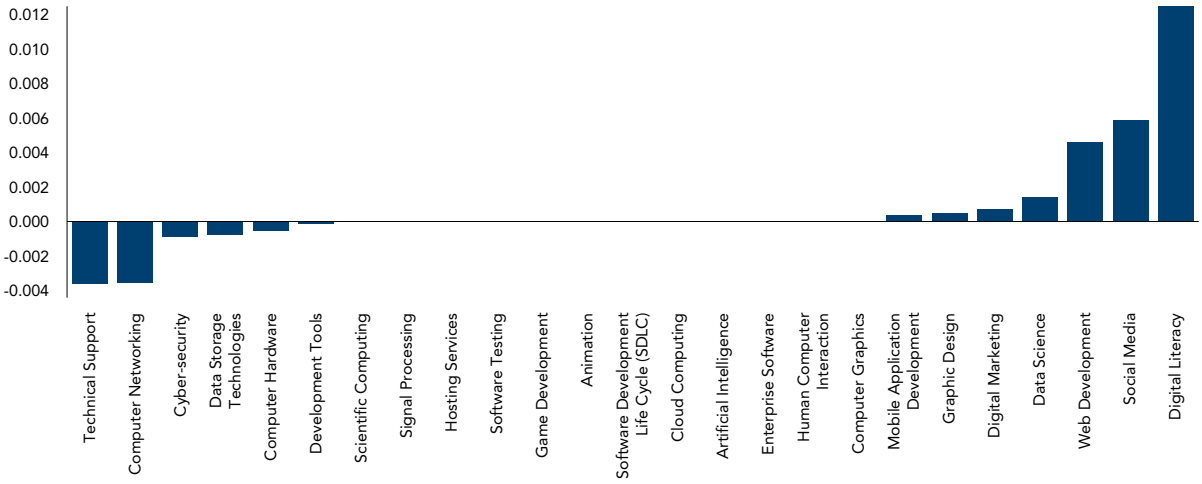
Ghana performs well on basic digital literacy skills, its fastest growing group of digital skills on LinkedIn

Between 2015 and 2018 digital literacy skills listed on LinkedIn grew rapidly. The fastest growing skill group by far was the digital literacy group, with also modest growth in social media and web development skills (see Figure 3.10). Data science, digital marketing and graphic design also experienced growth, while the prevalence of technical support, computer marketing, cyber security, data storage techniques and computer hardware skills all declined.

FIGURE 3.10

The fastest growth in digital skills on LinkedIn was for skills related to digital literacy

Change in skill penetration 2015-2018



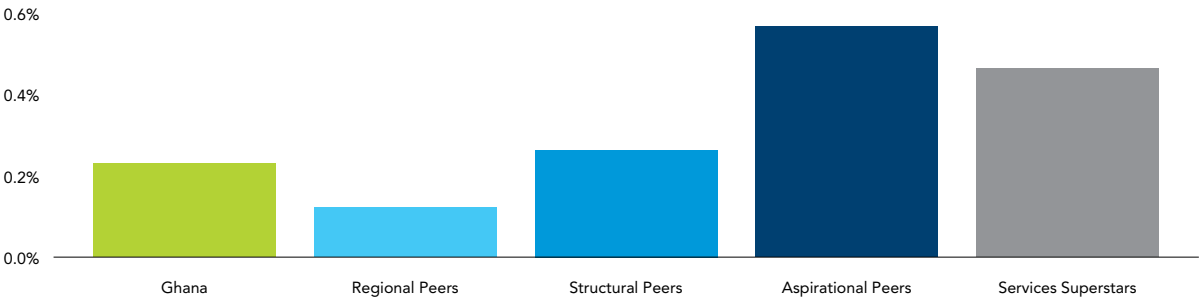
Source: World Bank staff calculations using LinkedIn data.

In 2020, Ghana had around 7 million Facebook users, equivalent to approximately 23 percent of the population. This is almost double the share of users in Ghana's regional peers, reflecting a relatively high use of social media compared to other countries in the region. However, this was still slightly below Ghana's structural peers and far below aspirational peers and the services superstars, which both had over 50 percent of their populations on Facebook on average. These users were heavily concentrated in Accra, with around 3.9 million users in the Greater Accra region.

FIGURE 3.11

Around 20 percent of Ghana's population is on Facebook, almost double that in regional peers

Ratio of Facebook profiles to total population



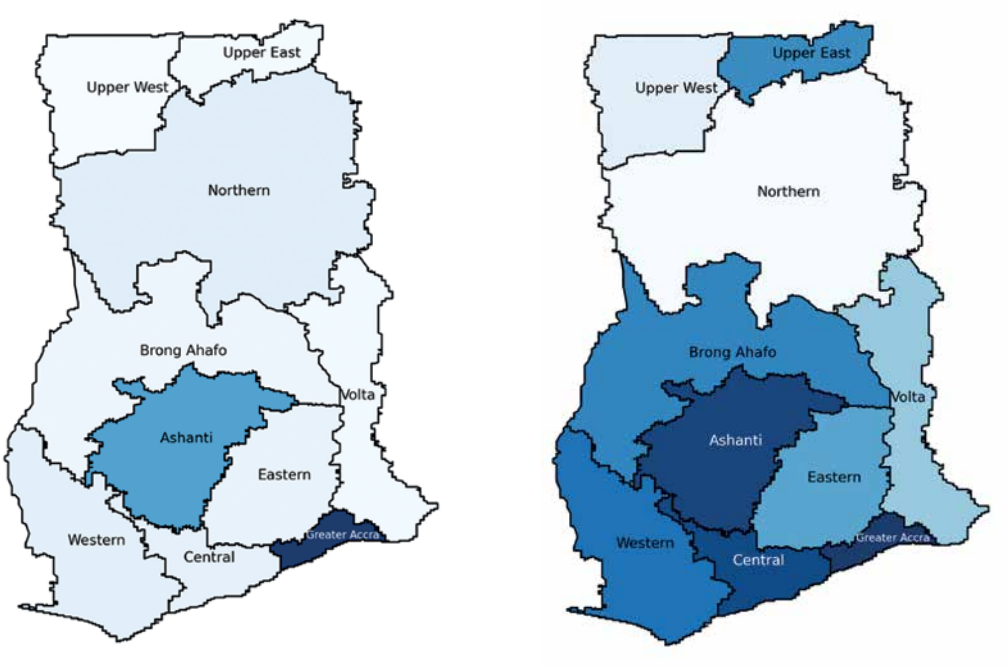
Source: World Bank staff calculations using Facebook data.

Ghana has a significant gender gap in the use of social media. Users are more likely to be men, with only 38 percent of users being female, although the share of female users is a lot higher in Greater Accra, the Central region and Ashanti (see Figure 3.12). On this metric of share of female users, Ghana performs ahead of many regional peers, but behind aspirational peers and services superstars like the Philippines, which has over 50 percent of users that are female. Facebook users are also mainly young, with around three quarters under 35.

FIGURE 3.12

Ghana's Facebook users are heavily concentrated in urban areas, which have a higher share of female users

Total number of Facebook users (left) and female share of users (right)



Source: World Bank staff calculations using Facebook data.

Adoption of technology in Ghana's firms

The first component of the FAT survey asks firms about their adoption of General-Purpose Technologies (GPTs). We organize the information on adoption and use of GPTs in three types according to the period when they were originated and production processes changed: Industry 2.0, 3.0, and 4.0. Industry 2.0 encompasses electricity and generators, which are technologies from the 1880s. Industry 3.0 refers to the ICT revolution, including mobile phone, computer, and internet. These technologies became available over the 1970-1980 period. Industry 4.0 refers to technologies that have a higher level of autonomy and connection of information across different devices and machines to perform tasks. Among the technologies usually associated with Industry 4.0 are Internet of Things, Big data analytics and artificial intelligence, 3D printing, advanced robotics, and cloud computing.[30] Three firm size groups are defined by the number of employees: small (5-19), medium (20-99), and large (100+).

[30] Nayyar and Hallward-Driemeier (2018) provide further discussions on the emergence of Industry 4.0. Although some of these technologies, such as AI were already available since the 1960s, they have been increasingly available in recent years.

BOX 3.5

Firm Adoption of Technology (FAT) survey in Ghana

The FAT survey was conducted in Ghana in April and May of 2021 as a collaboration between the World Bank and Ghana Statistical Service (GSS). It covers a representative sample of just over 1200 firms, representative by region, industry and firm size groups. Firms included have at least 5 employees and are both formal and informal.

The FAT survey was developed by Cirera et al. (2020) to measure the use of a range of technologies at a granular level among firms. It has been conducted in 10 other countries in late 2020 and early 2021, allowing data to be compared. The motivation for the survey was the fact that 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 Ghana aim to shed new light on where Ghanaian firms lie on the technology adoption spectrum, the variation across firms and the major constraints to technology adoption. Data will be publicly available, and the survey aims to empower researchers in Ghana and beyond to understand more about why and when firms adopt new technologies. This section provides some preliminary findings with just under 1000 firms, with a detailed report from the final dataset to follow.

Most firms sampled have adopted the basic Industry 3.0 (ICT) technologies but are still hindered by power cuts

In terms of Industry 2.0 (electricity) Ghanaian firms still suffer from power outages, with the majority owning their own generators. Nearly all firms reported that they suffer from power outages, and this is consistent across firm sizes. 55 percent of all firms own a generator, with larger firms with over 100 employees more likely to own one. On average firms reported experiencing 13 power outages in a typical month, with small and medium firms having more power outages than large firms. The most common source of energy for those with generators is fuel or grid or battery-stored backup.

In terms of Industry 3.0 (ICT) mobile phones, computers and smartphones are widespread, while access to the internet is somewhat more limited. 88 percent of firms have mobile phones, 76 percent have computers and 68 percent have smart phones, while only 58 percent have access to the internet. There is a big jump in internet use between medium size and large firms, with 87 percent of large firms having an internet connection. The main connection type is wireless or satellite, followed by DSL or fiber. The use of website is also high, particularly in medium sized firms, while around half of firms use social media.

TABLE 3.1
Most firms have adopted the key Industry 3.0 technologies of mobile phones, computer, smartphones and the internet, but small firms and manufacturing lag on adoption

Share of firms using each technology by size and sector

Technology	Mean	Std. Dev.	Small	Medium	Large	Agriculture	Manufacturing	Services
Having Mobile Phone	88.4%	32.1%	87.0%	90.9%	87.9%	75.7%	58.1%	97.0%
Having Computer	75.6%	43.0%	66.4%	82.8%	97.0%	58.4%	35.6%	87.1%
Having Smartphone	67.8%	46.8%	66.7%	64.5%	81.3%	49.0%	60.5%	72.6%
Having Internet	57.5%	49.5%	51.0%	57.4%	86.6%	35.6%	17.0%	70.0%
Type: Dial Up Internet	0.5%	7.4%	0.6%	0.8%	0.0%	0.0%	0.0%	0.6%
Type: DSL Internet	45.2%	49.9%	56.9%	30.3%	41.3%	24.1%	24.0%	48.2%
Type: Wireless Internet	52.5%	50.1%	39.4%	68.2%	58.7%	75.9%	76.0%	49.2%
Type: BPL Internet	1.8%	13.2%	3.1%	0.7%	0.0%	0.0%	0.0%	2.0%

Source: World Bank staff calculations using FAT survey data.

Industry 4.0 hasn't yet taken off in Ghana's firms and manufacturing lags services on technology adoption

Most Ghanaian firms are not benefiting from Industry 4.0 technologies yet. When looking into the adoption of advanced digital technologies embedded into the production process, which usually provides higher level of automation to perform a task, we observe that a very small share of firms in Ghana have been using these technologies. Among the so-called Industry 4.0, the most diffused technology in Ghana is cloud computing, which is used by less than 31 percent of firms. Other advanced and more autonomous technologies, such as robots and 3D-printers for manufacturing are not used by any firms, while other advanced manufacturing techniques are used by only 1.3 percent on firms, big data analytics or AI are used by 4.6 percent of firms and precision agriculture is used by 14.8 percent of firms.

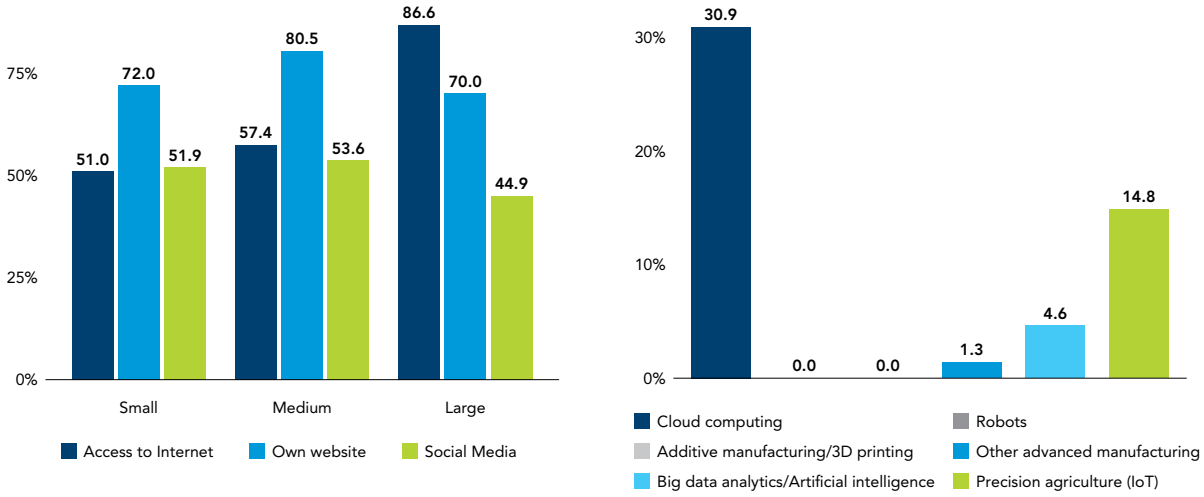
The use of most technologies is positively correlated with firm size, while services firms lead on adoption and manufacturing firms are lagging behind. The adoption of many key technologies, including electricity generators, computers and the internet, is positively correlated with firm size. For other, such as mobile phones, however, there is no such correlation. For Industry 3.0 technologies, services firms have the highest rates of adoption, for example with 70 percent having access to the internet. Manufacturing firms, on the other hand, have the lowest rates of adoption, with only 17 percent having access to the internet and only 58 percent having mobile phones.

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 and online payment methods. There are important differences between the extensive (whether a firm adopts the technology) and the intensive (the extent to which they use the technology) margins. Even though some firms are adopting more sophisticated technologies in a given business function (e.g. payment methods), these are not the most used technologies.

FIGURE 3.13

Most firms use the internet, their own websites and social media, while the adoption of Industry 4.0 technologies is more limited

Adoption of some key Industry 3.0 technologies (left) and Industry 4.0 technologies (right)

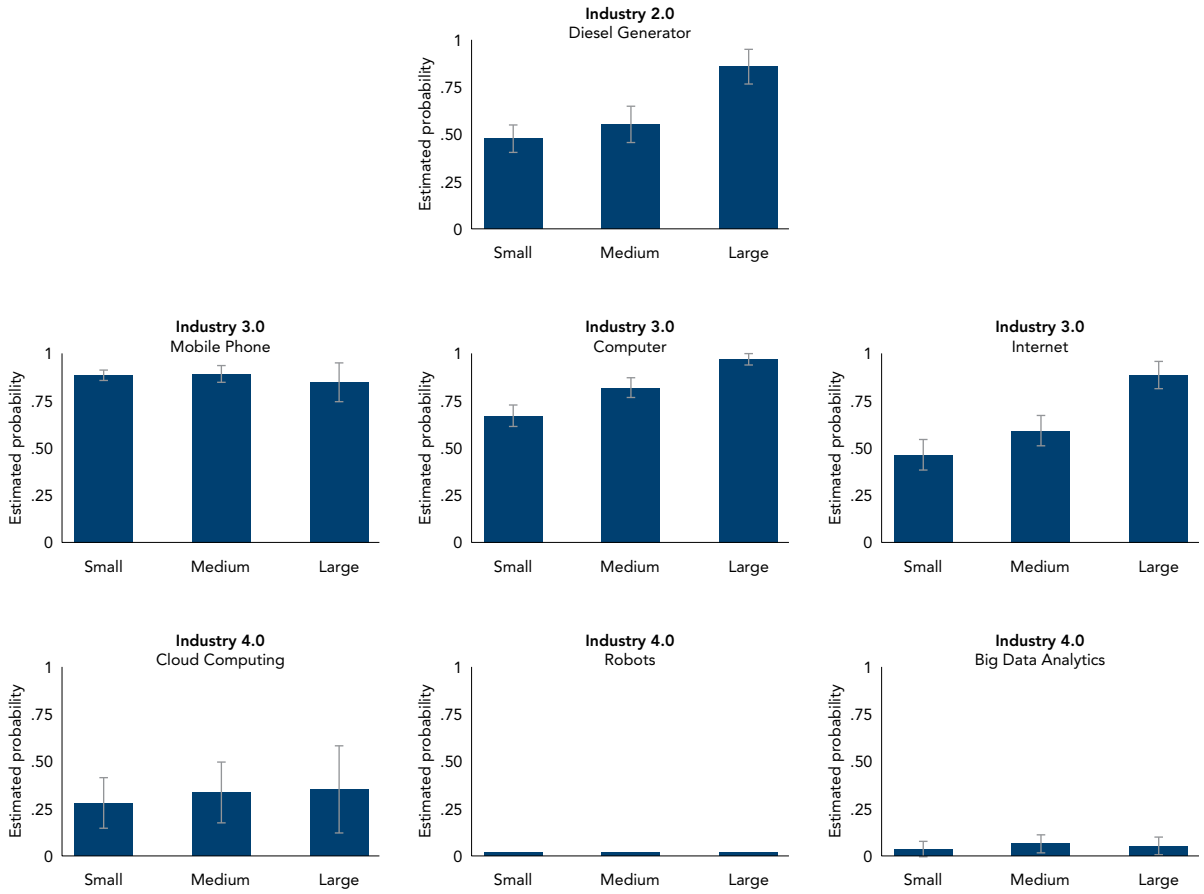


Source: World Bank staff calculations using FAT survey data.

FIGURE 3.14

Adoption of many technologies is correlated with firm size

Share of firms adopting each technology by firm size



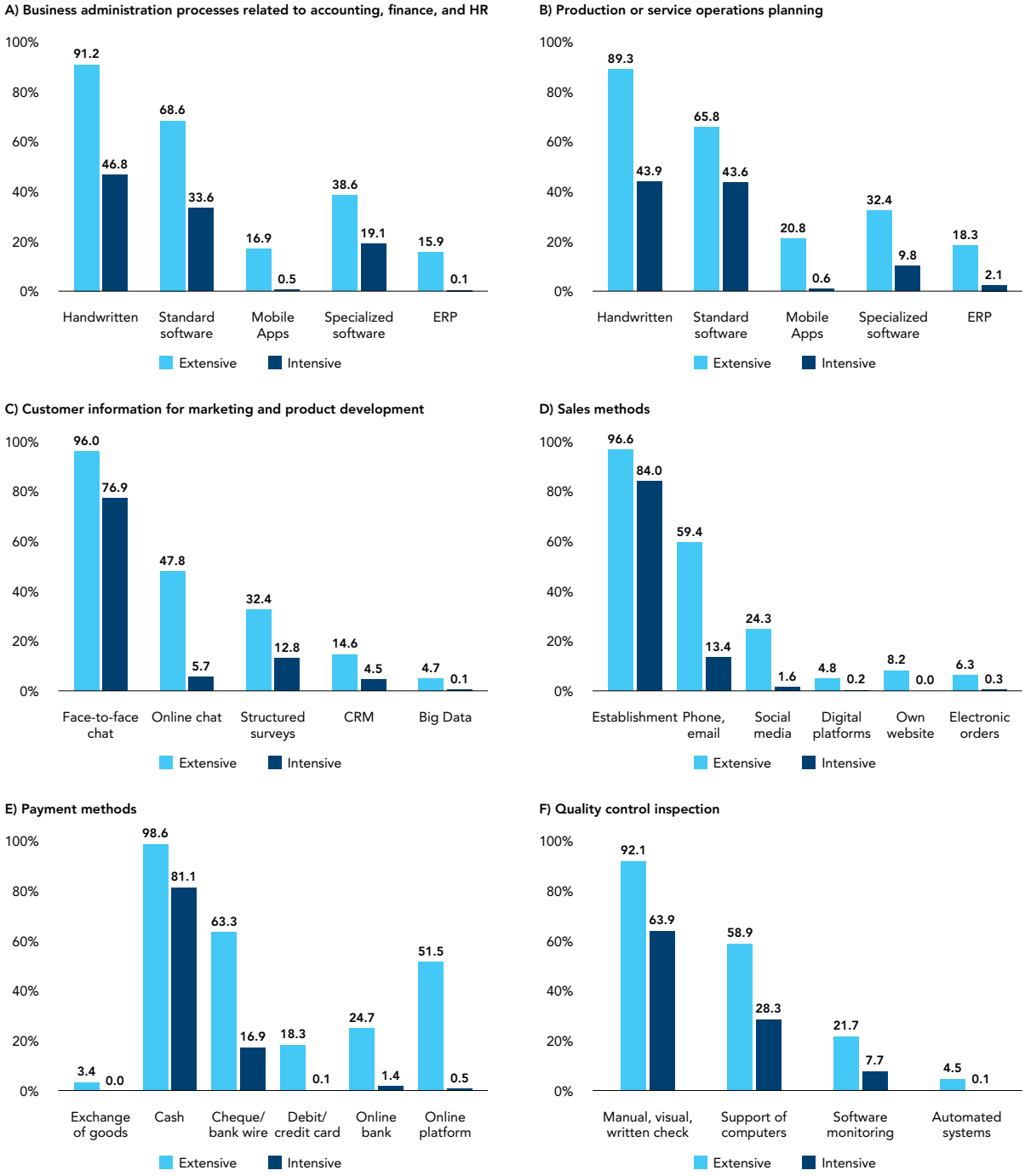
Source: World Bank staff calculations using FAT survey data.

Adoption of technologies for general business functions is still limited, except for computers

The most common method for conducting back-office business functions is still to hand write them, although there is an important use of computers as well. The most common methods for conducting Finance, Accounting and HR functions are by hand with over 90 percent of firms reporting that they conduct

FIGURE 3.15
Adoption of new technologies for general business functions is still limited

Adoption of technologies for general business functions



Source: World Bank staff calculations using FAT survey data.

some of these tasks by hand, and using standard computer software, with 60 percent of firms reporting that they conduct some of these functions using a computer. A similar pattern holds for production planning. The share of tasks conducted by hand and using standard software is roughly evenly split for production or service operations planning.

Marketing is still conducted primarily face-to-face, while sales are predominantly conducted at the establishment's premises or via phone or email. The main methods for marketing reported are face-to-face or via online chat: over 96 percent of firms conduct their marketing activities at least partially face-to-face, while just under 50 percent conduct their marketing activities at least partially via online chat. Firms reported that around 84 percent of sales occur at the establishment's premises, with 13 percent occurring via phone or email or by representatives. The use of social media, digital platforms or electronic orders is extremely low. For firms engaging in e-commerce, the most common method is to see products on the firm's own website, although firms reported more sales stemming from digital platforms.

The most common method of payment is still cash or check, although over 50 percent of firms report using online platforms for payment. Nearly all firms report still using cash for payments, with just over 60 percent reporting using check. However, nearly 50 percent of firms report using online platforms, so firms appear to be diversifying their payments methods using multiple sources. While many firms report using new technologies for payments, such as online platforms or online banking, they report a very low share of transactions occurring through these methods, with over 80 percent of all transactions occurring by cash.

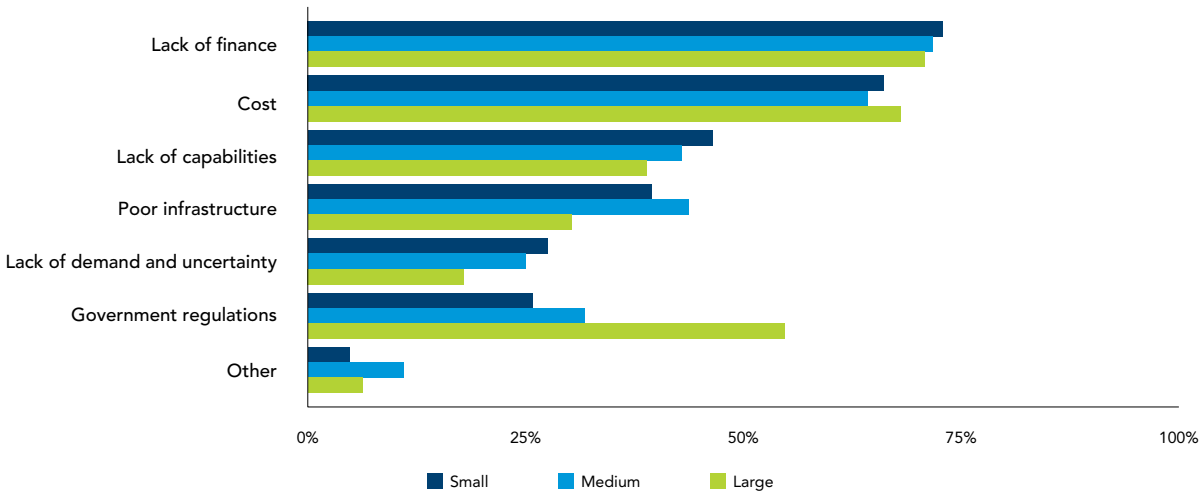
Manufacturing processes remain predominantly manual. Around 56 percent of fabrication processes are conducted manually, with 40 percent conducted using machines with operators. Only around 3 percent are conducted by machines or computers. The automotive and wearing apparel firms surveyed are typically not using most of the advanced technologies in the production, for example robots in the automotive sector or CAD/CAM in the wearing apparel sector.

Lack of finance and cost of adoption are the main obstacles to adopting new technologies. The survey asks firms about their top three obstacles to adopt technology. Figure 3.16 describes the share of firms reporting obstacles by firm size group. The greatest barrier faced by firms of all size groups is lack of access to finance, with around 70 percent of firms reporting that this is a top obstacle. The next greatest barrier reported is the cost of technology adoption. Lack of capabilities and poor infrastructure are also commonly reported barriers, while lack of demand and uncertainty do not appear to be major issues. Interestingly, government regulations only appear to be a major barrier for large firms.

FIGURE 3.16

The key obstacles to technology adoption are lack of finance and cost of technologies

Share of firms citing each factor as one of their top three obstacles



Source: World Bank staff calculations using FAT survey data.

The adoption of Industry 3.0 technologies among micro-size firms is much lower, although use of mobile phones and mobile money is high

For smaller, micro-size firms, the use of smartphones, broadband and the internet for business purposes in Ghana is more limited than for firms in the FAT survey. Dutz and Atiyas (2021) use a national sample of over 500 Ghanaian firms from the Research on ICT in Africa (RIA) survey, of which over 90 percent are not fully formal and over 95 percent are micro-size, employing five or fewer full-time employees, to study the adoption of digital technologies among Ghana's micro firms. They show that only 3 percent of sampled firms use smartphones, virtually no Ghanaian micro-firms used fixed broadband connections (only 0.2 percent), and only 6 percent of firms use internet or social media for business purposes. The use of online banking was also very low among these firms at 0.8 percent.

On the other hand, the use of mobile phones and mobile money among these micro firms is high. There is a vibrant use of 2G-enabled DTs, with 75 percent of businesses owning a 2G/2.5G feature phone. Mobile phones are used by almost all Ghanaian micro-sized businesses who have them to communicate with suppliers and three-quarters of those who have them to communicate with customers. A larger fraction of micro-sized firms in Ghana use mobile money, 40 percent. This could suggest that micro-sized businesses in Ghana have become more familiar with relatively more basic feature phones, including mobile money and SMS for advertising, so there has correspondingly been less need to adopt smartphones so far.

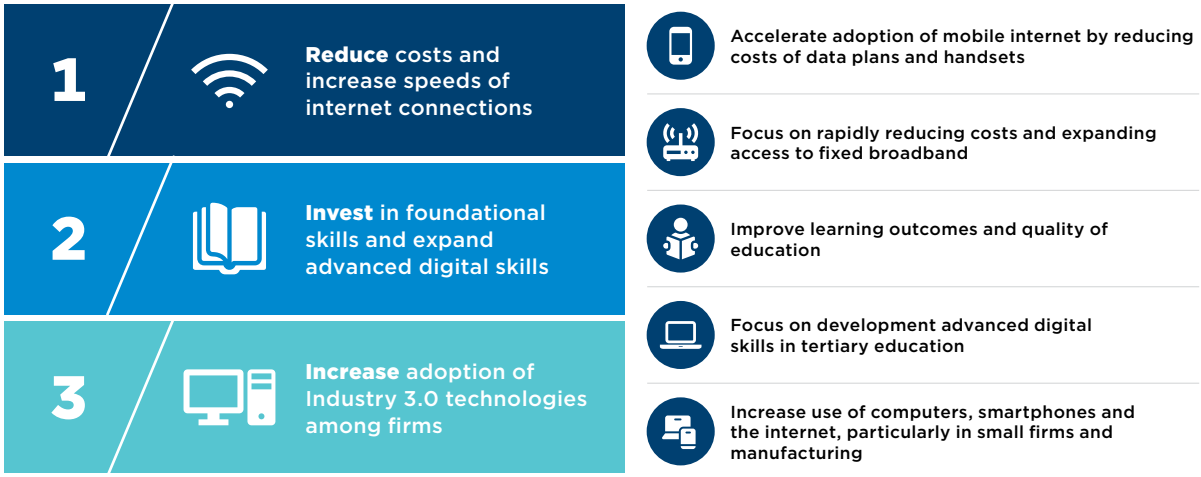
The use of many digital technologies in micro-size firms in Ghana is positively correlated with productivity, sales, exports, and profits, but not more jobs. The largest statistically significant conditional correlates of productivity, sales and profits per owner are using a mobile phone to communicate with suppliers and using mobile money to pay suppliers — and the latter for exports. However, the use of digital technologies is not positively associated with more jobs, and only partially with better jobs: none of the examined digital technologies has a statistically significant positive association with businesses employing more workers. The larger of the micro-sized firms are not more productive and pay lower wages. The finding that productivity is negatively correlated with firm size suggests that some features of the business environment may be preventing the more productive of these firms from growing or may be leading them to select to remain self-employed without full-time employees, or as one and two-worker firms, rather than growing to become three-to-five worker firms (or larger).

There are still significant digital divides in the use of digital technologies for business purposes across age and gender groups in micro-size firms in Ghana. There is a strong gender gap in the use of smart phones: the ratio is 4.6 percent among old and young males, and 1 and 2 percent among young and old females, respectively. A large gender gap also exists in the general use of internet/social media across access modes for business purposes. About 12 percent of male owners use internet, as opposed to 4 percent of women. Use of internet is subject to age-gaps as well: use is higher among old male owners (13 percent) relative to young male owners (8 percent) and among old female owners (4.5 percent) relative to young female owners (2.9 percent).

Digital technologies that facilitate external-to-the-firm communications and payments matter most in terms of their associations with productivity and sales. This may reflect that network effects are working and that the 2G ecosystem is quite dense. While 2G and feature phones matter, it is largely through their role as enablers of more specialized uses of DTs — in particular communicating with and paying suppliers and communicating with and receiving payments from customers.

How can Ghana drive technological transformation?

To enable digital transformation to drive firm upgrading and job creation, Ghana will need to focus on reforms in three areas. Firstly, Ghana will need to increase speeds of mobile internet, continue to reduce the cost of handsets and data plans and rapidly reduce the costs of fixed broadband and expand use. Secondly, Ghana will need to improve the quality of foundational skills learnt in school and also develop a labor force with more advanced digital skills through tertiary education. Finally, Ghana will need to focus on accelerating the adoption of Industry 3.0 technologies, particularly in smaller firms and manufacturing, in order to lay the foundation for adoption of more advanced Industry 4.0 technologies.



Source: World Bank staff elaboration.

POLICY PRIORITY 1

Reduce cost and increase speeds of internet connections, particularly broadband

For mobile internet, the focus should be on accelerating adoption through further reducing costs and improving awareness. Policy and regulatory reforms to enable active infrastructure sharing, reduce sector-specific taxes and apply tech-neutrality in spectrum bands could contribute to this goal. A better operation of universal service to reach out to the unprofitable underserved areas to fill the adoption gap. There should also be a focus on increasing mobile broadband speeds. For fixed broadband, the focus should be on substantially reducing costs and expanding access.

POLICY PRIORITY 2

Invest in foundational digital skills for all and expand advanced digital skills in tertiary education

Skills gaps need to be filled at both the bottom and top. A key overarching priority will be to improve learning outcomes and the quality of education to improve the prevalence of foundational skills. Basic digital skills in school could also be improved. Then Ghana will also need to fill the gap of advanced digital skills through tertiary education, bootcamps and technical and vocational training.

POLICY PRIORITY 3

Increase adoption of Industry 3.0 technologies among firms

While Industry 4.0 is important, many Ghanaian firms have still not fully benefited from Industry 3.0 or even Industry 2.0. Many firms are still not using computers or smartphones or the internet, particularly smaller firms and those in the manufacturing sector. Most general business functions are still conducted with low-tech methods and manufacturing.

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Detailed Recommendations

POLICY PRIORITY 1

Reduce cost and increase speeds of internet connections, particularly broadband

Accelerate adoption and improve speeds of mobile internet	• Conduct policy reforms to enable active infrastructure sharing, reduce sector-specific taxes and apply tech-neutrality in spectrum bands. • Consider subsidies to cover the expected losses on unprofitable sites and cover the capital expenditure and operational expenditure costs that cannot be recovered by expected revenue to further fill the adoption gap and expand last-mile coverage to the most rural areas. • Follow through with reforms to increase competition in the mobile market and improve international access.
Reduce costs of broadband and expand uptake	• Reduce prices and increase utilization of the Eastern Corridor Fiber Optic Intercity Network through improving the last mile delivery to communities. • Strengthen existing projects to expand fixed broadband infrastructure, such as the Western Corridor Fiber Optic Project.

POLICY PRIORITY 2

Invest in foundational digital skills for all and expand advanced digital skills in tertiary education

Improve development of foundational skills	• Improve learning materials, expand teacher content knowledge and ongoing training and coaching support for teachers. • Strengthen teacher management, inspection, assessment and accountability. • Tackle gender inequities in poorer regions.
Improve basic digital skills development in primary and secondary school	• Improve basic digital skills provision in the education system. To spur improvement, policy makers need to create frameworks for public education institutions to leverage up-to-date digital skills training content. • Boost supply of digitally literate teachers. • Improve quality of learning infrastructure for digital and STEM subjects. • Increase the number of jobs through apprenticeship and firm-based training.
Improve advanced digital skills	• Scale and cofund advanced digital skills training programs. The scale-up of the supply of advanced skills would require partnering with other stakeholders, including the private sector, donors, and private training service providers. • Work towards the objectives laid out in the strategic plan for TVET transformation (2018-2022) to increase access, quality, and relevance of skills development. • Consider opportunities to leverage Reforming Africa's Institutes for (Computer) Science, Engineering and Digitization (RAISE). It aims to increase access to and improve the quality and relevance of computer science and engineering degree programs in select higher education institutions in Africa and strengthen the capacity of these institutions to deliver online education and operate digital systems.

POLICY PRIORITY 3

Increase adoption of Industry 3.0 technologies among firms

Accelerate adoption of Industry 3.0 technologies, particularly in smaller firms and manufacturing	• Consider developing a digital technology adoption program to accelerate digital transformation of the economy, targeting smaller firms and the manufacturing sector. • Establish programs or instruments to promote R&D, technological innovation, and digital upgrading in Ghana's private sector in the form of competitive grants or cost-based income tax incentives for research and development. • Foster collaboration and platforms development between research institutes, universities, and the private sector through collaborative research or centers of excellence for ICT or digital solutions. • Expand entrepreneurship programs focusing on digital technology adoption and innovation.
Develop focused initiatives for more advanced and Industry 4.0 technologies	• Improve specific regulations for digital industries (that is taxes, IP rights, limited partnerships). This could involve: a. Creating tax policy, business registration, and insolvency rules that support startups and risk-taking entrepreneurial businesses b. Utilizing procurement policy to incentivize production of digital solutions by local SMEs, specially IT-ITeS to scale up companies c. Establishing a dedicated digital intellectual property (IP) track within Ghana's IP office to raise awareness among SMEs about the value of trade secrets and how to protect them effectively; and d. Creating legislation to enable limited partnerships, and ensure that private equity/venture capital (PE/VC) regulations allow funds to be formed as limited partnerships. • Consider technology specific programs to accelerate adoption in areas such as AI.

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MSC GABRIELLA
MAERSK
MAERSK SEALAND
Safmarine
ZIM

PART 2

LEVERAGE ENABLERS OF GROWTH

Economic transformation will not be possible without the economy's foundational enablers of growth in place. The part of the report next focuses on two key enabling areas in which Ghana's performance has been holding it back. The first is financial sector development, covered in Chapter 4. The link between financial sector development and the growth of the private sector has been well established but Ghana currently has one of the lowest levels of financial depth and lags behind on access to finance for the private sector, which has been cited as a major constraint to business growth and technology adoption in research feeding into chapters 2 and 3. Economic transformation will also require essential investments into education, health and infrastructure, which will all hinge upon sufficient domestic revenue mobilization, which is currently low in Ghana. In addition, it has been well documented that macroeconomic stability is one of the key determinants of long-run growth, while this has also been one of Ghana's weak points. Chapter 5 will hence focus on enhancing these two aspects to enable economic transformation.

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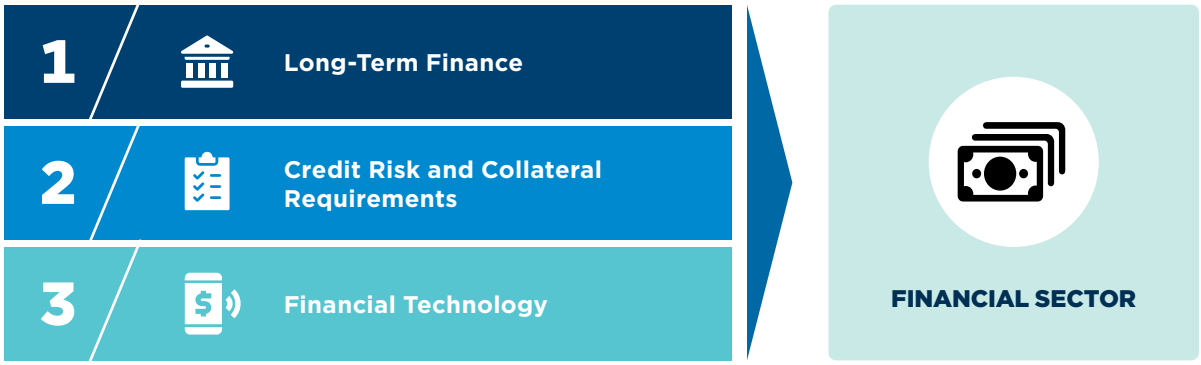
CHAPTER 4

Financing the Private Sector's Economic Transformation

There is a well-documented relationship between financial depth and growth, which has been linked to access to credit for productive businesses to innovate and pursue growth. Yet, currently the majority of Ghanaian businesses lack access to affordable external finance. Ghana's financial sector is shallow and bank dominated. SDIs (Microfinance Institutions, Savings and Loans, Rural Banks, and Finance Houses) and NDIs (micro-credit institutions) account for a smaller share of the banking sector, and their role has been declining. The capital market has been developing in recent years, but it remains small. Bank credit to the private sector is low relative to the size of the economy and lags behind that of many peer countries, while access to finance has been one of the most important cited obstacles for most of the surveyed enterprises in Ghana, particularly SMEs. In particular, long-term finance needed for long-gestation, productivity-enhancing projects with potential for economic transformation is scarce and agriculture and manufacturing receive a much smaller share of credit from the financial sector compared to their share in GDP and employment. The cost of finance is also prohibitively expensive. Various factors underpin the limited firm access to finance. These same factors — including government crowding out, limited availability of term funding, high collateral requirements, deficient credit infrastructure, and challenging business environment and informality — also explain the high cost of finance. Going forward, Ghana will need to increase the availability of long-term finance, mitigate financial institutions' credit risk and lessen collateral requirements, promote supply chain financing instruments such as factoring and reverse factoring and leverage technology to digitize payments and digital platforms to deliver financial solutions.



This chapter evaluates the extent to which the financial sector is an enabler of growth in Ghana and how Ghana can better leverage financial sector development to support economic transformation. It begins by providing an overview of the state of the financial sector in Ghana. It then identifies gaps in enterprise access to finance in Ghana, with a focus on finance to SMEs and long-term finance. It then discusses key drivers of low access to finance, drawing evidence from surveys and other sources. Finally, it concludes with the identification of policy options with potential to increase access. The chapter focuses primarily on banks, the main providers of finance in Ghana, and the capital market as the segment that should provide long-term finance. Other types of finance — such as private equity for startups and other riskier companies — are not discussed. Moreover, in line with the CEM's focus on the creation of quality jobs, the chapter focus on formal finance provided by formal financial intermediaries (including microfinance institutions) and on how to help informationally opaque SMEs generate needed information and credit histories that all types of financial intermediaries require to assess borrowers' creditworthiness.

Why the financial sector matters for economic transformation

Low financial depth is a major constraint to Ghana's private sector development, economic growth, and poverty reduction. According to the World Bank (2008) "providing access to credit to the most efficient and innovative enterprises is behind the well-documented causal relationship between financial depth and national growth." In addition, "improved access to finance is not only pro-growth but also pro-poor, reducing income inequality and poverty." Moreover, the extension of long-term finance may lead to faster growth, greater welfare, shared prosperity, and enduring stability by reducing rollover risk and lengthening the horizon of investments and their performance (World Bank 2015) Yet, the majority of Ghanaian enterprises lack access to affordable external finance (particularly long-term finance), which prevents them from entering new markets, innovating, and pursuing growth and productivity-enhancing opportunities that cannot be financed through internal resources. Such opportunities could lead to more investment and job creation, particularly by MSMEs.

> Improved access to finance is not only pro-growth but also pro-poor, reducing income inequality and poverty

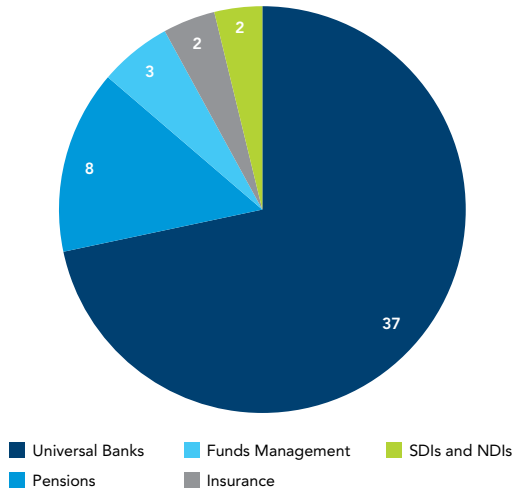
The banking sector has been stabilized but still shows vulnerabilities

Ghana's financial sector is shallow and bank dominated. Total financial sector assets were only 52 percent of gross domestic product (GDP) in 2019, down from 54 percent in 2018 and an average of 60 percent in the 2016–2017 period. The decline was largely due to the liquidity challenges of fund management companies and the liquidation of SDIs and NDIs. Banking is the largest sub-sector, with assets equivalent to 37 percent of GDP in 2019, followed by the pension sector (Figure 4.1, Panel A). With GHS 129 billion (US$23 billion) in assets in 2019, the banking sector accounted for 72 percent of total financial sector assets. Following the closure of 411 SDIs and NDIs, their share in total credit to the private sector declined from 18 percent in 2018 to 13.7 percent in 2019. Unlike other banking sectors in Africa, Ghana's banking sector is not highly concentrated (Figure 4.1, Panel B), as the three largest banks accounted for 29 percent of the total assets of banks in 2019. Indicators on banking penetration and deposit mobilization show that Ghana lags behind peers, especially those with lower GDP per capital like Senegal and Kenya (Figure 4.1, Panel C).

FIGURE 4.1

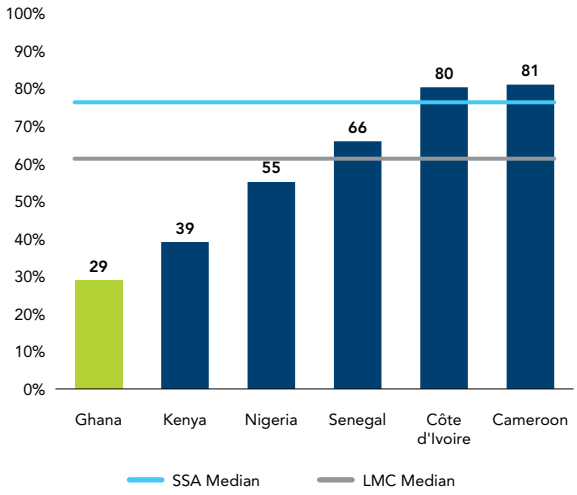
Ghana's financial sector is heavily bank dominated, but not overly concentrated; it lags behind peers on banking penetration and deposit mobilization indicators

A) Financial Sector Assets, Percentage of GDP, 2019



Source: Bank of Ghana (BoG).

B) 3-Bank Concentration, Percentage, 2019



Source: BoG; WB Finstats Database.
*Data for Cameroon is from 2017; data for Senegal is from 2018

C) Size of Economy and Banking Penetration Indicators, 2019

	GDP	GDP per capita	Banking Assets to GDP*	Banking Deposits
	(Current, US$ Billions)	(Current, US$)	% of GDP	% of GDP
Kenya	95.4	2,004	62.7	33.3
Senegal	23.3	1,430	59.7	31.7
Côte d'Ivoire	58.5	2,228	40.9	31.4
Ghana	**67.0**	**2,221**	**38.0**	**22.0**
Cameroon	38.9	1,502	31.7	17.2
Nigeria	448.1	2,230	29.9	16.5
SSA Median	13.4	1,099	40.9	21.7
LMIC median	24.9	2,346		32.6

Source: IMF World Economic Outlook (WEO), Regional Economic Outlook (REO); World Bank FinStats Database.
* Data for Cameroon is from 2018. SSA = Sub-Saharan Africa; LMIC = Low Middle Income Countries

The structure of the financial sector has been changing since 2017 following the authorities' decisive measures to restore financial stability. Between August 2017 and December 2018, BoG resolved nine domestically owned banks and established a bridge bank (Consolidated Bank Ghana) capitalized by the state. In addition, BoG significantly increased the minimum capital requirement for banks to GHS 400 million (US$73 million), up from GHS 120 million, effective December 2018. This led to three mergers, the downgrading of one bank to a savings and loans institution, and one voluntary winding up. As a result, the total number of universal banks decreased from 36 in July 2017 to 23 currently, of which 14 are foreign controlled. BoG also closed 411 SDIs and NDIs in 2019. Moreover, the SEC revoked the licenses of 50 fund management companies that failed to return clients' funds (including to SDIs). The Ministry of Finance (MoF) provided fiscal support of about GHS 26.5 billion (7 percent of GDP) to protect depositors and investors and facilitate the cleanup. MoF's fiscal support was also key to preventing contagion and a full-blown crisis.

While the banking sector is largely sound, there are vulnerabilities that need to be addressed, particularly given the impact of COVID-19. The average bank-wide capital adequacy ratio (CAR) stood at 20.2 percent in February 2021, well above the regulatory minimum of 13 percent.[31] Liquidity buffers seem adequate and the system is profitable. However, the average NPL ratio was high at 15.3 percent in February 2021, an increase from 14.8 in December 2020.[32] Asset quality could further deteriorate if economic recovery is subdued, straining borrowers' repayment capacity (particularly regarding the GHS 4.8 billion in loans that were restructured due to COVID-19 challenges). In addition, one state-owned bank (with 2 percent of total assets) remains undercapitalized, while some SDIs are likely to require recapitalization[33] given the negative impact of COVID-19 on their customers, mostly MSMEs. The new deposit protection scheme is not yet adequately funded to cover a significant number of depositors, which could prove challenging if any problem institutions need to be resolved.

The non-bank sector is growing but remains small

The capital market has been developing in recent years, but it remains small. The market is dominated by government domestic debt with total value outstanding of GHS 121 billion (32 percent of GDP) at the end of 2020. Corporate bond issuance (GHS 11 billion outstanding in 2020) is growing but is currently dominated by a government-sponsored special purpose vehicle ESLA Plc[34] (GHS 7.6 billion) and SDIs. Maturities of issued corporate bonds have ranged from 3 to 10 years. Equity market development has been slow, with only 38 equities listed on the Ghana Stock Exchange (GSE), many of which are not trading. The stock market capitalization has declined to GHS 54 billion or 14 percent of GDP in 2020 (down from 25 percent of GDP in 2016). Liquidity on the stock exchange remains low, with a turnover ratio of 1 percent in 2020.

The pension and insurance sectors, while still small, have accumulated assets that could be channeled to productive investments through the capital market. Pension funds accumulated GHS 26 billion in assets under management in 2019, up from GHS 5 billion in 2012. Privately managed pension funds account for 66 percent of the total assets and were responsible for the rapid growth. The total outstanding premium of life insurance companies has also grown by 39 percent during the same period to GHS 1.6 billion in 2020. However, the bulk of both pension funds and life insurance companies' assets are invested in government securities and bank deposits.

[31] The CAR was temporarily reduced to 11.5 percent minimum as part of the COVID-19 response.
[32] While the NPL ratio remains high, it has decreased from 21.6 percent in 2019 following improved macroeconomic performance and the settlement of the energy sector debts by the Government.
[33] Remarks by BoG's Governor at the 2020 Edition of GIMPA's Biennial Law Conference Series, August 6, 2020. https://www.bog.gov.gh/wp-content/uploads/2020/08/Speech-by-Dr.-Ernest-Addison-Governor-of-the-Bank-of-Ghana-at-the-2020-GIMPA-Biennial-Law-Conference-Series.pdf (accessed on March 10, 2021).
[34] ESLA was established to raise funds to settle energy sector debts due to banks and trade creditors. It issues long-term bonds to be redeemed using the proceeds of the energy sector levy.

Gaps in firm access to finance

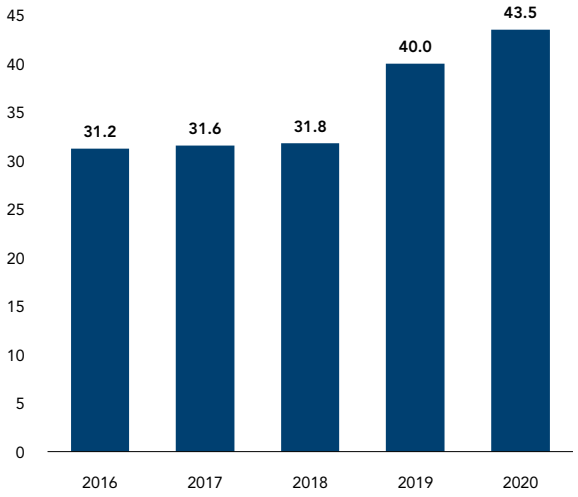
Limited access to bank credit is a constraint for MSMEs

Bank credit to the private sector is low relative to the size of the economy and lags behind that of many peer countries. After growing at an annual rate of 26 percent in 2019 to GHS 40 billion, largely aided by the cleanup of the banking sector and the increase in banks' minimum capital, credit growth slowed to 9 percent in 2020 (to GHS 43.5 billion) amid economic slowdown and increased risk version due to the COVID-19 pandemic (Figure 4.2A). Private enterprises received two thirds of the loans in 2020, down from the three-quarters that they received in 2019. Ghanaian banks allocated only 31 percent to their assets to loans and advances in 2019[35], significantly lower compared to Senegal (59 percent), Côte d'Ivoire (57 percent), and Kenya (52 percent). Relative to GDP, Ghana's credit to the private sector was only 12.2 percent in 2020, significantly lower than peers with the exception of Nigeria (Figure 4.2B). Credit to the private sector in Ghana has also been consistently lower than expected given the country's structural characteristics (including population size and income level).[36]

FIGURE 4.2

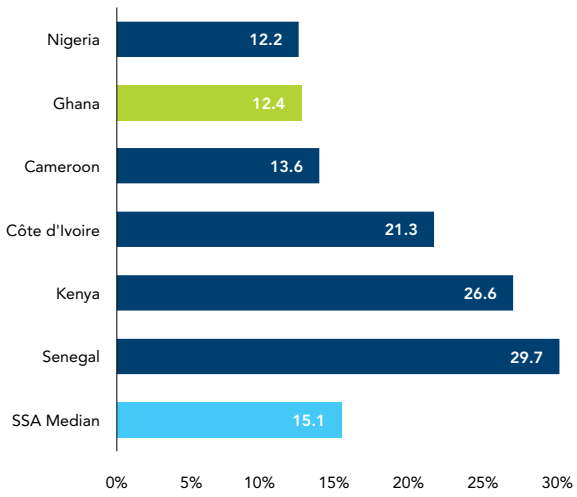
Credit growth slowed to 9 percent in 2020 amid the COVID-19 pandemic, and Ghana still lags behind most of its peers for credit to the private sector

A) Ghana Bank Credit to Private Sector, GHS billion



Source: Bank of Ghana (BoG).

B) Private Sector Credit to GDP, Percentage, 2020



Source: IMF REO. SSA = Sub-Saharan Africa

The 2013 World Bank Enterprise Survey found that access to finance was the most important obstacle for most of the surveyed enterprises in Ghana, particularly SMEs. Seventy two percent of small firms cited access to finance as a major constraint, compared to 52 percent of medium and 23 percent of large firms. More firms in Ghana than in peer countries — with the exception of Côte d'Ivoire and median indicators for the SSA and LMICs — report limited access to finance as a major constraint. In addition, fewer SMEs compared to large firms reported having a loan or line of credit from a financial institution and using financing from financial institutions to finance investment as well as working capital. Generally, Ghana's indicators on accessing funding from financial institutions compare well with comparators.

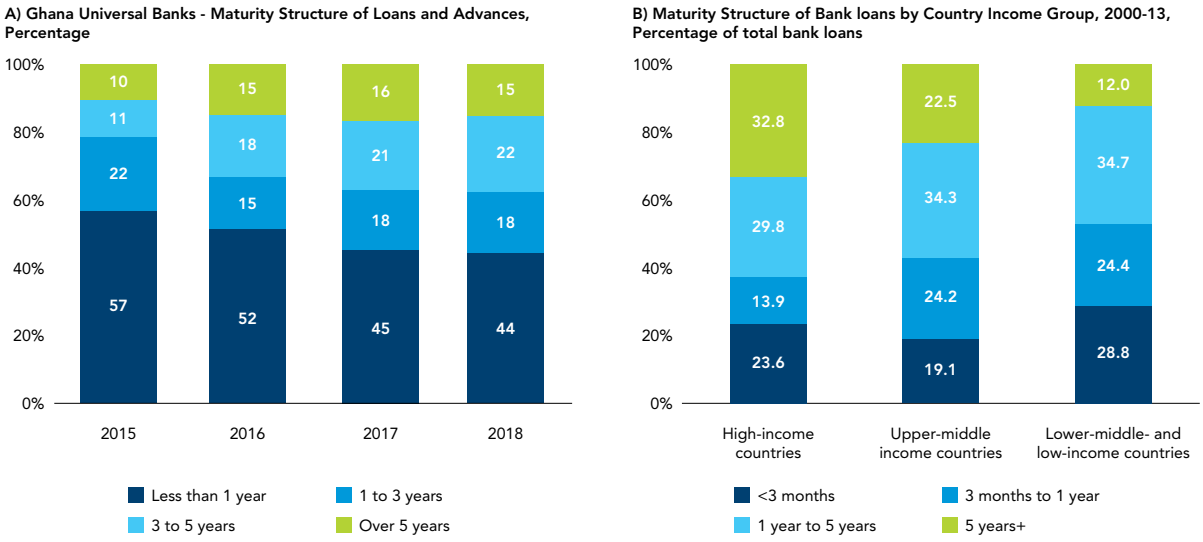
[35] The allocation decreased to 28 percent in December 2020.
[36] World Bank Finstats expected median calculations.

SME's access to finance has not improved since 2013. In 2017, the International Finance Corporation (IFC) estimated that the MSME financing gap in Ghana was equivalent to 13 percent of GDP (about US$6.1 billion).[37] In addition, about 74 percent of MSMEs were estimated to be partially or fully credit-constrained. Moreover, the COVID-19 Business Tracker Survey (GSS 2020) found that only 16.5 percent of the respondent firms (mainly MSMEs) had a loan or a line of credit from a financial institution.

Access to long-term finance may be particularly important for productivity improvements

Firms need long-term finance to undertake long-gestation, productivity-enhancing projects with potential for economic transformation — but such finance is scarce. The feasibility study for the new development bank (PwC 2019) estimates that the long-term finance gap for a tenor of three years or more was GHS 52.4 billion (US$9.3 billion) in 2020. Additionally, only 37 percent of the value of banks' loans and advances had a maturity of more than three years in 2019, of which loans with maturities of more than five years were only 15 percent (Figure 4.3A).[38] Few firms, mainly those with international connections (such subsidiaries of multinational firms) are able to access long-term finance from their parents. The majority of Ghanaian enterprises are forced to forgo long-term investments or to pursue these investments at a much smaller scale and slower pace dictated by the accumulation of internal capital. While recent comparator data is not readily available, the 2015/16 Global Financial Development Report on Long-Term Finance (World Bank 2015) shows that the share of long-term bank loans (with a maturity of more than 5 years) increases with the level of income (Figure 4.3B).

FIGURE 4.3
Most loans have short maturities as is the case for most lower-middle and low-income countries



Source: BoG and World Bank staff calculations.

Source: World Bank Global Financial Development Report (GFDR) 2015/16.

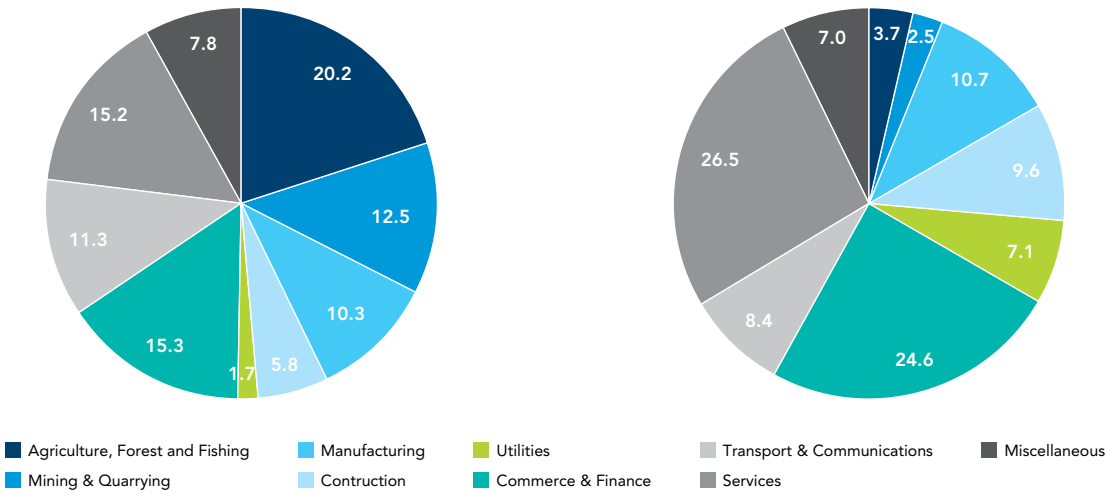
[37] IFC. MSME Finance Gap 2017. https://www.smefinanceforum.org/data-sites/msme-finance-gap (accessed on January 24, 2019).
[38] However, the share of loans with maturity between 1 and 5 years has increased between 2018 and 2020, possibly in part due to the more than threefold increase in bank's minimum capital.

Agriculture and manufacturing receive a much smaller share of credit from the financial sector compared to their share in GDP and employment. For instance, in 2020 the share of bank loans for agriculture (including forest and fishing) was just 4 percent, much smaller than the sector's contribution to Ghana's GDP (22 percent) (Figure 4.4). The share of bank loans going to manufacturing (10.7 percent) was equal to its contribution to GDP. The projected financing gap for manufacturing and services (including agribusiness but excluding trade) was GHS 158.4 billion (US$28 billion) in 2020, or 40 percent of the estimated GDP (PWC 2019). The services sector received the highest share of bank credit, followed by commerce and finance, and manufacturing.

FIGURE 4.4

Some sectors, such as agriculture, receive a share of credit far below their contribution to economic activity

A) GDP Contribution by Sector, percent, 2020



Source: Ministry of Finance and World Bank staff calculations.

B) Bank credit allocation by Sector, percent, 2020

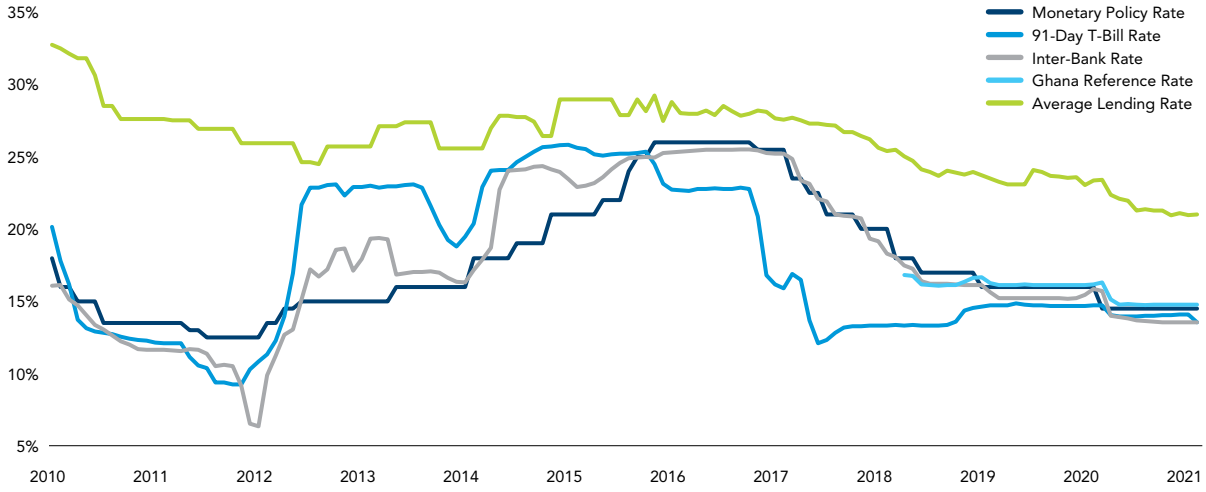
Source: BoG and World Bank staff calculations.

Ghanaian firms also face a very high cost of credit

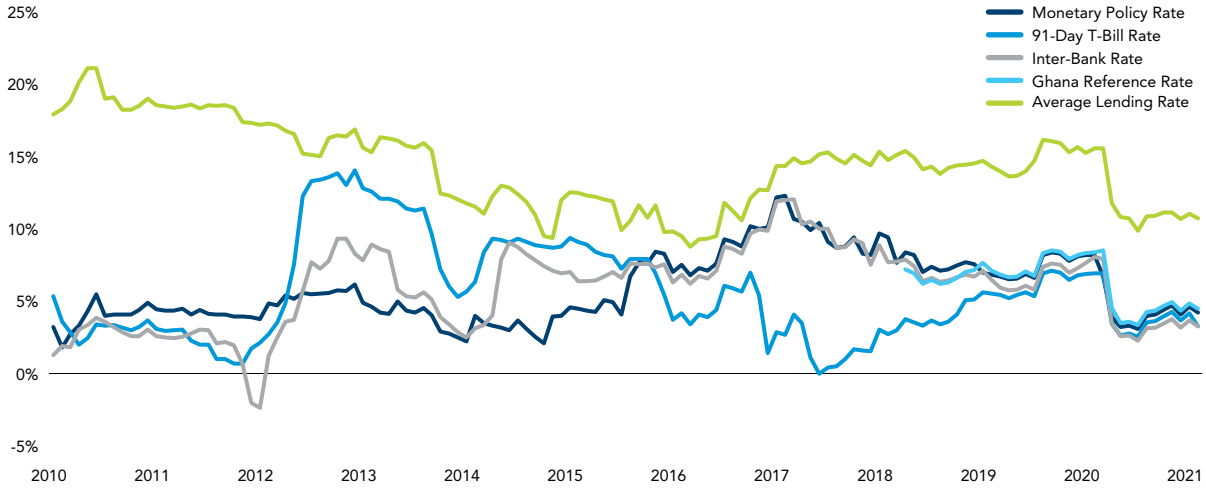
Meanwhile, the cost of credit is considered to be high and prohibitive. Financing obstacles, particularly high interest rates, are more binding than other growth constraints for firms (Ayyagari, 2008). The average annual lending rate in Ghana is above 20 percent in nominal terms (or above 10 percent in real terms), which is much higher than peer countries (Figure 4.5, Panels C and D). Although all rates have been trending downwards since 2017, average lending rates remain rather sticky and an actual decline in real average lending rates only materialized in 2020 (Figure 4.5, Panels A and B). In 2018, BoG introduced the Ghana reference rate (GRR), a baseline from which all financial institutions are expected to price their loans. While the GRR increased transparency in the determination of interest rates, it is yet to help average lending rates converge towards money market rates. Large firms can access financing at the GRR rate (plus or minus a few basis points) while SMEs mostly access financing at the average lending rate (plus or minus a few basis points). At such a high rate, it is not only difficult to find financially viable investments, but it is even harder for these investments to sustain the requisite high levels of return over the long term. Loans with longer maturities in Ghana carry a risk premium as financial institutions need to hedge against interest rate volatility (Figure 4.5, Panels A and B), inflation volatility, and other long-term risks.

FIGURE 4.5
Cost of credit in Ghana is much higher than in peer countries and lending rates are sticky

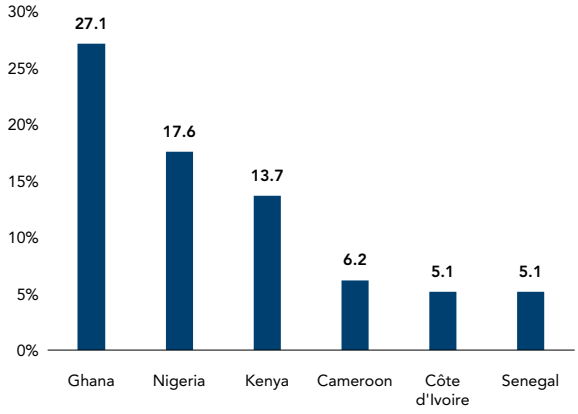
A) Ghana – Key Interest Rates (percent, monthly nominal)



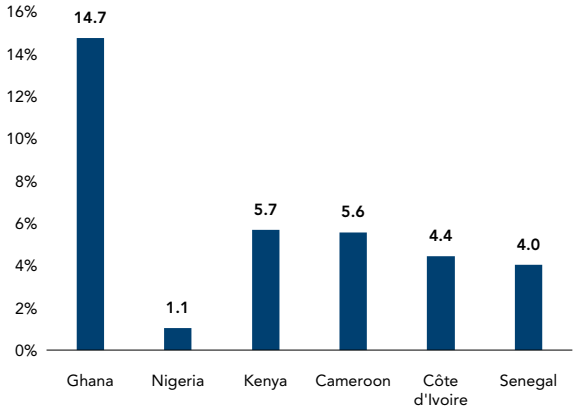
B) Ghana – Key Interest Rates (percent, monthly real)



C) Lending rates – nominal, percent per annum, 2017



D) Lending rates – real, percent per annum, 2017



Source: BoG; IMF International Financial Statistics (IFS); Bank of Central African States (BEAC); and World Bank staff calculations.

Key drivers of limited access to finance

Various factors unpin the gaps identified in the previous section and result in limited firm access to finance. These same factors — including government crowding out, limited availability of term funding, high collateral requirements, deficient credit infrastructure, and challenging business environment and informality — also explain the high cost of finance.

Government crowding out is a key driver of limited access to finance

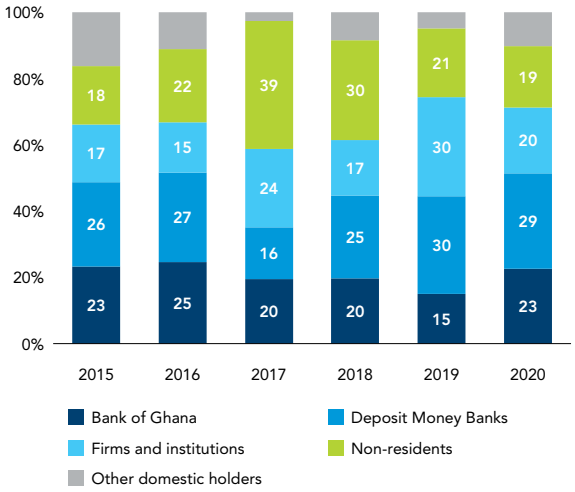
The Government has increasingly relied on domestic sources to finance its fiscal deficit, diverting savings that could be used to finance the private sector. As shown in Figure 4.6, Panel A, banks have held a significant share of domestic debt over the last five years, reaching 29 percent (or GHS 43 billion) in 2020 (MoF, 2020). Banks' holding of securities — of which treasury bills and government bonds account for about 80 percent — has also increased to a point where their share in total assets now surpasses that of loans and advances (Figure 4.6, Panel B). With low risk and decent yields (Figure 4.5), government securities are a superior asset class for many banks, compared to lending to enterprises operating in a challenging business environment.

Government excessive borrowing can also put upward pressure on market interest rates, further crowding out private sector borrowers. Figure 4.5 (Panels A and B) show that the lending rate is highly correlated with the 91-day T-bill rates. The GRR is a weighted average of key money market rates: the 91-day T-bill rate, the interbank market rate, and the monetary policy rate. With the introduction of this rate, government borrowing has a more direct influence on market lending rates. Generally, empirical evidence on the impact of fiscal deficits on interest rates is mixed. However, when focused on countries with high domestically financed fiscal deficits and low financial depth (such as Ghana), studies have found a positive and robust effect of fiscal deficits on interest rates (Aisen and Hauner, 2008).

FIGURE 4.6

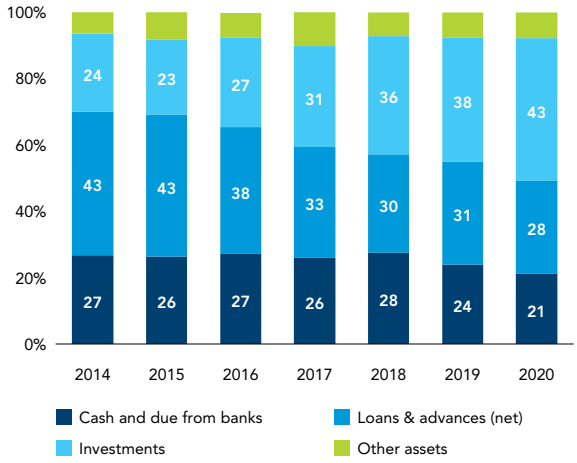
Domestic banks have been holding an increasing share of Government debt, which has come to represent an important share of their assets

A) Holding of Government Debt, in percent



Source: MoF and World Bank staff calculations.

B) Universal Banks' Assets Structure, in percent



Source: BoG and World Bank staff calculations.

There is limited availability of long-term funding

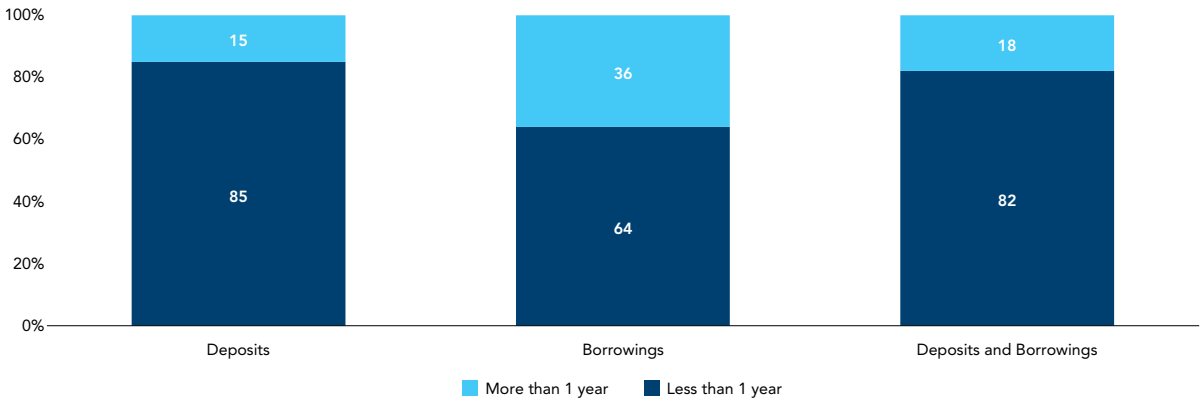
The scarcity of long-term financing largely reflects the limited availability of long-term funding for financial institutions. While the key function of financial intermediaries is to engage in maturity transformation, their ability to provide long-term finance requires access to long-term funding to avoid large maturity mismatches. These mismatches not only increase risk for the intermediaries themselves but also for borrowers and the financial system as a whole. In fact, supervisory authorities require financial institutions to pay close attention to the interest rate risk and other risks that can arise from large maturity mismatches. Funding of Ghanaian banks is dominated by short-term deposits and borrowings with maturity of less than one year — 85 percent and 64 percent, respectively (82 percent combined) (Figure 4.7). In addition, funding with maturity of more than one year is concentrated in few banks — only 5 of the 15 banks included in Figure 4.7. In most of these 5 banks, this funding is primarily linked to lines of credit from international financial institutions.

In addition to limited availability of long-term funding, other factors influence banks' decisions to keep loan maturities short. The most critical factors include: i) economic uncertainty given inflation risks and the volatility of interest rates over time which affect the ability to set economic expectations; and ii) a challenging business environment affecting businesses in Ghana, particularly firms in agriculture and manufacturing. Agriculture is largely rain-fed and most crops are uninsured, making lending to these entities inherently risky. In addition, financial institutions use short-term lending to lower the risk associated with long-term lending, particularly given the high level of NPLs in sectors such as agriculture, manufacturing, and construction. In fact, financial institutions' concerns with private sector credit risk partially explain why the Government has been more successful in securing financing with longer maturities than the private sector. Maturities of domestic government securities go up to 20 years, with an average maturity of outstanding securities of about 5.8 years in 2019 (MoF 2020).

FIGURE 4.7

Funding of Ghanaian banks is dominated by short-term deposits and borrowings

Ghana 2019 Universal Banks' deposits and borrowings*



Source: Universal Bank's Financial Statements; World Bank staff calculations.
* Based on data of 15 banks accounting for 73 percent of the banks' loans and advances in 2019.

The capital market is not yet a complementary source of long-term finance. As noted above, only 38 equities are listed, most of which are not trading. The Ghana Alternative Exchange (GAX), designed to attract SMEs, only attracted 5 listings. In addition, only 9 corporates, mainly SDIs, have outstanding corporate bonds listed on the GSE. Unlike in other jurisdictions where commercial banks are the dominant issuers of corporate bonds, Ghanaian banks have not issued bonds.[39] High interest rates and narrow investor base contribute to the limited depth of both stock and corporate bond markets. Additionally, issuers of corporate bonds have been unwilling to meet stringent issuance requirements and transaction costs, which are exacerbated by the lack of clear guidelines on corporate bond issuance. Investors have also identified the lack of independent ratings as a key constraint.

[39] In addition to high interest rates, this is attributed to unfavorable treatment of corporate bonds under BoG's Basel II capital framework.

High collateral requirements constrain enterprises' ability to borrow

Collateral requirements are high, constraining enterprises' ability to borrow enough money to meet their investment needs. This suggests that lenders perceive the risk of lending to be high, hence the need to secure a high level of protection. The 2013 Enterprise survey finds that the average required collateral coverage in Ghana was 240 percent of the loan (Table 4.1). The value of required collateral is highest for small firms (260 percent). The required collateral is often in the form of fixed assets such as buildings and land, assets that the majority of SMEs typically do not own. Deficiencies in the credit infrastructure (discussed below) contribute to these high requirements, which exceed the median for the SSA and LMICs.

TABLE 4.1
Average required collateral in Ghana is very high: 240 percent of the loan

Value of Collateral Needed for a Loan (Percent of the Loan Amount)

Country (survey year)	All firms	Small Firms (5–19 Employees)	Medium Firms (20–99 Employees)	Large Firms (100+ Employees)
Ghana (2013)	**240**	**259.8**	**213.4**	**215.8**
Cameroon (2016)	259.9	322.9	271.6	
Côte d'Ivoire (2016)	156.8	156.1	160.7	144.9
Kenya (2018)	252.7	240.6	291.8	188.2
Nigeria (2014)	227.7	220.6	234.1	295.4
Senegal (2014)	271.7	429.7	228.2	160.7
SSA Median	223.4	210.9	186.8	161.4
LMIC Median	223.2	228.5	212.9	191.5

Source: The World Bank, Enterprise Surveys; http://www.enterprisesurveys.org/data

Credit infrastructure is deficient

Credit bureaus and registries play a critical role in bridging the information gap between lenders and borrowers. They collect, aggregate, and disseminate information used by lender to assess the borrowers' creditworthiness. The development of credit bureaus/registries is associated with high levels of access to finance, particularly by SMEs, as well as the reduction of default rates through bank's use of credit histories to select good borrowers, reduction of over-indebtedness, and increased borrower incentive to repay debt (Brown et. al., 2009).

Ghana has the basic credit reporting infrastructure. The credit Reporting Act, 2007 (Act 726) and the new Credit Reporting Regulations (in force since March 2020) govern the credit reporting system, including the licensing of credit bureaus and their roles and responsibilities, as well as those of data providers, and credit report users. Ghana has three credit bureaus, which provide consumer and commercial reports. Inquiries by financial institutions have been increasing, reaching 2.8 million in 2019 (BoG 2019a). Inquires on consumers accounted for 70 percent, and inquiries on businesses for the remaining 30 percent. Savings and Loans and Finance Houses conducted 56 percent of the inquiries.

Despite recent improvements, overall coverage and quality of credit information is lagging. The coverage of credit bureaus in Ghana increased to 33 percent in 2019, up from 10.4 percent in 2010. There were 5.1 million unique subjects registered in credit referencing system in 2019, including 4.9 million individuals and 0.2 million corporates (BoG 2019a). However, data quality is low, plagued by the absence of a well-functioning national identification system to allow individuals and enterprises to be uniquely identified. The new credit reporting regulations sought to address depth and quality issues, including by expanding the sources of data (to include government institutions that provide credit facilities, utility companies, telecommunication companies, retailers, etc.) and enhancing data submissions rules, quality requirements, and data protection.

Ghana's secured transactions framework has some gaps

Movable collateral — such as equipment, machinery, and receivables — is the predominant type of collateral owned by SMEs. The existence of a clear legal framework that recognizes movable assets as collateral, establishes clear priority rules among different claims, and provides for an easy enforcement of security interests in case of default can help SMEs borrowers secure more credit at better terms (Safavian et al. 2006). This legal framework needs to be complemented by accessible collateral registries with information about pledged assets and charges.

Ghana's secured transactions framework is in place since 2008. It was introduced by the Borrowers and Lenders Act, 2008 (Act 773), replaced by the Borrowers and Lenders Act, 2020 (Act 1052). Act 773 enabled the establishment of the collateral registry in February 2010. The registry has been operating online since 2012. In 2019, it had 239,705 collateral registrations, 96,148 registered secured interests, and 48,086 searches were conducted during the year (BoG 2019b).

However, Ghana's secured transactions framework has some gaps. It could still benefit from: i) including the creation, publicity, and enforcement of security interests in movable assets; ii) a notice-based registry with an electronic database that includes both incorporated and non-incorporated entities; iii) ensuring that secured creditors are paid first when a business is liquidated and a debtor defaults outside an insolvency procedure; and iv) ensuring that secured creditors are subject to an automatic stay on enforcement when a debtor enters a court-supervised reorganization procedure. These gaps are exacerbated by the lengthy and expensive enforcement of contracts in Ghana.

Ghana's insolvency framework is weak, and resolving insolvency is lengthy and costly

A stronger insolvency regime encourages banks to lend by increasing the likelihood that they will recover at least part of the loan in case of borrowers' failure. According to Menezes (2014), such a regime "provides an orderly process for the reorganization or liquidation of insolvent entities in a collective manner." Effective insolvency reforms not only are associated with increased availability of credit but also with lower cost of credit (Menezes 2014).

Ghana's insolvency framework is weak, and resolving insolvency is lengthy and costly. Main gaps in the insolvency framework included focus on liquidation and lack of modern reorganization procedures, lack of creditor participation, deficiency in reorganization proceedings and in the management of debtor's assets (e.g., no continuation of essential contracts, no allowance for post-commencement finance, no provision for continuation of o essential contracts and rejection of burdensome and preferential contracts). The new Corporate Insolvency and Restructuring Act, 2020 (Act 1015) sought to address some of these gaps.

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Limited access to finance also reflects the challenging business environment

Limited access to finance also reflects difficulties imposed by the overall business environment and informality. Timely, efficient, and low-cost enforcement of contracts is particularly critical to ensuring a functional secured transactions market. There are also challenges in starting a business and paying taxes, which further encourage informality. Ninety (90) percent of Ghanaian firms are informal, have low capabilities, and lack basic documentation as well as financial records required by financial institutions. Moreover, unreliable physical infrastructure (e.g., roads, electricity, and internet) increase the cost of production for many firms (particularly in manufacturing and agriculture) while impairing their profitability, viability, and creditworthiness.

Banking sector inefficacies also contribute to the limited access to and high cost of finance

Banking sector inefficacies also contribute to the limited access to and high cost of finance. Although trending downwards, costs-to-income ratios of banks in Ghana remain well over 70 percent, with operational costs comprising more than 50 percent of income. Compared to peers, Ghana's cost to income ratio ranks moderately, higher than Kenya and Côte d'Ivoire as well as the median for LMICs (Figure 4.8A). The downward trend in these ratios indicates some efficiency gains, but their level remains relatively high and directly affect the cost of finance while reducing bank appetite to engage in lending to risky sectors as returns may not be sufficient to cover costs. It should be noted that costs to serve SMEs are generally higher than the average because of informality, limited financial information, and low capabilities.

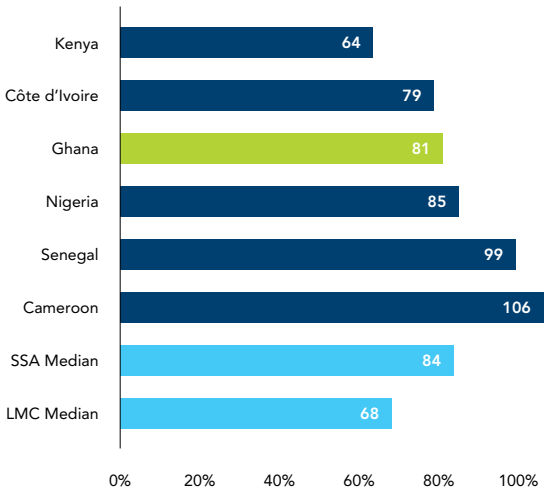
High lending rates and spreads are often considered a sign of banking sector inefficiency. High lending rates increase the cost of capital which reduces overall investment, particularly into longer-term projects with high (social) returns. They also disproportionately reduce access to credit for SMEs. At the same time, relatively low deposit rates do not adequately compensate savers, resulting in low saving patterns. High spreads, the difference between lending rates and deposit rates, are often interpreted as signal of inefficiency. Also, high spreads are associated with low competition in the banking sector.

Decompositions of the effective interest rate show that high spreads in Ghana are driven by high operating costs, further underscoring the role of bank inefficiencies. Results of decompositions conducted by the World Bank in 2016[40] showed that operational costs (staff costs and administrative costs) were the largest component of the interest rate spread between 2010-15 (Figure 4.8B). During this period, these costs accounted for an average of 66 percent of the spread. Provisions for loan losses and compulsory reserve requirements were the second largest component (14 percent each). A similar decomposition exercise for the 2015-19 period (BoG 2019c) also shows operational costs as the largest component of the spread and profitability as the second largest.

FIGURE 4.8

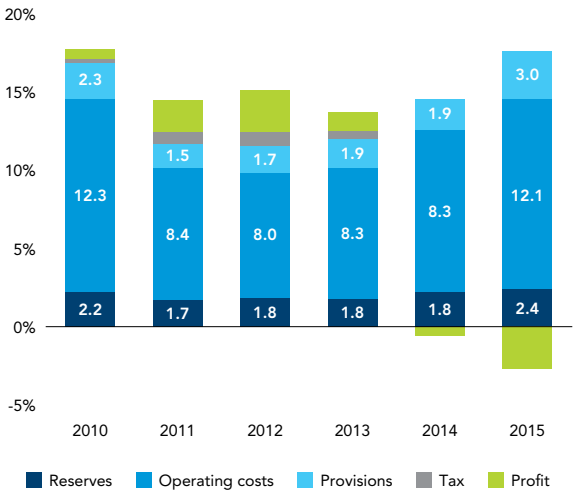
Banking sector inefficiencies: compared to peers, Ghanaian banks' cost to income ratio ranks moderately but their high operating costs drive high spreads

A) Cost to Income Ratios, in percent, 2019



Source: BoG; World Bank Finstats.

B) Interest Rate Decomposition, 2016



Source: BoG and World Bank staff calculations.

[40] The interest rate decomposition is based on the methodology described in Randall, R. 1998. "Interest Rate Spreads in the Eastern Caribbean." Working Paper WP/98/59, International Monetary Fund, Washington, DC.

How can Ghana improve access to finance for enterprises?

Financial intermediation must improve to allow Ghanaian enterprises (mainly SMEs) to grow, enhance their productivity, and contribute to economic transformation. This requires continuing to implement policies to safeguard macroeconomic stability (which is key to providing certainty for medium to long-term business transactions including lending), improve the overall business environment, and maintain financial sector soundness. In addition, it requires accelerating key interventions to remove obstacles associated with limited access to finance identified above.

Source: World Bank staff elaboration.

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POLICY PRIORITY 1

Increase the availability of long-term finance

Accelerate the implementation of the new wholesale development bank. The Government recently established a new development bank which will provide wholesale long-term funding to financial institutions to on-lend to creditworthy enterprises in agribusiness, manufacturing, and high value services. The DBG is expected to start with about US$700 million in funding, including lines of credit from the European Investment Bank, KfW, and the World Bank. Most of the lending will be directed to long-term finance (maturities of more than 3 years) and to SMEs and small corporates.

Develop the capital market, including through the implementation of the Capital Market Master Plan (CMMP) 2020-2029. With a conducive macroeconomic environment — including competitive interest rates — the capital market could increase the availability of long term finance by giving some enterprises the opportunity to tap into a growing pool of savings being accumulated by pensions funds and life insurance companies, either through issuance of corporate bonds or public equity. More financial institutions (particularly banks) could also issue bonds to raise long-term funding needed to lengthen loan maturity. The CMMP outlines a series of key reforms and initiatives, including the introduction of wholesale bonds for qualified investors and simplification of documentation, restructuring and promotion of collective investment schemes, launch of a domestic credit rating agency, review of the regulation on banks' Tier 2 capital, establishment of an investor protection fund, and strengthening of the regulatory framework.

Government should pursue fiscal discipline and reduce its reliance on the banking sector as source of domestic financing to reduce crowding out. Reduced domestic borrowing and issuance of government securities would be expected to lead to the rebalancing of banks' asset portfolios in favor of loans to the private sector. It could also lead to the reduction of funding/opportunity costs and possible reduction in market interest rates, assuming low inflation environment and accommodating monetary policy. Nonetheless, the government should continue its efforts to build a yield curve, which is critical for the development of the domestic capital market.[41]

POLICY PRIORITY 2

Mitigate financial institutions' credit risk and lessen collateral requirements

Expand partial credit guarantee facilities. To reduce banks' risk aversion and encourage them to lend to enterprises with limited credit histories and collateral (mainly SMEs), the Government established in 2018 the Ghana Incentive-based Risk Sharing System for Agriculture Lending (GIRSAL). A state-owned limited liability company with capital of GHS 272 million (about US$47 million),[42] GIRSAL only guarantees banks' lending to agriculture and agribusiness. To complement GIRSAL, the Government is preparing to establish a sector-wide partial credit guarantee facility under the new development bank. The new facility is expected to have at least US$50 million in capital, which could prudently leverage about US$300 million of financial institutions' lending to SMEs during the first four years of operations.

Promote supply chain financing instruments such as factoring and reverse factoring. Accounts receivables is one type of asset that many Ghanaian SMEs possess. Late payment practices of Ghanaian private and public sector buyers force SMEs to accumulate high levels of accounts receivables, depriving them from accessing working capital. Promoting receivables financing solutions such as factoring (supplier-led) and reverse-factoring (buyer-led) would allow SMEs to discount their accounts receivables and quickly access working capital without the need for collateral, as they would benefit from the creditworthiness of their buyers.

[41] The Government has started to reform the domestic government debt market, including improving the format and content of the auction calendar, reducing issuance frequency of short-term notes, reopening existing securities to build benchmark bonds, and reforming the primary dealers' framework. As a result, there is a yield curve although is flat for medium and long-dated bonds.
[42] Equivalent to about 15 percent of total bank credit to agriculture in 2020.

Strengthen credit infrastructure. In 2020, Ghana implemented various reforms to strengthen credit infrastructure, including the adoption of new credit reporting regulations, the Borrowers and Lenders Act, and the Corporate Insolvency and Restructuring Act. Priorities going forward should include: (i) enforcement of the new credit reporting regulations and improvement of data quality, including by leveraging the national biometric ID system and the national digital addressing system to uniquely identify business subjects in credit reporting systems; (ii) developing regulations for the Borrowers and Lenders Act and building market capacity; and (iii) modernizing the regulatory framework for corporate insolvency — developing an out-of-court debt restructuring framework, strengthening standards and regulations for insolvency practitioners, and reinforcing judicial education and training.

POLICY PRIORITY 3

Leverage technology

Digitize retail and merchant payments. Results of the 2017 Digital Payments Diagnostic (BTCA 2017)[43] showed that only 29 percent of the value of payments made by individuals and 35 percent of the value made by businesses were electronic. Digitizing these payments, first starting in fast moving consumer goods value chains and other strategic value chains (e.g., cocoa), would help informationally opaque and credit-constrained SMEs generate reliable information about the performance of their businesses, facilitating credit assessment by financial institutions. This reform would build on the progress made in expanding digital payments (including the penetration of mobile money), which was facilitated by the development of the payment systems infrastructure.

Establish digital financing platforms and marketplace solutions. Leveraging digital platforms to deliver financial solutions (e.g., factoring solution discussed above) would reduce transaction costs and increase competition among lenders, allowing SMEs to access financing at competitive interest rates. The platform could offer other services to SMEs, such as cloud-based accounting, electronic invoicing, or even operate as a marketplace where SMEs can buy and sell products and services. As with the broader digitization of merchant payments, the use of these services by SMEs would help them create reliable financial and non-financial digital footprint (big data) that can be used to develop alternative credit scores and financial products.

Encourage further digitization of financial institutions' operations to reduce operational costs. As the results of interest rate spread decomposition show, high operational costs account for the largest share of the interest rate spread. Further expansion of banks' digital channels (e-banking, mobile payments, etc.) can lower their operational costs in the medium term. Digitalization can also facilitate the collection of more and cheaper deposits in rural areas.

[43] BTCA (Better Than Cash Alliance). 2017. Building an Inclusive Digital Payments Ecosystem: The Way Forward. Country Diagnostic report. https://btca-production-site.s3.amazonaws.com/documents/312/english_attachments/Country_Diagnostic-Ghana_full_report.pdf?1506490992

Detailed Recommendations

POLICY PRIORITY 1

Increase the availability of long-term finance

Accelerate the implementation of the new wholesale development bank	• Complete the set-up of the planned development bank with a focus on wholesale long-term funding to financial institutions to on-lend to creditworthy enterprises in priority sectors (agribusiness, manufacturing, and high value services). • Ensure lending is directed to long-term finance (maturities of more than 3 years), and to SMEs and small corporates.
Develop the capital market, including through the implementation of the Capital Market Master Plan (CMMP) 2020-2029	• Introduce wholesale bonds for qualified investors and simplify documentation. • Restructure and promote collective investment schemes. • Launch a domestic credit rating agency. • Review the regulation on banks' Tier 2 capital. • Establish an investor protection fund and strengthen the regulatory framework.
Pursue fiscal discipline and reduce reliance on the banking sector as source of domestic public financing to reduce crowding out	• Pursue fiscal consolidation to help limit domestic borrowing from the public sector (see Chapter 5). • Continue efforts to build a yield curve.

POLICY PRIORITY 2

Mitigate financial institutions' credit risk and lessen collateral requirements

Implement partial credit guarantee facilities	• To complement GIRSAL, establish the planned sector-wide partial credit guarantee facility under the new development bank. • Provide the new facility with the necessary capital so that it can extend significant lending to SMEs.
Promote supply chain financing instruments such as factoring and reverse factoring	• Promote receivables financing solutions such as factoring (supplier-led) and reverse-factoring (buyer-led) to allow SMEs to discount their accounts receivables and quickly access working capital without the need for collateral.
Strengthen credit infrastructure	• Enforce the new credit reporting regulations and improvement of data quality, including by leveraging the national biometric ID system and the national digital addressing system to uniquely identify business subjects in credit reporting systems. • Develop regulations for the Borrowers and Lenders Act and build market capacity. • Modernize the regulatory framework for corporate insolvency by: developing an out-of-court debt restructuring framework, strengthening standards and regulations for insolvency practitioners, and reinforcing judicial education and training.

POLICY PRIORITY 3

Leverage technology

Digitize retail and merchant payments	• Focus on fast moving consumer goods value chains and other strategic value chains (e.g., cocoa).
Establish digital financing platforms and marketplace solutions	• Leverage digital platforms to deliver financial solutions (e.g., factoring solution discussed above). • Consider for the platform to offer other services to SMEs, such as cloud-based accounting, electronic invoicing, and possibly operate as a marketplace where SMEs can buy and sell products and services. • Leverage the generated reliable financial and non-financial digital footprint (big data) to develop alternative credit scores and financial products.
Encourage further digitization of financial institutions' operations to reduce operational costs	• Support the expansion of banks' digital channels (e-banking, mobile payments, etc.) to lower their operational costs in the medium term. • Leverage digitalization to facilitate the collection of more and cheaper deposits in rural areas.

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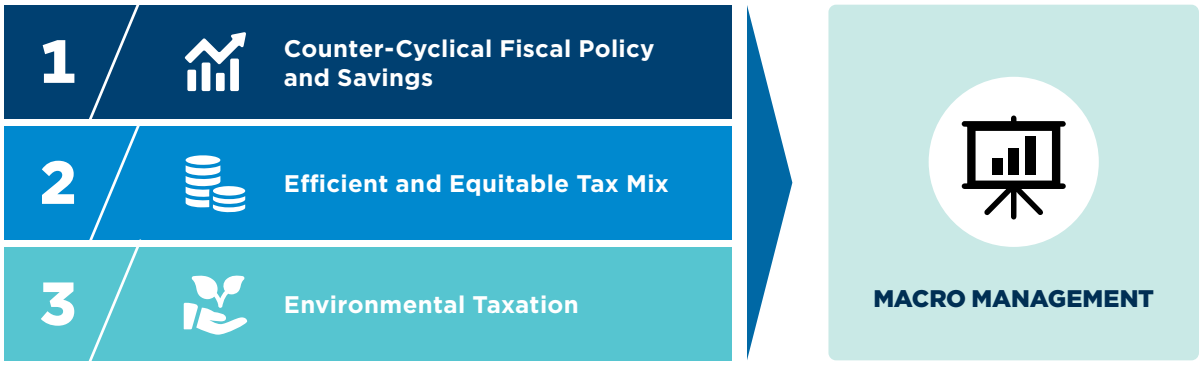
CHAPTER 5

Macro-fiscal Management and Revenue Mobilization

Despite a strong performance, Ghana's recent growth experience has been characterized by a high volatility, weighing on Ghana's growth potential. Since 2000, yearly growth rates have wildly fluctuated. Increasing public debt and consistently high fiscal deficits have increased Ghana's country risk. It has also increased the cost of finance for private businesses, as volatility drove risk premium higher and extensive public sector borrowing has crowded out private borrowers. Ghana has not saved sufficiently during commodity booms, limiting its ability to manage crises. The increase in Ghana's income has been matched by an increase in consumption, causing today's savings rate to be about the same as 23 years ago. Ghana was not able to sufficiently manage expectations after oil was discovered and did not put in place adequate policymaking to manage oil production, which led to insufficient fiscal and monetary discipline. Domestic revenue mobilization is essential for the investments required to drive economic transformation, but in Ghana extremely constrained fiscal space limits the Government's ability to invest. Recent revenue growth was driven by corporate income tax, generally considered to be among the least efficient taxes. Ghana needs to adjust its tax mix to rely on more efficient revenue sources, like VAT and property tax. Well-designed environmental taxation could also generate revenue and enhance sustainability in key sectors. Carbon charges could both expand and diversify fiscal revenues, while also contributing to Ghana's climate commitments and generating climate 'co-benefits'. Fiscal tools could also be used to decrease land-use emissions and deforestation through promoting sustainable cocoa farming.



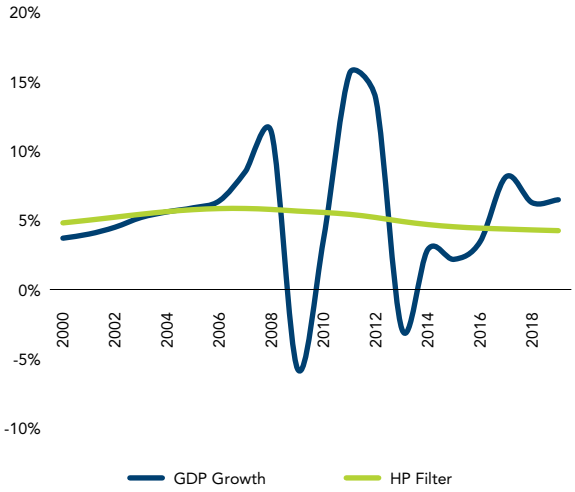
This chapter assesses the performance of the macro-fiscal management framework and how it has contributed to growth. It begins by reviewing the recent macroeconomic and fiscal performance and how it contributes to volatility. It then looks at the role of natural resources and asks the question of the sustainability of the growth model. Finally, it looks at strategies for enhancing domestic revenue mobilization, a priority for stabilizing the macro framework, before looking specifically at options for environmental taxation which could help raise revenue and improve the sustainability and resilience of Ghana's growth model in the context of climate change.

Why a stable macroeconomic framework matters for economic transformation

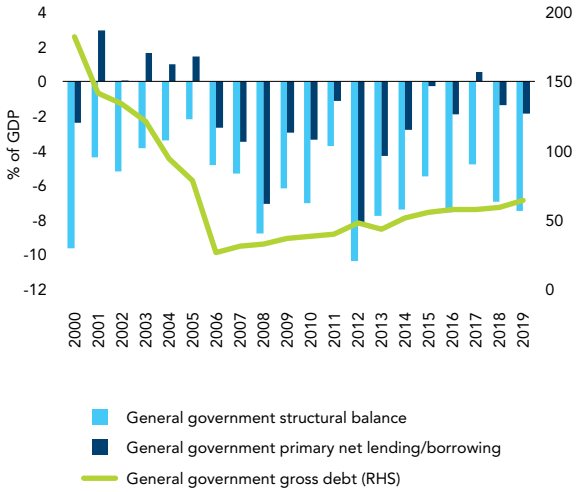
Despite a strong performance, Ghana's recent growth experience has been characterized by a high volatility. Since 2000, the yearly growth rate has wildly fluctuated around its trend value (see Figure 5.1), due both to global crises (such as the global financial crisis in 2009-10) and to Ghana's reliance on commodities

FIGURE 5.1
Growth has experienced large swings around its long-term potential value while fiscal and debt indicators have been volatile and worsened after oil production started

A) Ghana GDP growth, Hodrick Prescott Filter



B) Ghana's fiscal sector, 2000-2019



Source: World Bank Macro Poverty Outlook.
Note: The Hodrick-Prescott (HP) filter is a statistical technique used to produce a smoothed measure of real GDP. The HP filter is calculated until year 2100 and smoothed at 100. Deviations from the smoothed curve would represent temporary deviations from the country's GDP growth potential.

(linked to the coming online of oil in 2011 and subsequent fluctuations in global commodity prices thereafter). These economic fluctuations have not been mitigated by a strong macroeconomic and fiscal framework, as evidenced by the persistently high (and volatile) structural fiscal deficits and a debt level that has been on a constant rise since the 2005 HIPC debt relief.

This volatility has weighed on Ghana's growth potential and it continues to do so. Increasing public debt and consistently high fiscal deficits have increased Ghana's country risk, potentially limiting the amount of FDI received by the country in particular in non-traditional sectors (outside of commodities). It has also increased the cost of finance (and limited access) for private businesses, as volatility drove risk premium higher and extensive public sector borrowing to finance deficits has crowded out private borrowers (see Chapter 4). Ghana also relies extensively on foreign borrowers to hold its large domestic debt, increasing the risk of capital flight and adding to the country risk. Turning to the longer term, the extremely constrained fiscal space limits the government's ability to make the investments in human and physical capital required to provide the foundation for long-term inclusive growth.

Ghana's attempts to shore up fiscal sustainability have been thwarted by successive crises

The discovery of oil and gas has created high expectations that have been mostly unfulfilled, causing a "pre-source curse". Revenue projections in 2009, at the onset of oil production, were wildly optimistic but failed to materialize (see Cust and Mihalyi, 2018). Ghana was not able to sufficiently manage expectations after oil was discovered and did not put in place adequate policymaking to manage oil production, which led to insufficient fiscal and monetary discipline (see Figure 5.2). The combination of natural resource rents and high government consumption is usually cited as an explanation for the curse and is often associated with slower growth unless there are enough checks and balances.

To stabilize the economy and shore up public finances, the government adopted a fiscal stabilization plan in 2015, which was slowed down by costly financial and energy sector restructurings. From 2015 to 2018 a fiscal consolidation program helped narrow the headline fiscal deficit from 7.4 percent of GDP in 2014 to below 5 percent of GDP in 2017. In 2018, authorities also adopted a fiscal responsibility act, comprising a fiscal rule limiting the fiscal deficit to 5.0 percent of GDP and imposed a positive primary deficit. However, new fiscal pressures arose from costly financial sector reforms in 2018-2020 and the Energy Sector Recovery Program (ESRP), started in 2019.

These concomitant crises contributed to erode fiscal discipline even before the COVID-19 crisis. The 2019 headline fiscal deficit (excluding energy and financial sector costs)[44] was 4.7 percent of GDP, within the government's fiscal rule ceiling of 5 percent of GDP. The overall fiscal deficit (including energy and financial sector costs), however, had widened from 7 percent of GDP in 2018 to 7.5 percent of GDP in 2019 with unanticipated fiscal costs related to the financial and energy sectors amounting to 2.8 percent of GDP. An estimated 1.1 percent of GDP in expenditure was generated by the energy sector alone, reflecting the government's commitment to close the financing gap under the ESRP, which began in May 2019. Similarly, reforms implemented to improve the financial sector, including efforts to resolve insolvent banks and reform special deposit-taking Institutions (SDIs), resulted in an additional fiscal cost of 1.7 percent of GDP in 2019.

In 2020 the COVID-19 crisis led to unplanned health expenditure, the adoption of a stimulus package targeting the real sector, and significant revenue shortfalls resulting in a large financing gap. The country's substantial fiscal gap is the result of reduced public revenues, primarily from lower oil-related revenues and lower economic activities, and increases in social spending, including for the health sector. The overall fiscal deficit (including financial- and energy-sector costs) was estimated to 16.2 percent of GDP in 2020, more than

[44] Authorities use a definition of the fiscal deficit excluding costs linked to the energy and financial Sectors restructuring, considering those as below the line financing operations. Authorities have however indicated their intention to integrate these costs into the overall fiscal deficit starting in the fiscal year 2022.

double the pre-crisis projection of 6.4 percent of GDP. This led to the suspension of the fiscal rule's provision limiting the fiscal deficit to five percent of GDP. In the 2021 Budget Law, authorities announced their plan to return to this ceiling by 2024.

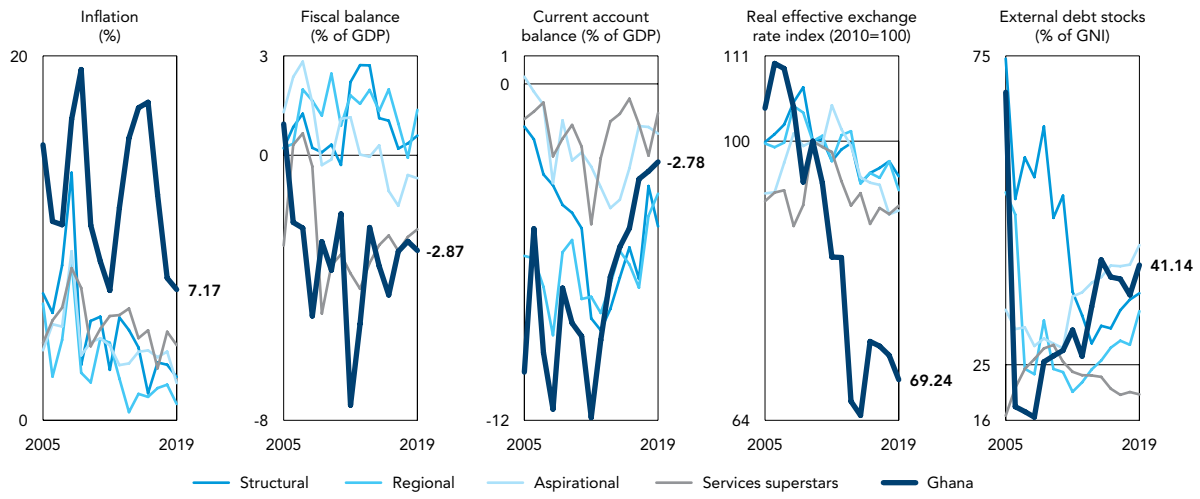
Going forward, the authorities have committed to significant fiscal consolidation including ambitious domestic revenue mobilization targets in the 2021 budget and spending cuts from 2022. As the pandemic subsides, the vaccination rollout picks up, and global hydrocarbon prices increase, growth is projected to average 4.5 percent per year over 2021-2023. The recovery will require progress on critical structural reforms to address major fiscal and energy sector challenges. The Ghana CARES program (adopted in the wake of COVID-19) includes both short- and medium-term actions (to improve the business climate and public service delivery, and reform the energy sector). Furthermore, the 2021 budget introduced revenue measures expected to yield an estimated 0.9 percent of GDP, including an increase in the VAT and other indirect taxes, as well as improvements in tax administration. On the spending side, the budget includes a reduction of COVID-19 related expenditure by an estimated 1.1 percent of GDP, and plans to rationalize expenditures through strengthening PFM systems, while protecting key social spending.

A weak macro-economic framework has failed to mitigate economic volatility

Macroeconomic and fiscal instability has characterized Ghana's economy and hindered growth. Most macroeconomic variables have a history of high volatility which has been exacerbated since hydrocarbons production picked up in 2011. Compared to all peer groups (see Figure 5.2), Ghana displayed higher inflation, a lower fiscal balance and a strong currency deprecation, while the current account balance was volatile. Previous research has identified several possible causes for high and volatile fiscal deficits, such as overspending during election years and the commodity cycle and its impact on natural resource revenue. The public debt stock has reached 78.0 percent of GDP in 2020, on the back of COVID-19 related spending and revenue shortfalls, and Ghana is at high risk of debt distress. Macroeconomic uncertainty is often cited as a major cause behind the low access to and high cost of finance.

FIGURE 5.2
The macro-fiscal framework has shown vulnerability

Selected variables, 2005-2019



Source: Staff calculations using data from IMF 2021, WDI 2021, and WEO 2021.
Note: Inflation is the year-on-year percentage change in the consumer price index.

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Some structural causes of fiscal vulnerabilities have been identified. The very low level of domestic resource mobilization, notably due to generous tax exemptions and weak tax administration, is one of the primary causes of the country's continued fiscal stress. Ghana's tax-to-GDP ratio has been persistently low. For the past two decades, the tax ratio has remained at around 12.8 percent of GDP, well below the SSA average of 15 percent. The World Bank's 2017 Public Expenditure Review estimated the country's tax exemptions at 5.3 percent of GDP. Another cause of fiscal stress is the existence of budget rigidities on the spending side, and notably a high public sector wage bill.

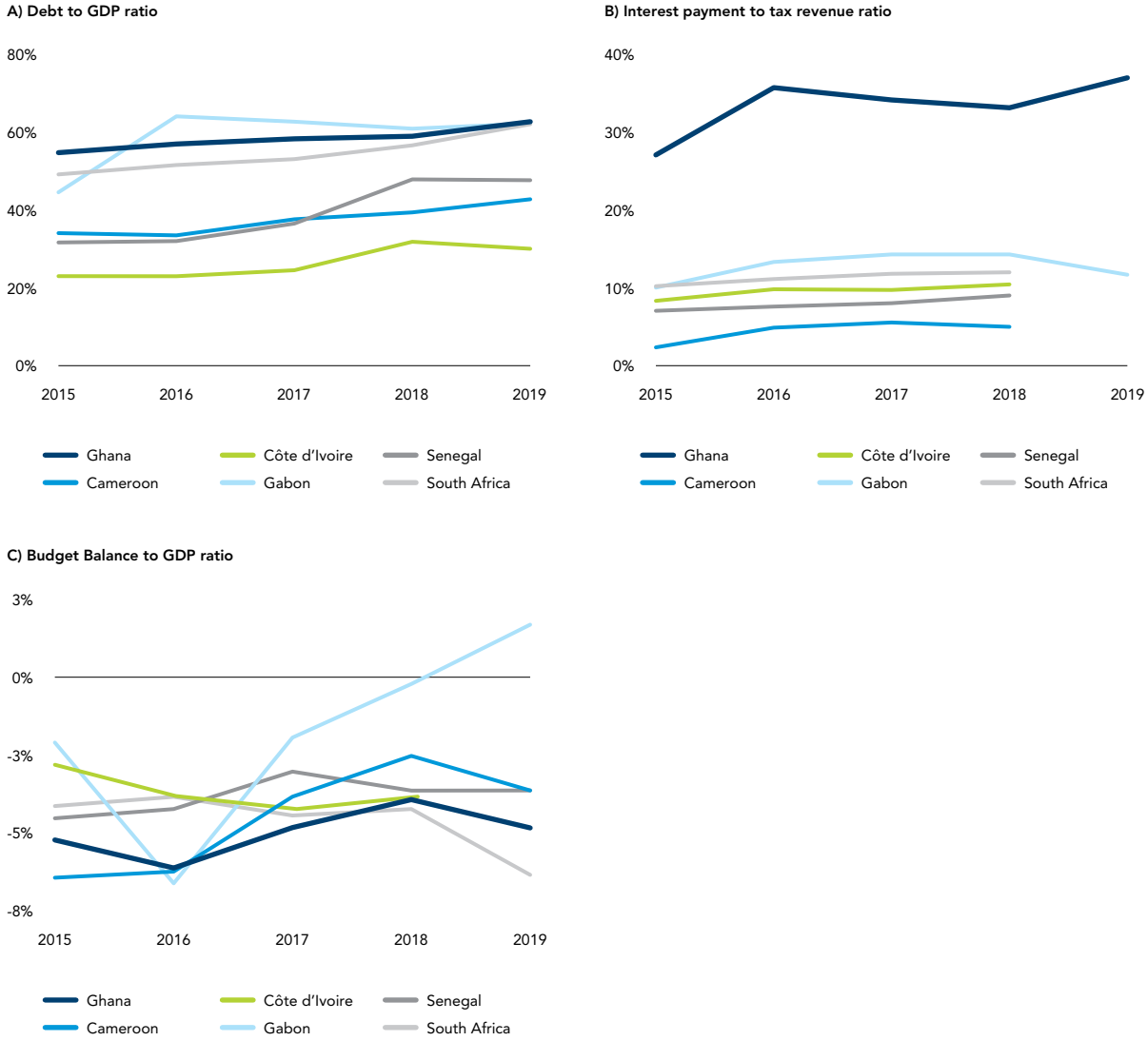
Increasing domestic revenue mobilization will be key to restoring macroeconomic stability

Ghana needs to increase its tax revenues to stabilize its debt to GDP ratio, freeing up fiscal room to finance its other policy objectives. Figure 5.3 Panel A shows Ghana's debt to GDP ratio at around 60 percent in 2019, significantly higher than other lower middle-income countries including Cameroon, Côte d'Ivoire and Senegal. It is more similar to upper middle-income countries like Gabon and South Africa. It has grown each year since 2015, driven by annual budgetary deficits of between 4 percent and 6 percent of GDP from 2015 to 2019 (see Figure 5.3 Panel A). Stabilizing the debt to GDP ratio is critical for ensuring that Ghana has the resources to finance its planned expenditures on education, healthcare and affordable housing. Investments in human capital increase the marginal productivity of labor and therefore economic efficiency. However, the lead time required to realize GDP growth can be long which increases the immediacy of making these crucial investments and financing them upfront.

Ghana needs to remain fiscally prudent. Despite Ghana's moderate debt to GDP ratio, its interest payment to tax revenue ratio has exceeded 30 percent since 2016 as illustrated in Figure 5.4 Panel B. It is well above the ratios of the lower and upper middle-income comparator countries, none of which have ratios exceeding 15 percent. These interest payments limit the fiscal room available for social policy. Achieving the ambitious policy goals set out in the CPESDP requires efficient allocation of scarce financial resources. Ghana must manage inefficient debt servicing costs by controlling its deficits.

FIGURE 5.3

Despite Ghana's moderate debt to GDP ratio, its interest payment to tax revenue ratio has exceeded 30 percent since 2016



Source: Bank of Ghana (Ghana), Bank of Central African States (Cameroon), Central Bank of West African States (Côte d'Ivoire and Senegal), IMF (Gabon) and South African Reserve Bank (South Africa), IMF Government Finance Statistics.

Environmental Tax Reform (ETR) could offer a solution to a number of these macro-fiscal challenges Ghana is facing, including contributing to domestic revenue mobilization, while also generating development co-benefits and reducing carbon emissions. Carbon pricing and fossil fuel subsidy reforms could offer ways to both increase tax revenues, reduce emissions, channel investment towards more sustainable activities and reduce the negative effects of air pollution and traffic congestion. With the COVID-19 crisis, it is widely accepted that economic stimulus and restoring sound public finances are both needed, and that the recovery process can be designed to contribute to sustainable development. In particular, energy subsidy reforms or even explicit carbon pricing can be used to finance urgent needs in health, social sectors or growth-enhancing tax shifts. In the second phase of the recovery, when fiscal consolidation will become pressing, further discussion on the potential of energy taxes may become essential.

Harnessing natural resources to drive long-term inclusive growth

A central question for this chapter will how Ghana can create institutions that can ensure sustainable growth. Ghana's exploitation of natural resources has led to the depletion of its natural capital. When a country is depleting its natural capital, a sufficiently high share of the revenues generated should be reinvested in accumulating other assets — such as productive capital and human capital — to offset the asset value reduction from depletion. This principle is known as Hartwick's Rule (Hartwick 1977). A key to operating this conversion is Ghana's ability to collect revenue and invest in needed infrastructure and public services.

The natural capital framework applied to macro-fiscal analysis can help assess whether spending and investment are sustainable. It allows analysts to take into account revenue generating assets and the rate at which they are being depleted, including natural capital. The abundance of nonrenewable natural capital in some countries raises special challenges for the sustainability of economic growth and investment, as rents are derived from depleting — and unsustainable — use of these assets. Transformation of those assets is therefore an important part of the economic diversification process and can be tracked using wealth accounts. The track record of diversification for oil exporters has been poor, and it has been proposed that rather than targeting export diversification per se, resource-rich countries should seek to diversify their asset base or wealth, which may prove more feasible.[45]

Natural capital depletion threatens the sustainability of Ghana's growth

Ghana is not following a strong sustainability path: its human capital per capita has grown at the expense of its natural capital per capita. Ghana's total wealth per capita has increased mostly due to its human capital but other assets growth has remained stagnant. The increase of produced capital per capita has been modest, and its nonrenewable natural capital has not significantly increased despite its oil and mining industries. While it can be viewed as a positive that Ghana has accumulated human capital (possibly "converting" natural capital to do so), recent research has shown that degrading the value of renewable natural capital has been associated with lower or declining total wealth per capita. Meanwhile, protecting and enhancing the value of renewable natural capital is associated with better economic performance overall.[46]

Ghana's nonrenewable natural capital predominantly comes from its oil and mineral (mostly gold) assets. Ghana's nonrenewable wealth has increased five-fold in the past 23 years following a global trend of nonrenewable natural resource discoveries and production. Oil wealth increased rapidly after 2011 and the coming into production of its first oil discoveries. Mineral wealth also increased slightly after 2009 during the commodity boom, due to a price effect.

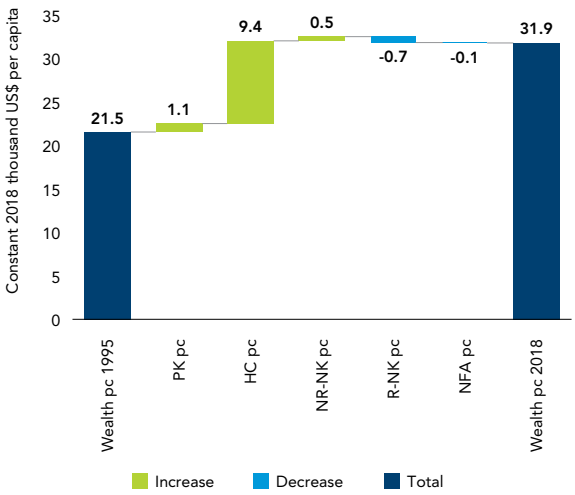
Ghana's dependence on nonrenewable natural capital is higher than some oil exporting structural peers, including Cameroon and Côte d'Ivoire. In 2018 Ghana's nonrenewable wealth reached 2.5 percent of total wealth, a higher share than the neighboring fossil fuel exporting countries Cameroon and Côte d'Ivoire (1.5 and 1.4 respectively). But Ghana's nonrenewable natural capital share of total wealth is less than half that of other resource-rich countries such as the Kyrgyz Republic and Mauritania.

[45] ECA NR and development report.
[46] World Bank, CWON 2021.

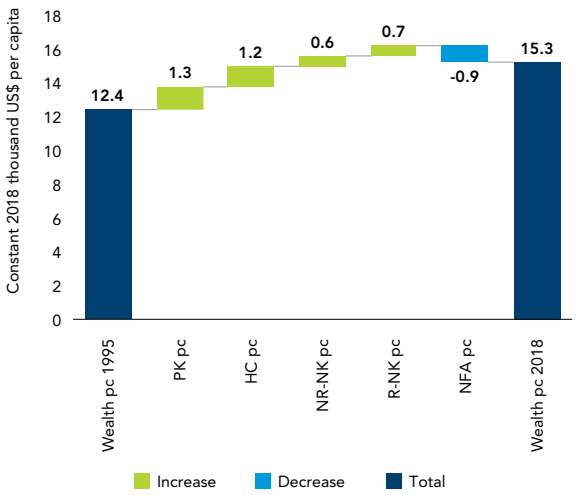
FIGURE 5.4

Ghana increased total wealth per capita at the expense of renewable natural capital, whereas the Kyrgyz Republic increased total wealth per capita while accumulating all forms of natural capital

A) Ghana total wealth per capita change 1995-2018



B) Kyrgyz Republic total wealth per capita change 1995-2018

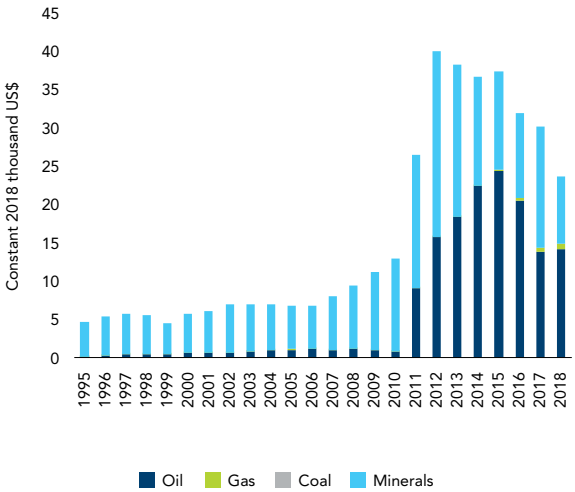


Source: World Bank CWON 2021.
Note: PKpc=produced capital per capita, HCpc = human capital per capita, NR-NKpc= non-renewable natural capital per capita, R-NKpc = renewable natural capital per capita, NFApc = net foreign assets per capita, Wealth pc = Wealth per capita.

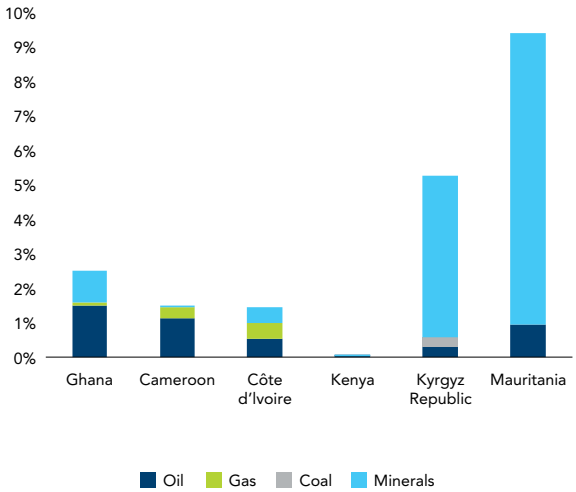
FIGURE 5.5

Oil wealth soared after 2011 (left) and most of Ghana's non-renewable natural capital is made of oil and gold (right)

A) Ghana non-renewable natural capital



B) Non-renewable natural capital, percentage of total wealth, 2018



Source: World Bank CWON 2021.

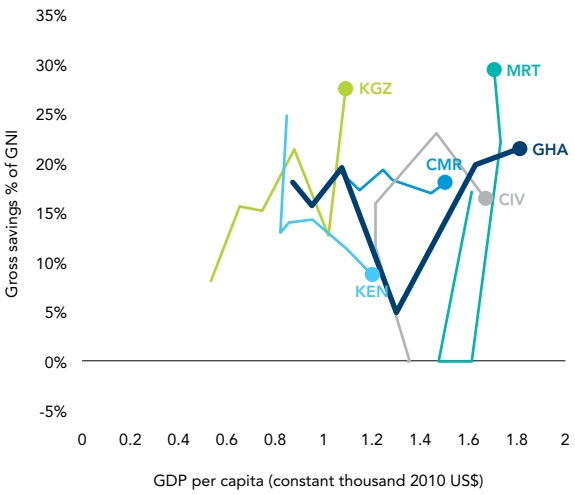
Ghana has not saved sufficiently during commodity booms, limiting its ability to manage crises

The increase in Ghana's income has been matched by an increase in consumption, causing today's savings rate to be about the same as 23 years ago. Ghana's gross savings in 1995 were 18 percent of GNI but dropped to 5 percent during the peak of the commodity boom. After the boom, the savings rate recovered to pre-boom levels. The pattern in its structural peers is mixed: while the Kyrgyz Republic has increased gross savings from 8 percent to 27 percent of GNI, Kenya's gross savings have dropped from 25 to 8 percent of GNI.

FIGURE 5.6

Ghana's savings are relatively high but experienced a drop during the commodity boom

Gross savings percentage of GNI vs GDP per capita 1995-2018



Source: World Bank CWON 2021.

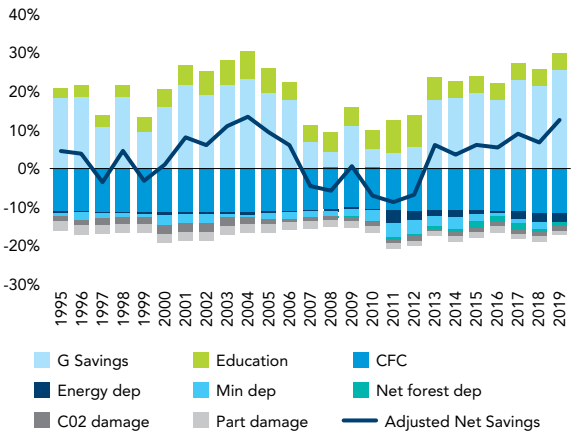
During the commodity boom, Ghana paradoxically experienced its lowest rates of Adjusted Net Savings (ANS),[47] which fell below zero for six years. Before the commodity boom, in the early 2000s, Ghana's ANS reached share of GNI above 10 percent. But during the boom years, gross savings reached their lowest levels as depletion rates increased, driving down ANS to almost minus 10 percent of GNI in 2011. In contrast, Côte d'Ivoire increased its gross savings rate during boom years, which helped to keep ANS rates above 10 percent. Ghana's ANS rate has however picked up after the commodity boom, on the back of stronger gross savings and sustained education expenditure.

Ghana's increasing nonrenewable and net forest depletion could impact its ANS. The increase of Ghana's ANS between 1995 and 2018 is threatened by the depletion of its nonrenewable natural resources and its forest assets. Since 2011, the fossil fuels and mineral depletion share of GNI has increased and has come to be one of the highest among comparators. Forest depletion also accelerated and has come to represent a significant drain on ANS in some years.

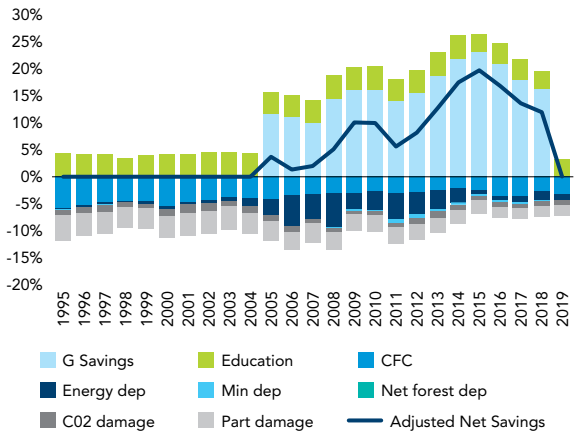
FIGURE 5.7

During the commodity boom, Ghana's ANS have been volatile and mostly negative (left), while Côte d'Ivoire's ANS have remained positive (right)

A) Ghana, Adjusted net savings sub components, Percent of GNI



B) Côte d'Ivoire, Adjusted net savings sub components, Percent of GNI



Source: World Bank CWON 2021.

[47] ANS are a measure of sustainability. They are calculated as the total of a country's gross national savings minus consumption of fixed capital, plus education expenditure, minus subsoil resources depletion (fossil fuels and minerals), minus net forest depletion, and minus carbon dioxide and particulate emissions damage.

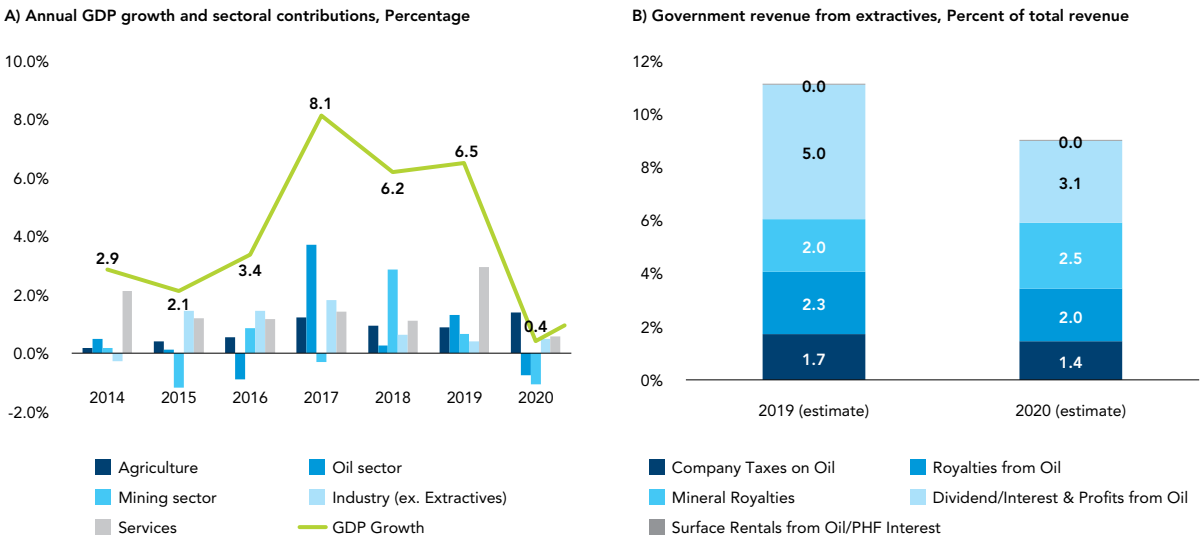
Extractive industries are important but volatile contributors to growth and public revenues

Extractive natural resources (from the oil and mining industries) have provided large but volatile contributions to GDP growth. Since the oil sector began production in 2011, both oil and mining have had important contribution to GDP growth (see Figure 5.8). These contributions can be highly positive, like in 2018 when extractives accounted for more than half of GDP growth, on the back of a very strong expansion of the mining sector. The sector's volatility can also be detrimental to growth, and in 2020 during the pandemic crisis, oil and mining were the only sector to actually contract.

Extractive industries (oil and mining) generate significant public revenue, in particular for sub-national governments, but are prone to fluctuations. In 2019, oil and mining accounted for 11.1 percent of total government revenue, but it went down to 9.0 percent in 2020 as the pandemic's impact hit the sector (see Figure 5.8). The extractive sector contributed US$1.45 billion to government revenue in 2018, of which the mining sector contributed over US$475 million, and hydrocarbons US$975 million.[48] Oil production started in 2011, and as of 2013 oil revenues surpassed mining receipts. Similarly, mining contributed over US$6.2 billion (approximately 40 percent) of gross merchandise export receipts, consolidating the sector's status as the leading source of foreign exchange. Around 40 percent of the local government's budget comes from mining. Land rents and a part of mineral royalties are either paid directly to the District Assemblies or to the Office of the Administrator of Stool Lands, which then transfers those revenues to local governments.

FIGURE 5.8

Oil and mining make important but volatile contributions to GDP growth (left) and revenues from extractives are volatile and went down during the COVID crisis (right)



Source: Ghana Statistical Service, Ministry of Finance, World Bank calculations

[48] Detailed 2019 figures not yet available.

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The extractive sector continues to present opportunities to support medium-term growth

The sector's outlook is positive with sustained demand for gold and other commodities throughout the crisis. Moreover, prices of minerals (including gold) have increased. Ghana has experienced a gradual increase in gold production over the past decade in both the large scale and artisanal and small-scale mining (ASM)[49] sub-sectors. While ASM production has shown the most notable increase, large scale mining remains a critical anchor for economic growth, contributing to 65 percent of Ghana's gold production. In 2019, production and shipment attributable to the large-scale gold mining sector increased by 6 percent to 2.9 million ounces while mineral revenue from large-scale operators grew almost 17 percent to US$4.16 billion.

The oil sector continues to attract interest from major investors. In the oil and gas sector, total crude oil production from the three producing fields (Jubilee, TEN and Sankofa-Gye Nyame) in 2018 was 62,770,787 barrels, representing an average daily oil production of 170,233 barrels, compared to 58,659,625 barrels (160,711 bopd) for the same period in 2017. This was an increase of 6.55 percent and it is attributable to increased production from the TEN and SGN Fields. Ghana received US$977.12 million (GHS 4,529.68 million) as petroleum proceeds in 2018, up from US$540.41 million (GHS 2,334.12 million) in 2017. This increase was mainly due to an increase in price from an annual average of US$53.49 per barrel in 2017 to US$70.34 per barrel in 2018. Investor interest in Ghana's oil fields was confirmed in 2018 as the first Oil and Gas Licensing Round for Offshore Oil Blocks in the Cape Three Points attracted 16 bids, including from major international oil companies.

Ghana started implementing the EITI standard in 2007 to strengthen the governance of its extractive sector and recently completed its third validation in 2020 with a rating of 'meaningful progress'. EITI reporting applies to all revenue streams (including SOE transactions), exploration/production/export data from the mining, oil and gas sectors. Moreover, information such as revenue allocation, socio-economic contributions by companies are also reported. This engagement has generated several sector reforms, including revisions to fiscal terms such as the introduction of the capital gains tax and revisions of the land rents and royalty rates.

[49] The key commodities extracted by ASM operators are (i) gold, (ii) precious stones (particularly diamonds), (iii) construction material (granites and aggregates, and (iv) salt.

The Government intends to secure approximately US$500 million through an Initial Public Offering (IPO) of shares in a Special Purpose Vehicle, called Agyapa Royalties, which would maintain a controlling interest in future royalties from a variety of gold operations. The proposal is largely seen by the Government as an innovative financing mechanism taking advantage of high gold prices to benefit from the 'forward' royalties flows to raise non-debt financing for strategic capital investments. There are several risks associated with the proposed arrangement that may impact the IPO valuation including: (i) the possibility of a low IPO valuation based upon assumptions of lower production rates and gold prices than those that may eventually materialize; (ii) high transaction costs for financial and legal advisors given the uniqueness of the deal; and (iii) restrictions on the ability of future governments to re-negotiate the deal. It is also unclear the extent to which the SPV will actively invest in mining projects, which could result in losses if those investments turn out badly.

Managing the sector's volatility requires a comprehensive framework for fiscal responsibility

To mitigate macro and fiscal volatility borne out of natural resource wealth, it is key to develop countercyclical mechanisms and assess the sustainability of assets usage. Recent research (World Bank, 2021) shows that natural resource wealth has weighed on public finance balances for many countries. Non-renewables have proven to pose a particular challenge as they are strongly affected by commodity price volatility. It is hence important to design mechanisms that enable countercyclical management of these resources and take into account rents and resource depletion in macro fiscal management. Indicators like the ANS presented above can be used as early warning signals of unsustainable patterns of natural capital depletion, unmatched by assets accumulation.

In the near future, despite high funding needs to address the crisis and support the recovery, it is important that the public sector increases its savings to ensure the sustainability of the country's growth model. Research (IMF, 2018) has shown that strong balance sheets, where governments have more assets than debt and are more resilient to shocks, can reduce borrowing costs. Ghana has experienced increasing borrowing costs, which have been pushed even higher during the crisis. The macroeconomic framework, for instance via the use of a fiscal rule, can impose a long-lasting constraint on fiscal policy that limits budgetary targets and pressures to overspend in good times, ensuring debt sustainability (Schaechter et al. 2012). There are different types of fiscal rules, including debt rules, budget balance rules, structural budget balance rules, expenditure rules, and revenue rules.

Ghana's fiscal rule was established in 2018 to serve as a fiscal anchor. In December 2018, the authorities enacted fiscal rules and announced the creation of a fiscal council. The Fiscal Responsibility Act, 2018 (982) establishes two numerical fiscal rules, limiting the overall fiscal deficit on a cash basis to 5 percent of GDP and mandating a positive primary balance. The rules cover the central and local governments, autonomous agencies, and statutory bodies. The law allows for suspension of the rules for circumstances of force majeure, severe economic shocks (including commodity price shocks), and periods when the GDP growth rate is one percent or below. The stated goal of these frameworks and structures was to ensure irreversibility of reforms and measures introduced to sustain macroeconomic stability and discipline, and provide an anchor to guide policies in the medium term.

The fiscal rule has had a mixed track record and may need to be reassessed. 2017 (before the fiscal rule's adoption) was the last year that the overall fiscal deficit was below 5 percent of GDP (it reached 4.7 percent).[50] Since then, it has been increasing and has reached 16.2 percent of GDP in 2020, leading to the suspension of the fiscal rule with no plans to return to the 5 percent ceiling or a positive primary balance before 2024. Given this mixed track record, it may be worth exploring if another design of the fiscal rule may be more relevant to Ghana's current circumstances. For instance, a fiscal rule based on debt level or debt accumulation could be relevant given the focus on debt sustainability (notably expressed in the 2021 Budget). One such rule would have the advantage of taking into account all contingent liabilities, notably those stemming from the energy and financial sectors (see Box 5.1).

[50] This is considering the overall fiscal deficit, including costs linked to the energy and financial sectors.

BOX 5.1

Principles for the definition of a fiscal framework in a resource-rich context

IMF research has proposed some guiding principles to guide the formulation of fiscal policy frameworks in resource-rich developing countries:

- The fiscal policy framework should reflect country-specific characteristics like revenue dependency and volatility as well as the resource revenue horizon, which may change over time.
- The framework should ensure the sustainability of fiscal policy. Benchmarks of sustainability can be derived from a PIH framework or from a broader focus on stabilizing government net wealth (in some cases at a level below today's net wealth).
- Policymakers can choose alternative fiscal anchors, either primarily addressing fiscal sustainability concerns (e.g., PIH-based rules) or focusing more on short-term demand management (e.g., a price-based or structural balance rule). Country characteristics should guide the choice of the appropriate fiscal anchor.
- Fiscal frameworks should be sufficiently flexible to enable the scaling-up of growth enhancing expenditure, especially in LICs.
- In countries with large absorption constraints, the pace of scaling-up may have to be gradual, while public financial management systems are reinforced and domestic supply constraints softened.
- The volatility and uncertainty of resource revenue is critical for the design of fiscal frameworks, and having sufficient precautionary fiscal buffers is critical. Technically, a strong revenue forecasting framework needs to be developed and spending plans framed in a medium-term perspective.
- The credibility and transparency of the fiscal policy framework can be supported by a well-designed resource fund, but the latter cannot be a substitute for an appropriate policy framework nor a panacea that obviates the need to strengthen overall fiscal management capacity. Funds need to be fully integrated with the budget and the fiscal framework.

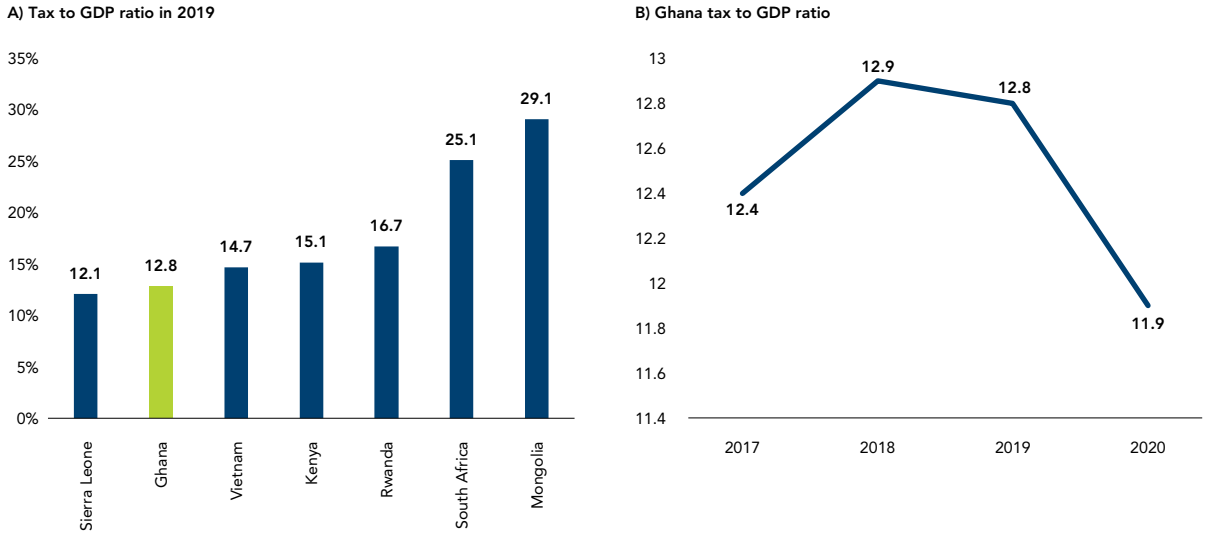
Source: Fiscal Frameworks for Resource Rich Developing Countries, IMF Staff Discussion Note.

Improving domestic revenue mobilization

The country's tax system is an important instrument for achieving CPESDP targets through both enhancing macroeconomic stability and funding necessary investment into human capital and infrastructure. Financing the CPESDP will require Ghana to develop a growth-oriented policy framework including an efficient tax system. In 2017, Ghana's tax revenue to GDP ratio was about 12.6 percent; its African comparators, South Africa, and Kenya, were much higher at about 26 percent and 18.7 percent respectively. That year, Ghana's debt financing and government employee costs were about 11.8 percent of GDP leaving about 0.6 percent of GDP for infrastructure spending. To finance the ambitious CPESDP the country will need to generate more revenue by expanding its tax base, reducing the informal economy, and maximizing its tax efficiency to stimulate productivity and economic growth.

There is considerable space to grow tax revenues if compared with similar countries in the region or countries with natural resources. While Ghana tax to GDP ratio grew from just above 10 to over 12.9 percent in 2019 falling back in 2020 as a result of COVID-19, other middle-income countries perform considerably better.

FIGURE 5.9
There is considerable space to grow tax revenues if compared with similar countries in the region or countries with natural resources



Source: IMF

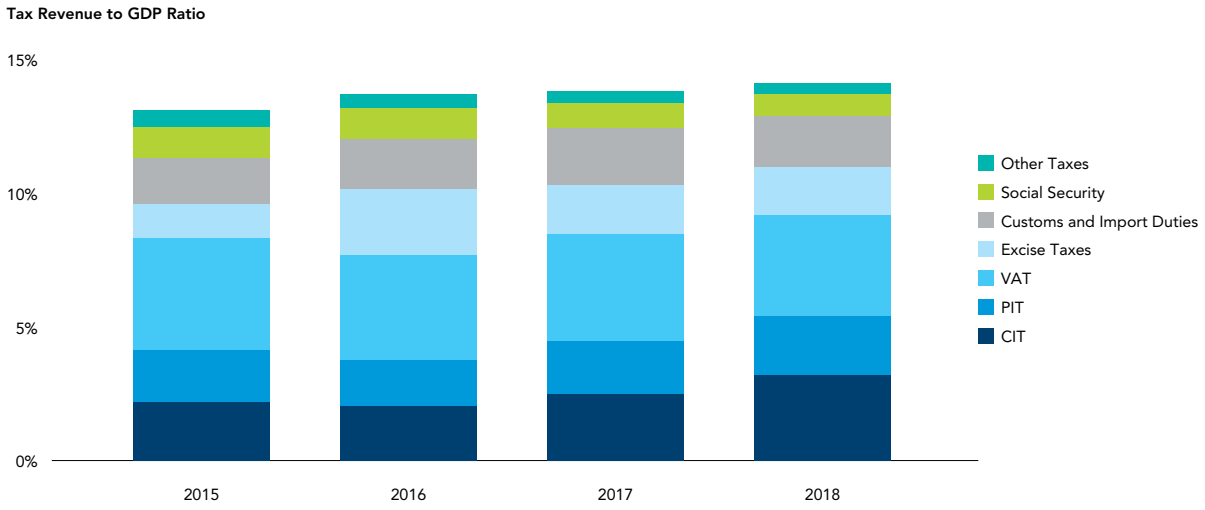
Ghana needs to optimize its tax mix to strengthen domestic revenue mobilization, increase efficiency and reduce the size of its informal economy; these will be essential for generating the revenue required to finance the CPESDP. Figure 5.10 shows tax revenue to GDP ratio by income stream. To finance the planned social policy expenditures, Ghana needs to increase its tax revenue. Recent revenue growth was driven by corporate income tax, generally considered to be among the least efficient taxes; moreover, CIT does little to address equity. The size of the informal economy is reflected in low PIT revenues, a potentially important tool for achieving social policy objectives. To finance its social policy objectives, Ghana needs to adjust its tax mix to rely on more efficient revenue sources, like VAT, excise duty, and property tax. The country also needs to rationalize its tax expenditures which were estimated to be about 5 percent of GDP for 2014; VAT accounted for about 4.2 percent of the total (Oppong and James 2016).

Ghana needs to strike the balance between tax efficiency and equity. Increasing the dependence on revenue from property and consumption taxes improves the tax system's efficiency. Personal income tax systems can encourage taxpayers to move out of the informal economy while making the tax system more progressive. Administering social transfers through the personal income tax system creates an incentive for individuals to

enroll in the tax system while allowing policymakers to income test eligibility for social transfers. Corporate income taxes should be used as stimulative measures to encourage productivity enhancing investments in capital. These are significant changes; Ghana will need to strike the balance between optimizing efficiency and equity.

FIGURE 5.10

Recent revenue growth was driven by CIT which is usually considered an inefficient tax



Source: OECD (Tax Revenues), World Bank (GDP).

An efficient tax mix encourages productive activities and ensures sufficient revenue

Efficient taxes are neutral and do not apply to productivity enhancing capital investments. Taxes can generally be ranked in the following order from the most to the least efficient: property taxes, excise taxes that internalize externalities, VAT, PIT, CIT, and taxes on financial and capital transactions. Ideally, taxpayers' choices are unaffected by tax policy. By design, tax expenditures grant relief to stimulate selected areas of the economy. Consequently, they undermine neutrality, creating incentives that lead to suboptimal decisions from the taxpayer's perspective. Excise taxes are non-neutral, distorting relative prices to discourage socially harmful behavior like smoking. These taxes are efficient because they generate revenue while improving social welfare. Well-designed VATs are efficient because they are broad based with low rates. Such taxes are neutral, and the breadth of the base means lower rates, another feature of an efficient tax. Moreover, consumption taxes only apply on expenditures, creating incentives to save. In contrast taxes on capital increase the cost of investing which undermines productivity growth.

Foregone revenue from tax expenditures compromises the efficiency of the tax mix. Tax expenditures should equate the marginal cost of the relief with the associated marginal benefit from the policy. Governments should always finance such services using the most efficient tax at their disposal. Distortions like tax expenditures, which can be positive or negative, can undermine tax efficiency and should therefore be discouraged. Ghana recently increased revenues by denying input VAT on the National Insurance Health Levy (NIHL) and the Ghana Education Trust Fund Levy (GETFL). While this is an increase in the VAT, an efficient tax, it is a non-neutral increase because unrecoverable VAT accumulates through the supply chain; the tax cascading makes domestic products less competitive with imports. A marginal increase in the VAT rate that generated the same amount of revenue would have been a more efficient policy.

The most efficient taxes tend to be the most regressive which puts equity and efficiency at odds with one another. The most efficient taxes like excise taxes and value-added taxes are regressive as the most marginalized tend to spend a larger portion of their income on the consumption of goods and services. Finding the right balance between efficiency and equity will depend on the government's policy objectives.

The efficiency-equity tradeoff should be addressed through targeted income-tested measures that increase progressivity while minimizing efficiency-reducing distortions. Refundable tax credits delivered through the PIT system let policymakers directly target equity concerns while avoiding distortionary effects on the production side of the economy. They are generally preferable to less targeted measures like VAT relief on essential commodities. High-income households also purchase essential commodities, which reduces the impact of the measure on the progressivity of the tax system per Ghanaian cedi of foregone revenues.

Bringing informal businesses into the tax system increases the efficiency and equity of the tax system as well as raising tax revenues. Businesses that register for the tax system may be at a disadvantage vis-à-vis their competitors operating in the informal economy. The resulting distortions undermine the efficiency of the Ghanaian economy impeding overall productivity which reduces tax revenue. The Ghanaian tax system needs to create incentives for firms registered for the tax system to be competitive with their counterparts in the informal economy. In 2018 the minister proposed a voluntary tax amnesty initiative which would be an effective mechanism for encouraging taxpayers to comply with tax rules. Combining this initiative with an outreach program where the GRA would help taxpayers complete their returns could be an effective way to expand the tax base.

The corporate income tax (CIT) dispositions should be harmonized to limit inefficiencies

As discussed, CIT is among the least efficient sources of tax revenue. However, CIT is an important component of the tax mix because it can be an important source of revenues and an automatic stabilizer. CIT taxes returns on investments which increases the user cost of capital, a major driver of productivity growth. This makes CIT among the least efficient forms of taxation. In addition, taxing investment reduces productivity through several channels, including creating incentives to purchase labor over capital; this reduces overall productivity and wages. Moreover, by increasing the cost of investment CIT inhibits investments in cutting edge technologies making Ghanaian firms less competitive. A stable and relatively low CIT rate, however, can be an important source of revenues. CIT is more volatile than consumption taxes making it a poor choice for core expenditures. However, because losses can be carried forward CIT can be a countercyclical fiscal stabilizer. In addition, a good mix of cost-based income tax allowances (tax depreciation, investment deductions etc.) could reduce marginal cost for investments improving the competitiveness of the Ghana tax regime.

The broad range of reduced CIT rates distorts incentives and creates opportunities for tax planning. The standard CIT rate is 25 percent in Ghana, but it ranges from a low of 8 percent to a high of 35 percent in specified sectors.[51] Reduced rates in specified sectors incentivizes production in those sectors at the expense of overall productivity. In a neutral tax system, the profit-maximizing objective of firms naturally guides entrepreneurs towards the most productive endeavors. Reduced rates in some sectors distorts those signals and shifts production from more to less productive sectors. Furthermore, sectors are also not always perfectly defined, such that firms producing commodities in similar sectors may define their operations differently to gain access to the reduced rates. Firms who cannot simply redefine their operations may instead choose to enter new markets or merge with other firms operating in the sectors eligible for preferential rates. When those decisions are driven purely by the reduced rates, the tax system biases the outcome, decreasing productivity.

[51] Income from non-traditional exports including agricultural products (excluding cocoa), fish, aluminum products and textiles is taxed at the preferential rate of 8 percent. Similarly, income from banks lending to the agricultural and leasing sectors is taxed at the preferential rate of 20 percent, while income from companies principally engaged in the hotel industry is taxed at the preferential rate of 22 percent. Finally, income from mining and upstream petroleum companies is taxed at the higher rate of 35 percent.

The higher CIT rate charged to mining and upstream petroleum companies is also inefficient and should be replaced with direct taxes on the extraction of those natural resources. The efficiency of the tax is optimized when the firm's marginal cost of the rent equals the marginal return on their investment. For this reason natural resource rents should be either auctioned or charged as special fees that can be tailored to maximize the government's return on its asset that is being depleted through extraction. Taxing the extraction of natural resources is important, but it should be done directly at the extraction stage rather than through the income tax system. Using CIT to extract resource rents gives firms the opportunity to reduce their marginal cost of extraction below the marginal return on other investments through tax planning. In addition, it disincentivizes productivity because the tax falls disproportionately on the most efficient firms. Extracting resource rents through direct charges could reduce Ghana's reliance on CIT, an inefficient revenue source.

The full relief from CIT in export processing zones creates unfair competition for domestic firms. In addition to the range of CIT rates, Ghana fully relieves Free Zone Enterprises of CIT for a period of 10 years. Free zone enterprises are allowed to sell as much as 30 percent of their production domestically without subjecting any of their income to CIT during the 10-year tax holiday. In addition, firms may be able to exceed the 30 percent cutoff through reimports. This creates unfair competition for domestic firms who are subject to the full 25 percent CIT rate and results in suboptimal outcomes that depress productivity.

Ghana must ensure that complete and accurate data is collected from firms profiting from reduced CIT rates and tax holidays. Ghana could improve the efficiency of its tax system by phasing-out reduced CIT rates and tax holidays. In the meantime, complete and accurate data must be collected to ensure that foregone revenue, plus possible benefits from tax expenditures, can be properly estimated. The extent of the distortions imposed by reduced rates and tax holidays depends on the magnitude of the revenues foregone. Having an accurate estimate of foregone revenues is crucial for ensuring that policymakers can make informed decisions about the future of those policies.

The personal income tax can be an important tool to promote equity and formalization

The size of the informal economy in Ghana results in a significant loss of personal income tax revenue. When people are formally employed by registered businesses, personal income taxes are withheld using a Pay As You Earn (PAYE) system. However, in many instances individuals and partnerships have unincorporated businesses. According to the Tax Gap Analysis for Ghana prepared by the World Bank, nearly two-thirds of these taxpayers are not registered with the Ghanaian Revenue Authority. In 2013, Ghana collected about GHS 219.37 million in personal income taxes. By way of contrast, the tax gap report estimated that the revenue potential from personal income tax from sole proprietors in the country to be about GHS 20.9 billion (17.0 percent of GDP). Engaging the informal economy in the tax system has tremendous revenue potential for Ghana. Raising the revenue to finance the CPESDP will require more taxpayers to be registered for PIT.

The COVID-19 crisis creates opportunities for engaging taxpayers in the personal income tax system. Many countries use the personal income tax system as a mechanism for delivering transfers and social programs. In the wake of COVID-19 these programs have tremendous potential to help unincorporated businesses and families who have been negatively impacted by the pandemic. Using the personal income tax system allows the government to target benefits to low- and modest-income households. Moreover, delivering badly needed transfers through PIT creates an incentive for unincorporated businesses to register for personal income taxes. As Ghana's economy recovers from COVID-19, the GRA will have increased registration creating significant revenue raising opportunities; maintaining this momentum will be critical.

Ghana's PIT system could be used as an important tool for making the country's tax system more progressive. Because the PIT system is the only revenue source that contains detailed information about individuals' incomes, it is an effective tool for mitigating regressive tax policies and delivering social programs. The structure of the Ghanaian personal income tax system is designed to be progressive. The country has six

tax rates starting with a rate of 0 percent for annual incomes below GHS 3,828 and has a maximum tax rate of 30 percent.[52] Around the world, countries use PIT systems to address inequities in their tax systems and level the playing field for people and households in a variety of circumstances. Refundable credits can be used to deliver income tested social security programs, even when registrants have no income. Personal income taxes can use non-refundable credits to grant relief on business expenses incurred by unincorporated businesses; in some cases, loss carry forwards can be used to smooth income over multiple years.

VAT's efficiency is undermined by various exemptions

VAT is an efficient revenue source, albeit a regressive and blunt policy instrument. A well-designed VAT has relatively few tax expenditures and generally, is paid by the final consumer. Firms' ability to claim input tax credits relieves them of the liability for the tax, which prevents tax on tax through the supply chain and makes VAT one of the most efficient sources of revenue at a country's disposal. A broad-based VAT with a low rate makes the system neutral because all commodities are subject to a common rate. Furthermore, the breadth of the base allows a country to generate the required revenue at a lower rate, which minimizes the inefficiencies typically associated with taxation. An efficient VAT completely relieves exports of the tax, ensuring that the country's production is competitive on the international market. Firms eligible for input tax credits are indifferent because they do not pay the tax and final consumers pay the same VAT on domestically produced and imported supplies.

Tax expenditures reduce the efficiency of the VAT. Preferential rates distort relative prices and lead to suboptimal choices by taxpayers. Exemptions are more problematic because they are poorly targeted and lead to tax cascading when firms incur unrecoverable tax. VAT cannot be charged on an exempt commodity; however, firms pay the VAT on their inputs in the production of their exempt supplies. When exempt supplies are used as an input into the production of exports or taxable supplies, the unrecoverable tax becomes embedded in the price making outputs more expensive and hence uncompetitive. Ghana's exemption on agricultural inputs means that domestic producers of commodities like seeds and fertilizer must increase their prices to recover the cost of the embedded VAT. However, imported seeds and fertilizer have no embedded tax and therefore enjoy a competitive advantage. Because Ghana exempts fuel, the country's exports are inflated by the cost of the embedded tax incurred in fuel production increasing the cost of all exports that use fuel as an input.

The VAT is regressive. A well-designed VAT applies to all goods and services, including necessities like food and shelter. Because low- and modest-income households have little or no savings, they spend a larger share of their income on necessities. This means that, as a share of their income, they pay more VAT. However, in absolute terms, those who spend more pay more of the VAT. Furthermore, individuals and households who do not have to use their entire income for basic necessities can choose to avoid the tax by saving or incur the VAT with each purchase. In this sense the VAT encourages saving contributing to its efficiency. The regressivity of the tax is better addressed through a progressive income tax system than through the VAT itself because, in contrast to PIT, the VAT cannot be targeted to low- and modest-income taxpayers.

Tax expenditures open the tax system to further interpretation which can have unintended consequences. Ghana exempts a number of items from its VAT including land, buildings and construction. Some of this relief is redundant because firms purchasing land and buildings would be eligible for input tax credits and not incur the tax. Because these are exempt, Ghanaian suppliers of these goods pay tax, which then becomes embedded in the purchase selling price. The unrecoverable tax embedded in the price of developing real property increases the rent charged to businesses which raises their input costs. Consequently, the exemption makes Ghanaian goods and services less competitive.

Tax relief sets precedents that can further erode the tax base. The definitions of exempt commodities are subject to interpretation. Aggressive tax planners will try to expand the relief to their benefit and, as a result, the true beneficiaries may not be those targeted by the policy. Furthermore, ring fencing the relief can be

[52] The maximum personal income tax rate is not aligned to the corporate income tax rate creating further avenues for tax planning.

complicated and may be challenged in court, setting precedents that can exacerbate leakages and lead to additional, unintended tax expenditures.

Each form of relief granted in the VAT undermines the efficiency of the overall tax system. When relief is granted on a commodity like fuel, the foregone revenue is unavailable for achieving the stated policy objectives or paying down debt. Alternatively, Ghana could raise the revenue through a less efficient source like CIT or PIT. The former could deter productivity enhancing investment, the latter creates additional incentives to participate in the informal sector; both undermine overall revenue capacity. VAT tax expenditures forfeit revenue; they can reduce Ghana's productivity and international competitiveness. VAT tax expenditures undermine the efficiency of Ghana's tax system and can put badly needed revenue for financing the CPESDP at risk.

Registering for the VAT could be an important complementary strategy for encouraging firms to enroll in PIT. Over 70 percent of unincorporated businesses in Ghana are in the retail and wholesale sectors, which are characterized by high input costs relative to value-added. These sectors can be highly seasonal and may find themselves in a refund position during off-peak seasons. Given that the VAT reduces the cost of inputs, expediting the refund process and streamlining the system creates an incentive for small businesses to enroll in the VAT system. Moreover, enrolling in the VAT could improve a firm's ability to compete with the informal sector. Paying refunds on VAT and encouraging firms to register for the tax would not only reduce costs for the retail and wholesale sectors but could also improve PIT registration.

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Property tax is an important tenet of an efficient and progressive tax mix which has been underutilized in Ghana

Property tax is an efficient source of tax revenue. In Ghana, taxes on immovable property are payable to local governments. In contrast to income taxes, which can be susceptible to profit shifting, property taxes are more difficult to avoid or evade. Property tax can also be progressive as many local governments use value-based assessment, which imposes higher taxes on more valuable property, presumably occupied by higher income households and more profitable businesses.

Ghana could improve the efficiency of its tax system by increasing its reliance on property taxes. According to the 2018 engagement note: "At the same time, the performance of the property tax has been dismal and collections stood at 0.03 percent of GDP in recent years.... Developing countries also perform considerably better at above 0.5 percent of GDP, which includes countries with similar GDP per capita level such as Moldova, Tunisia, Gambia, Egypt." GIZ has supported the development of a software and system for collecting property tax related data in around 90 districts.[53] Future work could build on these successes to scale them up country-wide and integrate them with other land-related systems. Furthermore, comprehensive property tax rolls could be used to improve CIT, PIT and VAT collections.

Tax administration reforms would help improve revenue through higher compliance

The Ghana Revenue Agency (GRA) plays an essential role in revenue generation. The tax gap consists of the policy and compliance gaps. In its 2018 Ghanaian tax gap report, the World Bank concluded that foregone revenue potential from individuals and corporations exceeds 20 percent of GDP. This analysis suggests that the size of the informal economy is substantial. More than 85 percent of surveyed SMEs said the taxes were their biggest constraint to their participation in the formal economy. According to the World bank the tax gap for corporations is substantial. However, the data underlying these estimates may not be robust. While predicting potential revenue growth based on these data will likely overshoot, the analyses clearly indicate that improved tax administration has significant revenue potential.

Ghanaian firms, particularly small ones, cite the compliance burden as an important deterrent to registering in the tax system. There are significant disincentives for unincorporated businesses to register in the personal income tax system. About 60 percent of firms in Ghana say that they cannot compete with the informal sector. In addition, about one quarter of all firms claim that tax administration was a major constraint to operating in the country. About 80 percent of small firms said that they were required to meet with tax officials. Moreover, GRA is consistently slow to process returns and pay refunds. Unincorporated businesses, particularly, small ones, have fewer resources to allocate to tax compliance. As a result, interactions with the GRA are disproportionately costly to firms with few employees. Given the importance of small firms in the Ghanaian economy, the GRA needs to engage in an effective outreach program to bring businesses operating in the informal economy into the tax system.

The compliance burden for small businesses stems from inadequate tax administration. A 2017 Tax Administration Diagnostic Assessment Tool (TADAT) assessment revealed major weaknesses in taxpayer registration; lack of risk-based compliance management across registration, filing, payment and audit; lack of dispute resolution; and inefficient VAT refund process leading to significant delays. The size of Ghana's informal economy undermines its overall revenue collection; moreover, it also limits the country's ability to adjust its tax mix to improve the efficiency and equity of the tax system. Compliance burden and the competitive advantage

[53] https://www.copenhagenconsensus.com/publication/ghana-priorities-digitization

of remaining in the informal sector means that the GRA is losing both PIT and VAT. As a result, the country is foregoing important tools for tax equity and efficiency. The GRA needs to update its systems and develop a comprehensive taxpayer database. A comprehensive property tax database could raise revenues and be used to help the authority track taxpayers, even when firms change names, organizational structures, or sectors. Ghana needs a comprehensive, accurate and current taxpayer database with tax identification numbers (TINs) that link VAT, income, and property taxes. This database is essential for streamlining taxpayer interactions and improving compliance.

Strengthening tax administration will also increase the incentives for participating in the personal income tax system. Sole proprietorships and partnerships in Ghana complain that they cannot compete with the informal sector in part because tax administration is inefficient. Creating a comprehensive, reliable database would allow the GRA to conduct desk audits, which require no interaction with the taxpayer, and focus their audits on high-risk firms. Strengthening the PIT tax administration system has the potential to encourage firms to register for personal income taxes.

Ghana's firms face a high tax compliance burden. Ghanaian firms have reported that the number of times they interacted with the GRA was a significant deterrent to participating in the formal economy and taxpayers' interactions are more demanding in Ghana than similar comparators in Sub-Saharan Africa. On average, Ghanaian firms make 36 payments a year compared to 7 in South Africa, 24 in Kenya and 25 in Côte d'Ivoire. Streamlining interactions between the GRA and taxpayers could reduce compliance burden and encourage more firms to participate in the formal economy in Ghana. Notably, the additional burden of NIHL and GETFL significantly increased the tax burden between 2019 and 2020; total contribution rates rose from 32 to 55 percent of profits. Moreover, because of these changes firms' payments increased from 31 to 36 times a year.

One of the Revenue Authorities' important roles is data collection, management, and analysis. By becoming a data centered organization, the GRA could increase participation in the tax system and improve revenue collection. Improving system automation could reduce compliance burden, improve audit efficiency as well as accounting and fact-based policy development. Accurate reporting, even among firms that are not required to pay tax (including those in free trade zones and businesses making supplies that are exempt from VAT), is fundamental for ensuring that comprehensive data is available for taxpayer analysis, audits and fact-based decision making. This exercise would validate the data, help improve the audit selection process and improve compliance. Given that firms in the free trade zones can sell into the country, they should be required to comply with all customs, excise, VAT, and income tax reporting requirements, even when they owe no tax.

Better taxpayer communication with a focus on positive engagement would improve compliance. If the GRA were to reach out to clients having trouble completing their returns or offer free help to taxpayers, the authority would build goodwill. Judicious use of penalty provisions could also improve client relations. Prompt replies to enquiries, paying refunds quickly and engaging taxpayers proactively would encourage compliance and reduce incentives for firms to remain outside the tax system.

Prompt repayment of VAT refunds would improve the integrity of the system. Failing to do so creates incentives for firms to ask for special treatment in the tax system. Startups, firms engaged in export activities or those who sell primarily to other businesses may frequently find themselves in refund positions. To minimize the risk of losing their refunds, firms may not comply with VAT rules or ask to be exempted from the system. The former risks revenue loss while the latter sets precedents that could prove to be opportunities for aggressive tax planning while making audits less efficient and more complicated.

Fiscal tools to raise revenues and align climate incentives

Carbon charges could expand and diversify revenues, while shifting incentives to reduce emissions

Carbon charges could serve as a tool for Ghana to both expand and diversify fiscal revenues, while also contributing to its climate commitments and generating climate 'co-benefits'. Carbon charges are a form of carbon pricing, whereby fees, charges, taxes, or permits are applied to fossil fuels with rates varying with the carbon content of those fuels.[54] For Ghana such charges could form a valuable source of revenues, while also contributing to achieving climate targets. Ghana has committed to national emissions abatement through its Nationally Determined Contributions (NDCs). Through shifting energy consumption away from fossil fuels, carbon charges can also have development 'co-benefits', positive impacts on other development outcomes, such as by reducing negative health effects from air pollution and encouraging the use of public transport, thereby reducing congestion in cities and boosting agglomeration effects and productivity.

Carbon pricing is widely considered by economists to be among the most cost-effective methods for achieving broad reductions in pollutants such as greenhouse gases (GHGs). Ghana ratified the Paris Agreement on September 21, 2016, and the associated NDCs. Ghana's emission reduction goal is to unconditionally lower its GHG emissions by 15 percent relative to a business-as-usual (BAU) scenario emission of 73.95MtCO2e by 2030 and by 12 percent relative to the BAU emissions of 53.5 MtCO2e by 2025. Ghana's per-capita emissions remain low but are projected to grow rapidly if following historic rates. Achieving this objective therefore entails significant efforts including in the short term. Carbon pricing could form part of the strategy to achieve these NDCs. Carbon pricing can reduce emissions by incentivize firms and households to reduce their production and demand for carbon-intensive products and also by providing dynamic incentives, encouraging firms to innovate.

Climate change remains a pervasive threat to Ghana's historical and future development gains and will require investment in climate adaptation measures, which carbon charges could fund. Rising temperatures and increasing variability of climate-related natural disasters threaten the ability for Ghana to continue its historical development trajectory. Ghana is at substantial risk of droughts, coastal erosion, floods and landslides. Agriculture and livestock constitute the mainstay of Ghana's economy and agriculture is predominantly rainfed, making Ghana particularly vulnerable to the effects of climatic change. Revenues from carbon charges could also be recycled to invest in essential climate adaptation measures.

Analysis on the potential impacts of two scenarios for carbon charges in Ghana suggests that carbon charges could be an important source of revenue generation.[55] A 'moderate carbon charge' of US$25 per tCO2 in 2021, rising to US$50 by 2030, and a 'low carbon charge' of US$10 per tCO2 in 2021, rising to US$25 by 2030, could raise about US$0.6 billion (0.5 percent GDP) or US$0.3 billion (0.3 percent GDP) annually in additional revenues by 2030 from fossil fuels, respectively, against a baseline of maintaining the existing excise regime (see Figure 5.11). In both cases, the largest source of revenue generation would be from carbon charges on diesel, accounting for just over one third of revenues in 2030 in the moderate scenario.

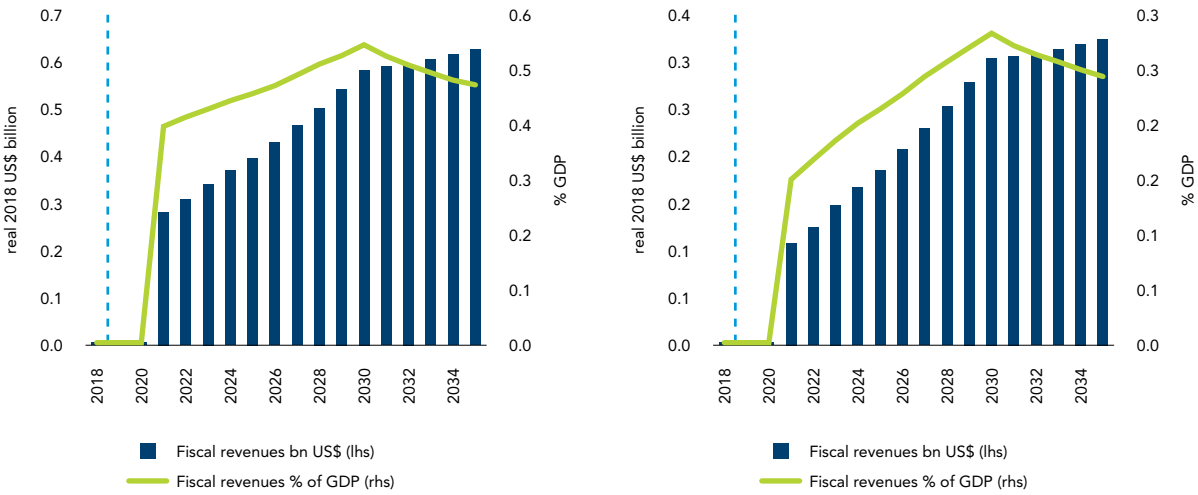
Carbon pricing policies work by increasing the costs of fossil fuel-intensive sources of energy relative to low-carbon sources. Some fuels, notably coal, are much more carbon intensive than others, and hence have higher charges relative to others like liquid fuels (gasoline, diesel, LPG and kerosene) or zero-carbon sources (electricity from solar and wind). For Ghana the greatest effect of carbon charges on energy prices would be

[54] Carbon charges and carbon taxes functionally are identical but have vary in underlying logic. A tax is a "compulsory unrequited payment to general government" whereas "a fee or charge is levied in connection with a specific service or activity" (OECD 2015). Consumers of fossil fuels make use of the global carbon budget, i.e. the finite amount of carbon that can safely be emitted into the atmosphere. Hence under a carbon charge/fee/levy, consumers are charged for use of this service. Examples include Canada's carbon charge and the UK's climate levy'.
[55] This analysis is conducted using the World Bank Carbon Pricing Assessment Tool (CPAT).

FIGURE 5.11

A moderate or low carbon charge could raise about US$0.6 billion or US$0.3 billion annually in additional revenues by 2030

Additional revenues from fossil fuels for moderate (left) and low (right) carbon charge regime



Source: World Bank staff analysis using Carbon Pricing Assessment Tool (CPAT).

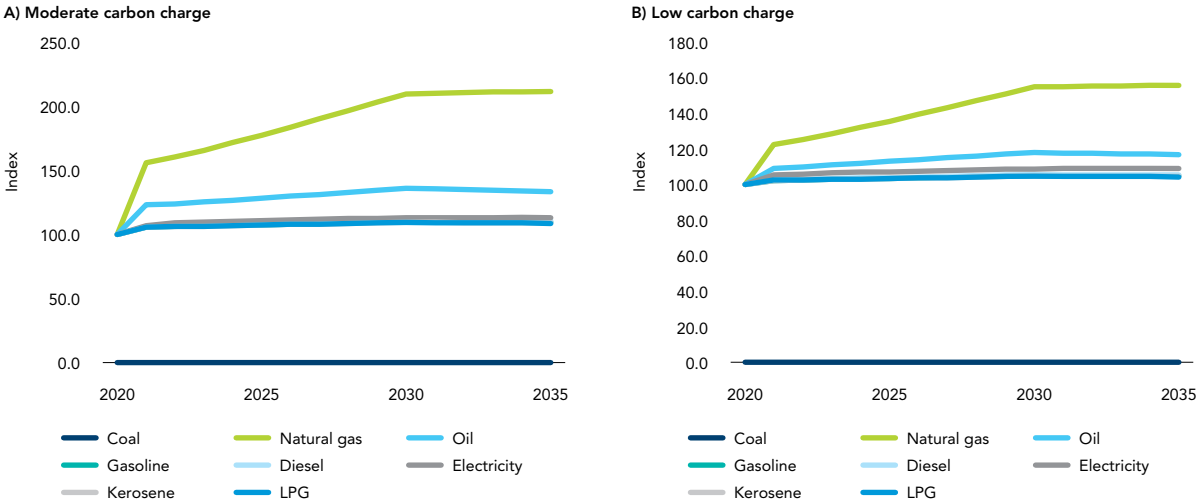
felt for natural gas and oil. In the moderate scenario natural gas would see a price rise of 60.4 percent or US$1.52 per gigajoule in 2022 and oil, which would see a price rise of 24 percent or US$24.48 per barrel. Electricity, diesel, gasoline, LPG and Kerosene would all experience smaller price rises of 8.9 percent, 7.0 percent, 6.3 percent, 6.2 percent and 6.0 percent, respectively. These price changes incentivize firms and households to both conserve energy while shifting to lower-carbon sources of energy where alternatives exist.

Transfers to compensate lower-income households would be essential, but the revenue gains could more than the cost of compensating households. While these increases in energy prices affect households, they also raise substantial revenues which could more than compensate for any negative effect on consumption. A key part of designing a carbon charge scheme for a lower-middle income country like Ghana would be to ensure that energy prices do not rise for the poorest households, by providing transfers to offset rising energy costs.

FIGURE 5.12

Carbon charges in Ghana would have the greatest effects on natural gas and oil prices

Impact on energy prices in 2022 (baseline = 100)



Source: World Bank staff analysis using CPAT. Note: supply costs are estimated as retail prices minus all known taxes.

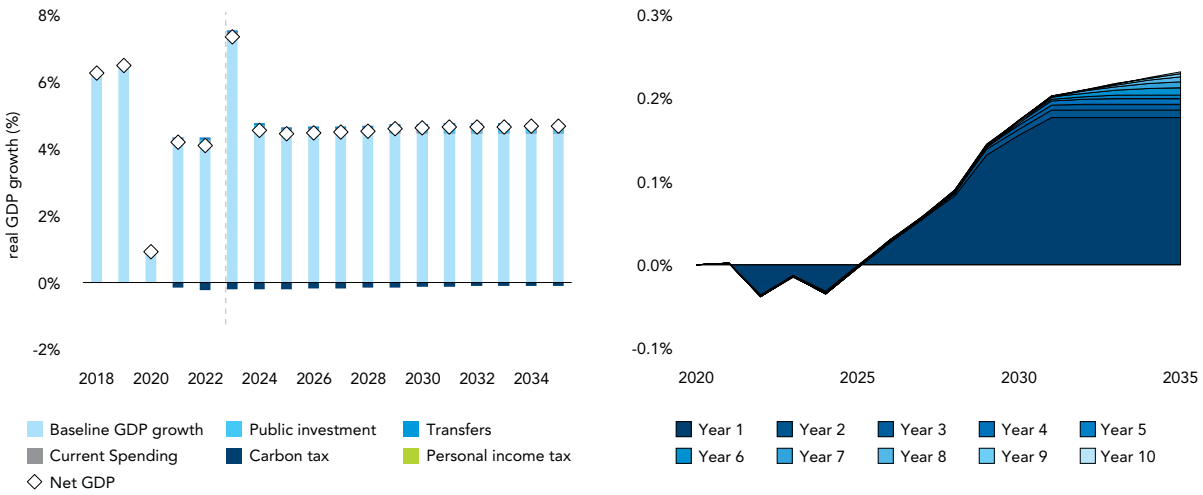
If revenues are recycled strategically, carbon charges could boost growth after five years

These revenues could also contribute to boosting Ghana's growth path in the coming decade. Estimates suggest that using 50 percent of the revenues to raise public investment, 10 percent to raise current spending and 40 percent to fund cash transfers directly to households, would lead to GDP growth that is around 0.19 percent higher by 2030. There would be a small decline initially (0.04 percent in 2022) due to small transitions costs and distortions (e.g. as the price levels increases, reducing real wages in the short-term). Alternative designs, such as using revenues to fund direct public spending or reduction in labor taxes could have near-zero negative impacts on GDP growth in the near term, though the long-term benefits for growth would be lower.

FIGURE 5.13

A moderate carbon charge could raise GDP growth by 0.19 percent by 2030

Effects of the 'moderate' reform on baseline GDP growth (left) and net effect by policy year (right)

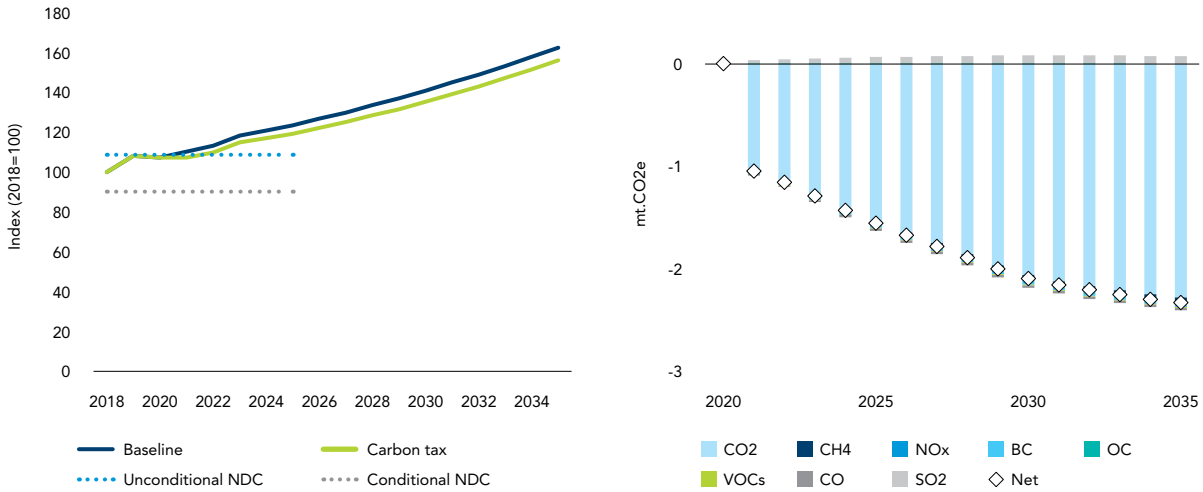


Source: World Bank staff analysis using CPAT. Note: Assumes GDP continues growing at rate in 2025. Panel on right shows effect of each year of the reform on subsequent years (e.g. dark blue shows effect of tax and revenue changes in 2020 on years 2020-30).

FIGURE 5.14

A moderate carbon charge could reduce Ghana's emissions by 4 percent by 2030

Ghana's indexed GHG emissions vs. 2015 NDC (left) and abatement of energy-related GHGs and P by type (right)



Source: World Bank staff analysis using CPAT. Note: Left graph excludes GHGs from landuse, landuse change, and forestry (LULUCF). NDC target for Ghana is a target for 2025 against business-as-usual. Conditional NDC is conditional on climate finance.

As a result of the energy transition, Ghana's greenhouse gas emissions would be reduced relative to business-as-usual. In the 'moderate' scenario, emissions in Ghana would be approximately 4 percent lower in 2030 than under the baseline, assuming that non-energy GHG emissions grow with GDP. On its own this would not be enough for Ghana to achieve its NDC target (due to be revised by COP26 in 2021) of reducing CO2 intensity of GDP by 12.5 percent in 2025 compared with business-as-usual, but it could form a contribution.

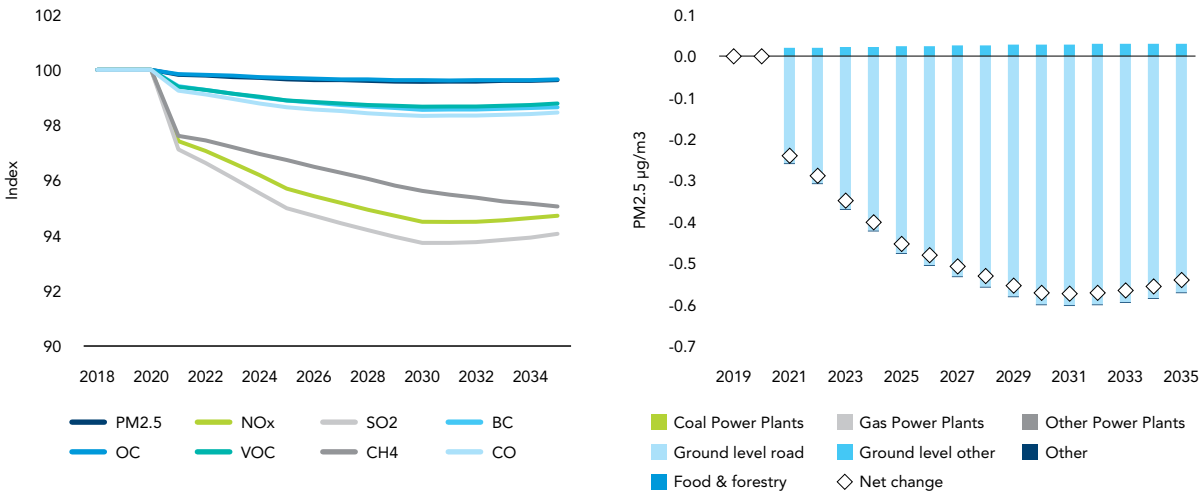
Carbon charges can also generate 'co-benefits' such as reduced air pollution

Carbon charges could also reduce air pollution and associated negative health outcomes. Air pollution is trending upwards in Ghana, particularly in cities and kills around 16,000 Ghanaians each year (8 percent of total mortality), costing US$2.5 billion, more than 4 percent of GDP.[56] Carbon charges could also reduce pollution in Ghana, improving health outcomes. Fossil fuel combustion makes a large contribution to local air pollution in Ghana. Emissions of particulates such as direct PM2.5, NOx and SO2 from industries, and in households, and gasoline and diesel consumption in ground-level transport account for a large proportion of particulate matter in Ghana. These emissions account for many premature deaths. As a result, policies which reduce or slow the growth in consumption of fossil fuels can also result in improvements in local air quality, conferring health benefits. A moderate carbon charge would reduce SO2, NOx and CH4 by 6.3, 5.5 and 4.4 percent respectively by 2030 relative to the baseline scenario. This would both save lives and reduce disability stemming from air pollution.

FIGURE 5.15

A moderate carbon charge could reduce Ghana's emissions by 4 percent by 2030

Impact on air pollutants (baseline=100, left) and on ambient PM2.5 levels (right)



Source: World Bank staff analysis using CPAT.

Carbon charges can also incentivize the use of public transport, reducing congestion and road accidents, but would need to be accompanied by investments in public transport. Carbon charges applied to gasoline and diesel affect fuel prices and thereby shape behaviors on driving relative to taking public transport. Higher gasoline prices are found to play a role in reducing road accidents fatalities for other countries such as the U.S., Australia, and New Zealand, and alleviating heavy traffic congestion in Indonesia. A moderate carbon charge in Ghana is estimated to reduce vehicle kilometers by around 500 million a year between 2020 and 2030. This could reduce congestion pressure in urban areas, but would need to be accompanied by concurrent investments in developing Ghana's public transport network.

[56] According to World Bank Ghana Green Growth Diagnostic 2020.

How did Ghana's existing environmental taxes affect GDP?

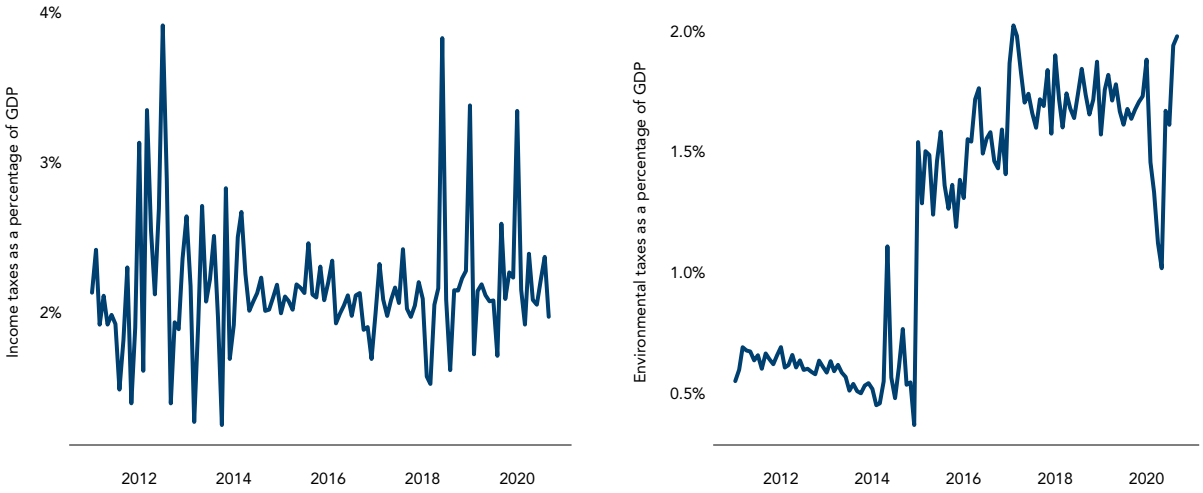
In the aftermath of the COVID-19 pandemic, various institutions have started advocating for environmental tax reforms to shift the tax burden from labor to carbon emissions. Environmental taxes cover a broad set of tax instruments in the areas of energy, transportation, pollution, and natural resources. At the core of environmental taxes, however, are taxes on fuels and carbon emissions. Schoder (2021a) has recently shown that 75 high- and low-income countries between 1994 and 2018, environmental taxes had a far less negative impact on GDP than income taxes. The reason was that income taxes led to a drop in consumption and had a negative effect on employment, while environmental taxes did not. Environmental tax reform that shifts the tax burden away from labor and towards carbon therefore has the potential to have expansionary effects on GDP, while also addressing climate goals.

Over the past decade, Ghana has introduced several different environmental taxes. Specifically, in Ghana there is an airport tax, a petroleum tax, a special petroleum tax introduced in January 2015, and the energy debt recovery levy introduced in January 2017. Figure 5.16 displays the evolution of income taxes and environmental taxes as a share of GDP over time. Environmental taxes as a share of GDP increased considerably in 2015 with the increase in the special petroleum tax. Schoder (2021b) has evaluated how these taxes have affected GDP in Ghana and how this compares to the impact of income taxes.

FIGURE 5.16

In Ghana environmental taxes as a share of GDP increased considerably in 2015

Income taxes (left) and environmental taxes (right) as a share of GDP



Source: Schoder (2021b)

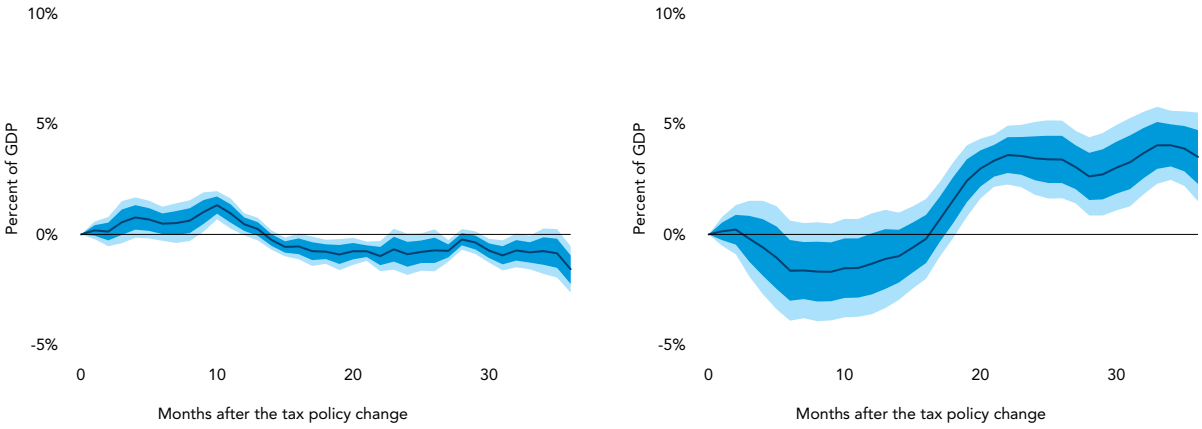
Environmental taxes in Ghana had a positive effect on GDP 3 years after implementation, while income taxes had a negative effect in the long term

While income taxes in Ghana had an initially positive impact on GDP and then turned negative, for environmental taxes the pattern has been the opposite, with an initial negative effect then a long-term positive effect. Environmental taxes in Ghana had an initially negative effect on GDP for the first 15 months, but then a positive large multiplier effect from around year 3 (see Figure 5.17). These results suggest that a shift from income taxes to environmental taxes will bring expansionary output effects around 1.5 years after the policy change. These results are consistent with the findings of Schoder (2021a) that shifting the tax burden from labor to carbon emissions could have a positive effect on GDP in the long term.

FIGURE 5.17

In Ghana environmental taxes had a positive effect on GDP after 3 years

GDP multiplier effects from an increase in income tax (left) or environmental tax (right) of 1 percent of GDP



Source: Schoder (2021b)

The best time for environmental tax reform may be when fuel prices are low and during an economic recovery. Schoder (2021a) has shown that environmental taxes only had a negative effect on GDP when fuel prices were above their median value. When fuel prices are low, these taxes don't seem to adversely affect GDP. The best time to restructure fuel taxes may therefore be in times of economic recovery when fuel prices are low. In addition, this research shows that environmental taxes don't appear to have any effect on GDP when implemented when output is expanding. Post COVID-19, once the recovery is underway and when fuel prices remain low, may therefore be a good time for environmental tax reform.

Fiscal tools could also reduce land use emissions in Ghana

Reducing land use emissions could also form an important component of emission mitigation strategies in Ghana. Deforestation[57] and agriculture are significant sources of carbon emissions in Ghana, together representing 54.3 percent of the country's total greenhouse gas emissions in 2016 (UNFCC, 2019).[58] It is possible to cover emissions from land use and land use change in Ghana with implicit forms of carbon pricing. One way to do so would be to let commodity taxes vary depending on how sustainably the commodity has been produced.

Forest degradation and deforestation in Ghana are driven primarily by cocoa farm expansion, coupled with logging and a recent increase in illegal mining. In many cases, emissions-intensive production methods are cheaper and provide quick productivity increases for farmers at the expense of long run decay.[59] This has created a vicious cycle, as deforestation undermines the productivity of cocoa farming by depleting nutrient sources, altering rainfall patterns, reducing biodiversity, and threatening the long-term sustainability of cocoa.

A 'feebate' system could incentivize sustainable cocoa practices

Implicit carbon pricing could be applied to cocoa through an environmental fee-and-rebate ("feebate") mechanism that allows policy makers to set variable tax rates corresponding to the emissions intensity of production.[60] Cocoa could be charged based on the assumption that production was not sustainable (i.e., involved deforestation or other emissions-intensive method); if producers prove that the cocoa has been produced more sustainably, they could receive a tax rebate. Environmental feebates have worked successfully to reduce emissions in other sectors and countries. For example, in the automotive sector of several countries, cars with emissions below a certain threshold receive a subsidy which is financed by cars above that threshold. In the palm oil sector, Switzerland in March decided to apply a default rate of tariffs on imported palm oil on the assumption that it stems from deforestation but grant a reduced rate when the palm oil was certified deforestation-free. The scheme suggested here is similar: Ghana would tax a tonne of cocoa at a default rate unless that tonne is certified deforestation free, in which case a lower tax rate would be applied.

A tax benefit for sustainable cocoa would create a market incentive for companies to invest in sustainable and legal cocoa production. It would encourage various cocoa buyers to invest in the purchase of traced and certified deforestation-free or agroforestry cocoa and to promote the development of zero-deforestation sectors and territories. Furthermore, the tax incentive reduces the relative consumer price of sustainable products compared to unsustainable ones, creating an incentive for consumers to also switch to greener products. In adopting such a system of commercial incentives for sustainability, Ghana would equally send a strong signal internationally that it is serious about addressing root causes of deforestation.

Given the difficulty of verifying individual farm production methods,[61] proof of sustainable cocoa production could be provided by a third-party sustainability certification.[62] Until Ghana establishes its own government-sponsored sustainability certification system for cocoa,[63] fiscal policy can rely on existing independent third-party agency standards. Private companies already have strong certification and traceability

[57] Ghana has one of the highest deforestation rates in Africa, with forests being lost at an average of 28,400 hectare per year for the 2000-2015 period (Karsenty 2016).
[58] In 2016 alone, cropland contributed net 8.8 MtCO2 to total land emissions of net 12.87 MtCO2. Out of that figure, forest-cropland conversion through deforestation was the biggest contributor (UNFCC 2019).
[59] For example, it might be cheaper to produce through slash-and-burn cultivation to make way for new cocoa seedlings (a common practice in Ghana) instead of agroforestry, a more sustainable method which can increase carbon sequestration.
[60] Broadly, sustainable cocoa includes cocoa designated as "zero-deforestation" or produced through agroforestry methods.
[61] Due to the large number of farmers (over 800,000 smallholders in Ghana) spread over remote areas combined with low enforcement and governance capacity endemic to countries with high rates of deforestation and forest degradation, tax administrators may not have access to the information needed to evaluate the sustainability of individual farms.
[62] Sustainability certification is a voluntary process whereby an independent third party assesses a good or service against a set of standards predetermined by a public or private certification organization.
[63] As has been done in other countries for various value chains; e.g., Indonesian Sustainable Palm Oil.

systems, so a variation of tax rates in this way would be possible. The system also creates incentives for the private sector to speed up its roll-out of traceability and MRV systems, and make these available to the government, even without regulatory pressure.

Using independent certification agencies in this way does not mean that Ghana would lose control over which standards of production are rewarded by fiscal incentives. Instead, the role of the Ghanaian government is to select — according to its own criteria — independent standards that meet its own definition of zero-deforestation production which can then be used as a reference for fiscal policy. If no private system satisfies these conditions, no tax rebates apply; however, it is likely that once Ghana established the necessary criteria, the private certification market would react to meet the demands.

In Ghana, there are two potential eligible certification system candidates: Rainforest Alliance UTZ and Fairtrade standards. UTZ certification dominates the cocoa certification market; about 117,519 MT of UTZ-certified cocoa was produced in the country in 2019, up 37 percent from the previous year.[64] The government would need to analyze both standards to ensure that its requirements are covered. If it used these systems as the basis of fiscal incentives, it would also have increased leverage over modifying them according to national priorities.

The feebate policy outlined here could function even when existing certification systems only cover a fraction of cocoa output in Ghana. The fiscal policy is intended to provide an incentive to promote greater uptake of certifications and so does not require a full-coverage MRV or certification system to already be in place. The state can begin providing incentives for the cocoa that is already certified and continue applying the default tax rate otherwise. Even supposing a situation where the state does not like any of the existing certification systems, it could set out the criteria under which certificates could meets its demands for receiving the tax incentive — which in that case is not met by any certificate yet, but that just means continuing momentarily the current taxation system before the certification market adjusts, so not worse than the counterfactual.

Given that almost all cocoa in Ghana is destined for export, the export gate could be an effective fiscal chokepoint for implementing the system. The feebate mechanism could then be applied to the existing system of export tariffs on cocoa products. International demand for cocoa is rapidly evolving to exclude products associated with deforestation.[65] Applying the feebate to exported cocoa is then also supporting Ghana in taking the lead and adopting a fiscal and commercial environment that will encourage the evolution of cocoa production so that the industry remains competitive in these export markets.

This policy would create the needed commercial incentives for the private sector to participate in greening the sector and would work in conjunction with other reforms. For example, it could work in conjunction with reforms such as cocoa price cap adjustments, regulatory reforms to enforce bans on illegal deforestation, and public policies to support small-scale producers including formalization of land tenure, Payments for Ecosystem Services (PES) programs for agroforestry cocoa, and support programs for production and market access for small producers (Karsenty et al., 2021).

Significant economic and social co-benefits can be expected from this policy. Fiscal policy is a more cost-effective option compared to alternative options because it tackles the root causes of commercial incentives for unsustainable production.[66] The policy can also be revenue-neutral, allowing the state to concentrate investments on activities for which the return on investment is more certain. This policy has the potential to safeguard export opportunities, formalize small producers, increase price premiums, improve productivity and quality of output, improve conditions for workers, and eliminate child labor — by selecting to reward certification programs with these features.

[64] https://www.rainforest-alliance.org/business/wp-content/uploads/2020/05/Cocoa-Certification-Data-Report-2019.pdf. In comparison, Fairtrade certified cocoa made up over 54,000 MT as of 2014 (see https://www.bioversityinternational.org/fileadmin/user_upload/Fairtrade_Stonian_2016.pdf).
[65] The European Union, the most lucrative market for Ghanaian cocoa, will adopt binding measures in the coming years to ban imports of agricultural products involved in deforestation and it is likely that other countries will follow suit.
[66] Additionally, most other policy options to decrease deforestation from cocoa production in the country would require significant public revenues.

Ecological fiscal transfers could combat deforestation

Given that all of Ghana's forests are publicly owned, it is important to go beyond incentives for private-sector stakeholders to also include incentives for public actors to combat deforestation. Intergovernmental fiscal transfers systems, like the one already used in Ghana, distribute revenues from central to subnational governments according to formulae with various indicators, such as population and the area of jurisdiction. The indicators used for these transfers already provide incentives to public actors. In most countries today, the incentive mechanism works toward attracting more business, inhabitants, and construction projects, followed by land use activities that are environmentally damaging. Indicators used for allocating fiscal transfer may thus exacerbate deforestation. This is where Ecological Fiscal Transfers (EFT) come in. They augment the existing system of intergovernmental fiscal transfers by including an ecological criterion among the already existing criteria in the distribution formula.

EFT reforms are a revenue-neutral or low-cost policy option, effective even in countries with relatively low capacity. EFT change existing revenue distribution without requiring additional expenditures; thus, policy transaction costs are low, as minimal changes to the fiscal transfer scheme are required. Many countries already use the area of jurisdiction as an indicator for assigning fiscal transfers, so it is only a small and cost-effective step to consider "protected area" or "forest cover" as an indicator. Also, Ghana already has access to an existing MRV system which could be used to enable a granular ETF without requiring new investments.

EFTs recognize that environmental conservation and ecological services can be provided by subnational governments, and are a way to internalize these externalities, alternative to taxation or expenditure policy. EFTs help mitigate influences on the decisions of local governments regarding forest conservation and protection.[67] EFTs provide incentives for increased provision of local conservation by providing compensation for the costs of and spillover benefits from conservation.[68] EFTs may also enhance welfare by alleviating the budget constraints of municipal governments while allowing projects that are locally important to be implemented.[69]

Ghana is a potentially good candidate for EFT, with some complementary policy investments. Ghana has a formula-based fiscal transfer system that distributes central revenues to subnational districts that can be adapted to include an ecological indicator. Subnational governmental capabilities (including fiscal and conservation capacities) may be somewhat limited and additional investments into capacity-building may be needed. Due to the large contribution of central transfers to rural area revenues, with an average of 80 percent of the revenue of district assemblies being derived from central transfers (distributing on average GHS 6.28 million annually to each district),[70] the implementation of EFT could have significant impacts on the incentives of public actors in Ghana.

The choice of indicators is an important design feature. One option is to reuse the existing MRV system for deforestation infractions. From that, potential ecological indicators related to land use emissions include forest cover, forest carbon stocks, avoided or reduced deforestation. Forest-related EFT are in place in Brazil, India, and Portugal.[71] Evidence shows that EFT are effective in influencing the incentives of public actors to promote forest conservation, especially at the local level.

[67] Local governments may be at risk for elite capture or may simply be underfunded and under pressure to boost economic development to increase revenue collection.
[68] Costs include both the costs of conservation management as well as the opportunity costs of forest conservation, such as reduced tax income (i.e., land, business, income taxes) due to the restriction of economic activities in favor of conservation.
[69] EFT are not usually earmarked; revenues go to general funds of local governments and can be allocated to necessary public functions. This allows municipalities maximum financial autonomy, which can reduce political problems and the risk of violence, and improve local development especially in countries with high ethnic or regional heterogeneity.
[70] https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2018-31.pdf
[71] EFT are also used in China, France, and Germany, and have been proposed for Indonesia, Poland, and Switzerland.

How can Ghana leverage macroeconomic management as an enabler of growth?

To enable the economic transformation that Ghana seeks to achieve, macroeconomic and fiscal governance should strive stabilize the economy and collect enough resources to fund the necessary investments. Firstly, to stabilize the economy and ensure its sustainability, Ghana will need to revisit its current fiscal responsibility framework and strengthen it. Secondly, to collect more revenue in order to improve fiscal sustainability and finance critical investments, Ghana will need to improve the efficiency and equity of its tax mix. Thirdly, to specifically address the threats posed by climate change, Ghana will need to review, rationalize and possibly augment its environmental taxation toolkit.

1. **Adopt** a counter-cyclical fiscal policy
   - Reaffirm the (possibly updated) fiscal anchor and build fiscal buffers
   - Enhance transparency in debt management and the extractive sector
2. **Increase** revenues with an efficient and equitable tax mix
   - Rationalize tax expenditures and consider new tax instruments
   - Strengthen the tax administration to ensure compliance and reduce informality
3. **Explore** a greater role for environmental taxation
   - Consolidate existing environmental taxes and encourage sustainable cocoa practices

Source: World Bank staff elaboration.

POLICY PRIORITY 1

Adopt a counter-cyclical fiscal policy

Adopt a consistently counter-cyclical fiscal policy to stabilize the economy, ensure debt sustainability, and enhance savings rates from the public sector. Fiscal rules setting mechanical targets can often be ineffective used alone, as seems to have been the case in Ghana. Enhanced macroeconomic stability could be achieved by reaffirming the fiscal anchor and embedding it in a sustainable macro-fiscal framework encouraging fiscal responsibility while providing enough flexibility (Bawumia and Halland, 2017). One option to consider is adapting the fiscal rule to set a limit on public debt levels, which would help limit debt accumulation (IMF, 2012) and solve the issues of debt transparency and the monitoring of contingent liabilities. Other priorities include phasing-out COVID-19 related spending when appropriate, improving debt management to contain risks linked to the increasing debt stock, and improving transparency in the extractive sector. It is also important to increase savings, for instance by building fiscal buffers by progressively returning to fiscal surpluses, to stabilize the economy and ensure the sustainability of economic growth.

POLICY PRIORITY 2

Increase revenue with an efficient and equitable tax mix

Strike the right balance between efficiency and equity in the tax mix while increasing revenues. Tax policy has an inherent trade-off between efficiency and equity; the most efficient taxes are also the most regressive. It also needs to increase revenues to finance its expenditure on human capital accumulation, without compromising the efficiency gains needed to increase productivity. Several reforms areas could support this vision (see Detailed Recommendations section). Ghana needs to review and rationalize its tax expenditures to raise revenues. The tax administration needs to be considerably strengthened to ensure compliance and reduce the size of the informal sector. Ghana also needs to increase taxpayer engagement and tax efficiency and equity means that the GRA needs to begin an active outreach program and pay VAT refunds. This will notably incentivize SMEs to formalize by limiting the cost of complying with the tax system. One simple method to reduce compliance costs would be to streamline filing dates for all taxes, remittances, and other government contributions. Ghana should generally encourage firms to participate in the VAT could improve the efficiency of the country's tax system, notably by paying refunds promptly. Finally developing a property tax system could improve efficiency, equity, and compliance.

POLICY PRIORITY 3

Explore a greater role for environmental taxation

Review and enhance the framework for environmental taxation with a view to minimize the impact of climate change on households and incentivize sustainable land-use. This can be achieved by considering ways to consolidate existing environmental taxes into one comprehensive instrument. To do so, it will be necessary to explore detailed design options for carbon pricing and ways to minimize impacts on lower-income households through transfers and other mechanisms. Finally, given the importance of the sector for climate change, it is also important to conduct more detailed analysis on ways to incentivize more sustainable cocoa farming practices to limit deforestation and reduce forestry and land-use related emissions.

Detailed Recommendations

POLICY PRIORITY 1

Adopt a counter-cyclical fiscal policy

Adopt a consistently counter-cyclical fiscal policy	• Reaffirm the fiscal anchor to ensure that public spending is sustainable and to guide the fiscal consolidation process, while making room for emergency crisis-related spending; notably the Government should: (i) indicate a clear timeline to reinstate the fiscal rule and (ii) increase budget flexibility by further limiting statutory spending. • Explore the possibility to adjust the fiscal rule to focus on debt accumulation in addition to or instead of the existing targets on the overall fiscal deficit and the primary deficit. • Phase-out COVID-19 support measures when appropriate: while it is critical to maintain support measures (and ensure high spending quality) while the crisis last, authorities should also ensure that fiscal measures to address the crisis are time-bound and well-targeted. • Improve spending quality across the board, notably by increasing high quality public investment, by containing rigid budget categories (such as the wage bill, interest payments), and by improving key service delivery efficiency. • Build fiscal buffers by progressively returning to fiscal surpluses.
Strengthen debt management and strategy	• SOEs debt transparency: continue publishing SOEs' guaranteed debt and consider expanding coverage to include non-guaranteed debt, to help contain SOEs' fiscal risks. • Improve institutional debt and cash management capacity, notably: » Conclude the integration of cash and debt management under Treasury and Debt Management Division; » Adopt active liability management operations for mitigating refinancing risk and building benchmark bonds (liquid bonds); » Review current issuance mechanisms for government securities (auctions, book building, and "tap-ins"); » Develop capacity in Investor Relations; » Implement the recently developed operational risk management framework.
Sustain inflation discipline	• Continue to enforce Central Bank independence, notably by getting back to zero Central Bank borrowing to finance the fiscal deficit.
Enhance transparency in the extractive sector	• Implement actions mandated by the EITI validation,[72] notably: publication of beneficial ownership data, comprehensive data reporting per Ghana's own materiality thresholds, disaggregation of revenue data by project, verification of revenue data, declaration on sub-national revenue transfers, and reporting on quasi-fiscal expenditure by SOEs. • Special Purpose Vehicle for gold royalties (Agyapa): Ensure complete transparency in the process of setting up the SPV and listing it on the stock exchange, and include a "sunset clause" after which royalties will stop being paid into the SPV to avoid creating a long-term commitment on public revenue.

[72] At the EITI Validation, which was announced on December 1, 2020, Ghana was requested to complete six corrective actions to satisfy EITI requirements. Ghana has until June 1, 2022, to complete the corrective actions.

POLICY PRIORITY 2

Increase revenue with an efficient and equitable tax mix

Improve Tax Data Management and Administration	• Adopt a common TIN among all revenue streams so that files can be linked. • Confront data among Pay As You Earn systems and other sources of income to ensure that people with multiple jobs are paying the correct effective tax rate. • Minimize interaction with taxpayers: » Coordinate communications within the GRA; » Improve the rapport with taxpayers by judiciously relieving tax penalties and helping taxpayers complete the returns; » Improve online access to the tax system, notably by: 1) having online returns automatically calculate taxes/credits/refunds; and 2) ensuring local tax offices have online computers and experts available to enable firms to complete their returns. • Make extensive use of desk audits and adopt risk-based assessment (this will help minimize interactions between taxpayers and the GRA, a major concern with small businesses): » Make more efficient use of audit resources; » Stratify samples and focus on highest risk sectors and largest firms.
Phase-Out Reduced Rates and Tax Holidays (CIT)	• Gradually phase out tax holidays which are prone to abuse and create opportunities for interpretation and aggressive tax planning. • Firms working in export trade zones should, at a minimum, be forced to comply with all customs regulations on imports. • While they exist, export trade zones should be treated like bonded warehouses and monitored by GRA staff to ensure that taxes are paid before goods enter the country.
Replace Higher CIT Tax Rates on Mining and Petroleum Companies with Extraction Rights Auctions or Volumetric Tax (CIT)	• Periodically sell the extraction rights in a competitive auction that captures the economic rents from Ghana's natural resources. • Alternatively, replace the higher CIT rates with a sliding scale royalty (volumetric extraction tax) so that firms cannot use CIT tax planning schemes.
Engage the Informal Economy, notably by using the PIT to distribute social transfers (PIT)	• Consider delivering social transfers through the PIT system (particularly during COVID-19 when households need support) to incentivize participation in the tax system: » They can be delivered through refundable or non-refundable credits or deductions (refundable credits would give households with zero income refunds); » Using the PIT system would better target these programs to low- and modest-income households; » Using the PIT system would encourage engagement in the tax system and reduce incentives for participation in the informal economy.
Make better use of property tax to efficiently and equitably broaden the tax base	• Strengthen the property tax system by clarifying property location, boundaries and ownership and consider using value-based assessment as a proxy for wealth to make the tax progressive. • Scale-up to the whole country the software and system for collecting property tax related data which has been piloted in 90 districts, and consider integrating them with other land-related systems. • Leverage property ownership data to improve the auditing of other taxes by helping auditors locate taxpayers (credible audit and penalties make "nudge" initiatives, like taxpayer outreach, more effective).

Eliminate Ineffective Exemptions (VAT)	• Remove counterproductive exemptions, with a focus on addressing unwanted secondary effects making Ghanaian commodities less competitive internationally and in the domestic economy (examples include the exemptions of agricultural inputs, fuel, and transportation). • If there is a need to deliver relief for specific commodities like basic groceries, consider zero-rating which better targets the program and minimizes foregone revenue that benefits beneficiaries who do not need the relief (examples include agricultural produce): » Zero-rating does not put domestic production at a competitive disadvantage; » Zero-rating allows domestic production to compete with imports and makes exports more competitive on the international market.
Allow input tax credits (ITCs) on the NIHL and GETFL (VAT)	• Consider granting ITCs on NIHL and GETFL, with foregone revenue financed by increasing the VAT rate. » Note: the NIHL and GETFL generate unrecoverable tax throughout the supply chain; making Ghana's domestic production uncompetitive relative to imports and on the international market and distorting production by creating incentives for firms to bring the production of their inputs in-house or to merge with their suppliers.
Pay Tax Refunds Promptly (CIT and VAT)	• Pay refunds promptly to minimize interactions between taxpayers and the GRA, reduce the compliance burden and increase firms confidence: trust that they will be paid refunds limits incentives to circumvent the tax system or request special treatment (like exemption of VAT on inputs).

POLICY PRIORITY 3

Explore a greater role for environmental taxation

Consider ways to consolidate existing environmental taxes into one comprehensive instrument	• Complete review of existing environmental taxes and their individual impacts on tax revenues, prices and GDP. • Evaluate change in impact of consolidating environmental taxes and differential impact compared to a carbon charge.
Explore detailed design options for carbon pricing and ways to minimize impacts on lower-income households through transfers and other mechanisms	• Evaluate how other countries have dealt with issues of transfers to poorer households to compensate for fuel prices, impacts on competitiveness in manufacturing, counteracting impact on transport use and using revenues to fund direct public spending or reduction in labor taxes.
Conduct more detailed analysis on ways to incentivize more sustainable cocoa farming practices to limit deforestation and reduce forestry and land-use related emissions	• Explore feasibility of a cocoa feebate system and best practices of other countries that have introduced such systems, such as Côte d'Ivoire.

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