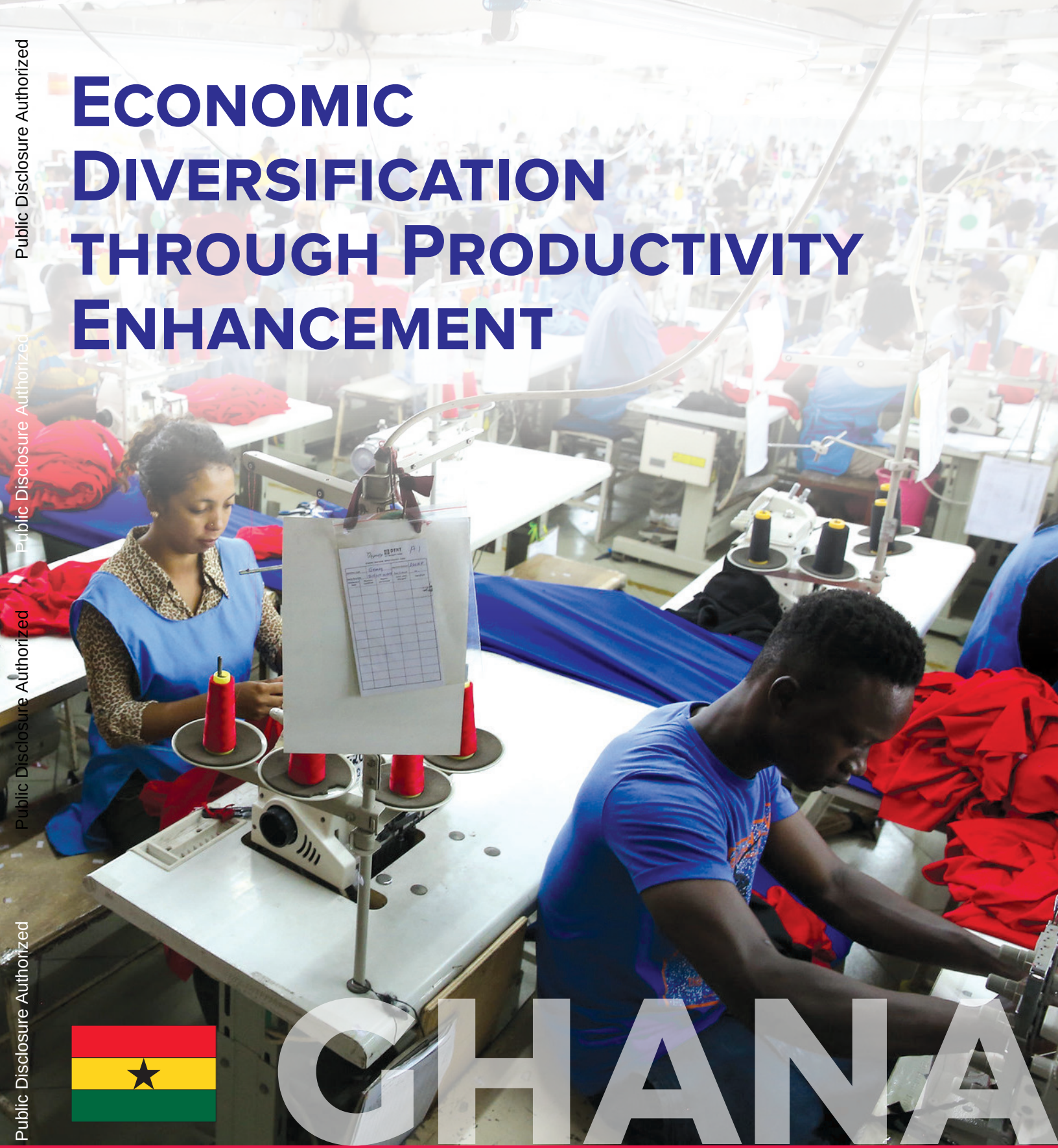
Economic Diversification through Productivity Enhancement



GHANA

June 2019

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ECONOMIC DIVERSIFICATION THROUGH PRODUCTIVITY ENHANCEMENT

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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ACRONYMS AND ABBREVIATIONS

AfCFTA	African Continental Free Trade Agreement
BI	Bank of Indonesia
CGAP	Consultative Group to Assist the Poor
DEA	Data Envelopment Analysis
EAP	Asia and Pacific region
ECOWAS	Economic Community of West African States
FDI	Foreign Direct Investment
FGLS	Feasible Generalized Least Squares
FX	Foreign Exchange
GDP	Gross Domestic Product
GTAP	Global Trade Analysis Project
HCI	Human Capital Index
ICT	Information and Communications Technology
IMF	International Monetary Fund
KOR	Republic of South Korea
LIC	Low Income Countries
LMIC	Lower-Middle Income Countries
LPI	Logistic Performance Index
M&A	Mergers & Acquisitions
MENA	Middle East and North Africa
MNE	Multi-National Enterprises
MSME	Micro, Small & Medium Enterprises
OJK	Indonesian Financial Authority
NPL	Non-Performing Loan
PPP	Purchasing Power Parity
R&D	Research and Development
RCA	Revealed Comparative Advantage
SSA	Sub-Saharan Africa
TFP	Total Factor Productivity
TVET	Technical and Vocational Education and Training
UNSD	United Nations Statistics Division
WDI	World Development Indicators

EXECUTIVE SUMMARY

Introduction

After nearly a decade of strong growth fueled by the boom in commodity prices, Ghana's economy remains undiversified and vulnerable to external shocks. About 40 percent of workers work in non-wage agriculture and most urban workers are in low-productivity informal jobs. Ghana has also suffered in recent years from recurrent macroeconomic instability, linked to election and commodity cycles; a self-inflicted energy crisis; and a financial sector weakened by high levels of bad loans. Going forward the Government's strategy is to achieve inclusive and sustainable growth, with the private sector as the main drivers for a more diversified domestic and trade economy. In the words of Ghana's President, the aim is to "build the most business-friendly economy in Africa" and foster the competitiveness of Ghanaian firms. To achieve this, the Government agenda includes improving the business environment and fostering trade; investing in infrastructure; and diversifying the economy beyond hydrocarbons, cocoa and gold. This report strives to analyze the main challenges for economic diversification from a productivity angle.

In looking at a set of high-growth economies of the past, the Growth Report 2008 identified common characteristics of successfully applied growth models—the "ingredients of growth"—to inform policy formulation around the world. Accordingly, World Bank (2008) argues that for an economy to grow there is a need for high levels of investment and savings. Investment in human capital is as important as investment in the more visible, physical capital of a country. This is particularly important in natural-resource rich countries. To foster structural change and growth an economy needs access to technology and knowledge through an active transfer of know-how. Export-led growth is associated with high-growth countries, especially if it is of a diversified nature. Developed financial sectors that are open and connected with international financial markets are conducive to economic growth. Finally, macroeconomic stability is one of the main pre-conditions for ensuring long-term growth of an economy.

Ghana's mixed growth performance since independence in 1957 shows distinct challenges of the country to close the growth-gap to the successful economies of the world. From independence in 1957 until 1993, growth was largely stagnant and heavily relied on agricultural output. Between 1994 and 2005, growth sharply accelerated, and per capita GDP doubled in just 13 years. And in 2006–2017, per capita GDP growth averaged 4.4 percent a year, and per capita GDP almost doubled in just 10 years. These shifts in the economic expansion of the country helped to reduce poverty, putting Ghana at the forefront of poverty reduction in Africa since the 1990s; but the growth elasticity of poverty is on a declining trend. At the same time, the Ghanaian economy's long-term growth record lags when compared internationally.

Still, Ghana's economic structure changed significantly over the years and nowadays the service and natural resource sectors are the dominant forces in the economy. *On the supply side*, from the 1990s to

the 2000s, there has been a significant increase in the contribution of the service sector and other industries (including mining and oil) as a greater number of people found economic opportunities in those sectors, and Ghana started producing oil. For instance, in 2011, out of 14 percent of real GDP growth recorded, 5.9 percent was attributed to the natural resource sector, and 5.4 percent to the oil sector. Because of those changes, the share of the service sector in GDP increased to about 52 percent in 2012–2016 and the share of the agricultural sector declined to 21.2 percent in 2012–2016. *On the demand side*, commodity exports are currently the dominant source of growth. But those exports are extremely concentrated: almost two-thirds of all goods exports are concentrated in two products: gold (48.7 percent of total goods exports) and crude oil (17.3 percent of total goods exports).

As a consequence of the recent structural change observed in the economy, the contribution of total factor productivity to growth is on a declining path. There is a concentration of jobs in low-productivity growth service activities while labor productivity is declining in the manufacturing sector. And structural factors have a declining impact on growth in Ghana. While in the period 2000–2015 growth was mainly driven structural factors, their impact lately declined and key macroeconomic factors had a marginal contribution to growth. Stimulating productivity could help unleash new sources of growth, as witnessed in Ghana's aspirational peers. Increasing investment outside the natural resources sector and mobilizing more domestic savings will be essential to raise productivity and diversify the economy, and to sustain growth.

Ghana's shift to services sectors only marginally contributes to labor productivity growth. In the traditional form of structural change, labor and economic activity move from agriculture to higher-productivity sectors like manufacturing. In Ghana, however, labor moved into the service sector, albeit with higher productivity than agriculture, but where productivity was fairly stagnant over time. Since the 2000s, an increasing number of people who moved to services found jobs in wholesale and retail trade. But this subsector has a very low productivity that over time experienced even negative labor productivity change. This suggests that the capacity of the service sector to absorb labor in a higher-productivity sector (higher than agriculture) has decreased since the 1990s.

The concentration of economic activity in natural resources increases economic volatility and complicates macro-management. Amid new oil revenues, political consensus on sustainable fiscal management has been difficult to achieve and fiscal volatility has increased markedly. Deeper deficits followed by stabilization measures and then further slippage cost Ghana about 0.3 percent of growth annually during 2000–2015, with the heaviest toll in the early 2010s (0.7 percent a year). This is confirmed by analysis using the approach of Araujo et al. (2016); Ghana's performance is rather average in terms of structural policies among comparator countries but significantly falls short in terms of macroeconomic stabilization policies. Macroeconomic management is further complicated by the fact that Ghana has been affected by emerging signs of Dutch disease and in fact even a pre-source curse. Despite Ghana having sovereign wealth funds, the country lacks efficient institutions that could improve the management of fiscal risks and contribute to fiscal sustainability and transparency.

And the provision of basic public services remains a challenge. Firms' executives identified financial system, infrastructure, and macroeconomic volatility as key competitiveness issues in Ghana. In comparison with the average lower-middle-income countries and Sub-Saharan African countries, the quality of the educational system (primary and tertiary levels), roads, and ports is better in Ghana. However, Ghana falls

below its aspirational peers in the above-mentioned areas, as well as health and electricity. For instance, the economic impact of diseases such as malaria, tuberculosis, and HIV/AIDSs is still severe in Ghana.

Moving to a more diverse production and trade structure would help Ghana to overcome (some of) the challenges holding the socio-economic development back in the country. Diversification supports job creation and higher growth rates. More diverse economies have more dynamic private sectors and are better able to move into activities with expanding global demand and to participate in global value chains. Economic diversification also helps reduce vulnerability to external shocks that can undermine prospects for longer-term economic growth. The world's poorest countries, many of which are often small or geographically remote, landlocked and/or heavily dependent on primary agriculture or minerals, tend to have the most concentrated economic structures. This creates challenges in terms of exposure to sector-specific shocks, such as weather-related events in agriculture or sudden price shocks for natural resource commodities. Growth also tends to be unbalanced in the case of natural resource dependent countries or slow and difficult to sustain in agrarian ones. Poverty-reducing, trade-driven, growth has been particularly difficult to achieve in countries whose economies are heavily dependent upon primary commodities (World Bank 2019a).

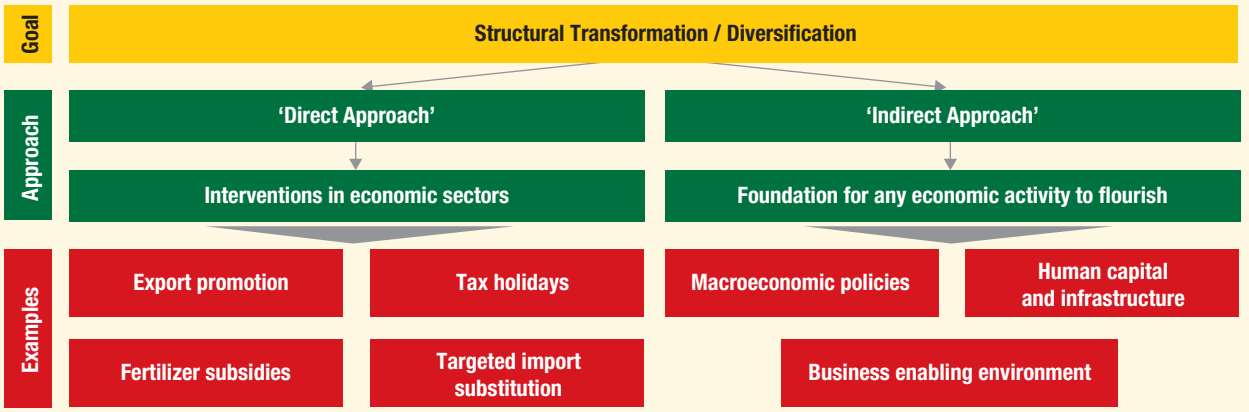
But what kind of growth and diversification suits Ghana? There is a case for Ghana to approach growth through diversification from two angles: the production and the endowment base, both of which rely on the effective utilization of key institutions:

- *Indirect approach (endowment base).* To connect growth and diversification, World Bank (2014) argues that economies successful in their diversification efforts can *broaden their endowments base* by maximizing three types of institutions to deliver services that ultimately increase productivity. These institutions include the abilities to manage natural resource rents, to provide public services, and to regulate economic activity (and foster a business-enabling environment).
- *Direct approach (production base).* The *production base can be expanded* by either adding new commodities to the aggregate production mix, or through simply upgrading of the existing exports. A promising way to expand the production base is to upgrade the existing commodity exports. Cocoa is an illustrative example: Ghana is the world's second largest producer of cocoa, but Ghanaian chocolate is nearly absent on international markets. Developing basic refining capabilities to be able to export more differentiated products than just raw cocoa could be one way to expand the existing production base. Another example is groundnuts, Ghana's second largest agriculture commodity export, after cocoa.
- *Taken together the direct and indirect approaches define a coherent way for Ghana to diversify.* While the enlargement of endowments will require some time, the enlargement of production, if based on the existing production mix, has the potential to have a quick impact. Such an approach takes into consideration the current and future structure of the economy as well as the need for long-term institution building as a foundation for diversification through broadening the national endowment base. This study's underlying concept of analysis is based on the understanding of this framework.

Constraints to Firm-Level Productivity In Way of Economic Diversification

Firm productivity is higher in Ghana than in most regional peers, but there is significant potential to raise it further to global levels. Half of Ghanaian manufacturing firms have a labor productivity below $3,969,

TWO APPROACHES TO DIVERSIFY AN ECONOMY



Source: Adaption of World Bank (2016), drawing on World Bank (2014).

the median productivity level in Ghana (*Ghana 2013 Enterprise Survey*). This is above the levels observed in Cameroon (one of the peer countries used) and Indonesia (an aspirational peer country). Foreign-owned firms have labor productivity levels of far more than double of domestic firms (US$8,901 vs US$3,307). Likewise, exporters' labor productivity far exceeds non-exporters (US$10,125 vs US$3,555). An income per capita based analysis suggests that this median productivity level could be higher or even increase to the one recorded in Vietnam; one of Ghana's aspirational peers.

Female-owned firms show particularly low productivity levels in Ghana. This can be explained by the type and size of their activities, and the existence of gender-based inequalities. About 56.1 percent of female-owned enterprises are in food, hotel, restauration, and retail activities, and 84.2 percent of female-owned firms are small (*Ghana 2013 Enterprise Survey*). However, the recent productivity of the service sector has been sluggish, and small firms have low productivity. In addition to these sectoral specificities, in Ghana, there is an unequal care burden between men and women (within households) that reduces the potential learning time of women; a period that could have been used to build business skills or other specific skills. The gender gap in productivity level is confirmed in econometric analyses. The median firms with a minority of female owners have a labor productivity that is 2.6 times of the productivity of female-owned firms. While this situation is partially explained by the small size and low capital intensity of female-owned firms, there are signs of lower efficiency in the latter as: (1) their total factor productivity (TFP) is lower than in female-minority firms; and (2) the labor cost per unit of value-added is higher than either the national median or in female-minority firms.

As expected, productivity increases alongside firm size; but there are questions around the quality of innovations reported by firms. The positive impact of firm size on the productivity level suggests that larger firms may have access to more resources for innovation and marketing, and that it positively affects productivity. This is usually the case in Enterprise Surveys, and Ghana is not an exception (*Ghana 2013 Enterprise Survey*). The cost of production factors partially explains differences in productivity as capital cost and labor cost are respectively higher and lower than in aspirational peers. In combination, the analysis suggests that the high cost of capital, inadequate human capital and/or inefficiencies are dragging productivity in Ghana, but globalization is an opportunity.

Firms' access to finance is a major business constraint because it's lack impedes asset purchase and innovation activities. About 62 percent of Ghanaian firms in the survey mentioned access to finance as a major or severe obstacle to their current operation (*Ghana 2013 Enterprise Survey*). An international comparison with peer countries confirms firms' perception of access to finance as a major constraint because Ghana has the lowest proportion of purchased fixed assets financed through banks and because non-bank financial institutions access to finance is uneven and collateral requirement represent a major obstacle to loan access. Large firms are significantly more likely to have a loan or a line of credit—50.8 percent of large firms vs. 19.9 percent for small firms. The need for a loan as well as rejection rates are inversely correlated with firm size: the larger the firm the lower the need for a loan and the lower the rejection rate.

Firms identified electricity outages as major constraint to conducting business, and losses due this issue are significantly reducing productivity levels. About 61 percent of firms identify electricity as a major constraint (*Ghana 2013 Enterprise Survey*). Moreover, almost nine out ten firms experience electrical outages, well above the regional average and levels recorded in aspirational peers. Yet, overall, access to electricity is likely to be less of a problem now than during the Ghanaian 'Dumsor' energy crisis of 2014/15. Then, there were dramatic, frequent, and largely unpredictable outages around the country (Hardy and McCasland 2017).

Access to well located, well serviced, and affordable industrial land is a binding constraint in Ghana, especially for foreign direct investment (FDI). A significant number (46.3 percent) of respondents to the survey note access to land to be a constraint against pursuing their business activities (*Ghana 2013 Enterprise Survey*). World Bank (2017a) reports that access to land for large-scale investment continues to be complex and costly, with one case taking as much as six years to secure its land lease. The market rate for one acre of land in the TEMA Free Zone (the only operational Special Economic Zone in Ghana, already at full capacity) is $350,000, reportedly the highest price in West Africa. Ghana's Special Economic Zone (SEZ) regime remains in in the inception stage despite the relative success in filling the TEMA Free Zone, two hours outside of Accra.

Human capital and insufficient access to qualified labor is a concern particularly for a subset of companies operating at the technological frontier. Overall, only 15.3 percent of respondents to the survey cite human capital as a major constraint (*Ghana 2013 Enterprise Survey*). Yet, Ghana's human capital index (HCI) is low and does not match with its income level. Ghana's HCI is lower than the average of its income group, and below the ones of its aspirational peers. Differences with peers primarily originate in the adult survival rate and educational quality. Based on Ghana HCI, it could be inferred that the Ghanaian labor force has a learning gap of 5.9 years; such a substantial gap may indicate future issues for the country's productivity and innovation capacity as it develops further and the share of companies operating at the technological frontier will increase.

Access to backbone services is also often identified as an impediment to Ghana's economic upgrading and vertical diversification process. The provision of competitive backbone services is crucial to create the conditions for a more diversified and sophisticated productive structure (World Bank 2017). For example, in order for Ghana to keep its leading position as an exporter of cocoa beans, the knowledge for adapting its cocoa bean growing techniques to meet new, more stringent EU regulations on cadmium content in cocoa will be required. This will require tapping into expert consulting services so that farmers implement the needed mitigation techniques. Increased efficiency in backbone services provision could be achieved by encouraging competition at home and by reducing the regulatory burden on firms.

Increasing Investment for Productivity Enhancements and Economic Diversification

The importance of capital accumulation to growth has steadily increased over the past three decades. Over the period from 1991 to 1998 capital accumulation contributed 0.52 percentage points to growth at a time when growth was driven primarily by TFP and labor growth. Since then, the importance of capital has increased substantially in light of large-scale capital accumulation in natural resource sectors such as oil and gas. Between 2012 and 2016, capital contributed 2.56 percentage points to growth, far outpacing contributions from labor accumulation (1.59 percentage points) and TFP; the latter, in fact, has been negative since 2012 (–0.29 percentage points)**.**

Capital accumulation was accompanied by strong increases in total investment since 2011; but this investment had only limited impact on economic diversification as it was primarily driven by FDI inflows in the hydrocarbon sector. After a decline between 2000 and 2010, total investment has substantially increased since 2011 as the country continues to investment in its hydrocarbon sector. This surge in investment was primarily driven by foreign direct investment inflows; the latter representing about 54 percent of total investment in 2013–2017. Despite these increases, total investment has been below levels recorded in aspirational peer countries.

To maintain high rates of investments, especially domestic private investment, there is a need to mobilize more domestic savings in the economy. To maintain an economic expansion of seven percent and become an upper middle-income country by 2040, long-term growth analyses suggest that investment would have to reach 30 percent of GDP by 2022 and remain at around 31–33 percent of GDP for the remaining period. These high levels of investment needed are currently not matched by equivalent high rates of gross savings rates. Ghana's gross savings rate stood only at 15.5 percent of GDP on average between 2007 and 2017, indicating a significant mismatch. The average gross savings rate for lower-middle income countries reached 29.3 percent of GDP during this period, which is almost double the Ghana rate. Deepening financial development and attracting more FDI in the non-resource sector commensurate with the domestic investment-savings gap will hence be key to maintaining capital accumulation levels that not only drive high economic growth but also support a more diversified economy.

Unfavorable interest rates and high collateral requirements constrain access to finance and represent an impediment to channeling savings into productive (investment) use. The low level of loans used to finance capital goods can be explained by the fact that firms consider interest rates are unfavorable and collateral requirement are too high. Nominal lending rates are also high in Ghana in comparison with lower-middle-income countries, and aspirational peers. High interest rate can be explained by macro-financial conditions, banking sector structure, and business environment variables. Challenging macro-financial conditions help maintain high nominal lending rates, which emerged from higher sovereign risks, and substantial inflationary pressures. Except for the period 2010–2012, inflationary pressures have been quite high in Ghana, in comparison with both lower-income and low-income countries (LIC and LMIC respectively), among which some aspirational peers. Inflation is fueled by fiscal dominance and foreign exchange (FX) pass-through in Ghana (International Monetary Fund 2018).

In addition, credit risks substantially increased as non-performing loans have been on the rise since 2014, and lower competition levels positively weighed on the dynamic of lending rates. Higher credit risks are reflected by the surge in non-performing loans to 22.7 percent in 2017 from 11.3 percent of gross

loans in 2014. Simultaneously, credit information coverage remains low, and contract enforcement remains challenging; with consequences on collateral requirements. Ghana has three credit bureaus since the adoption of the Credit Reporting Act in 2007 and they have credit data on about only 22 percent of the adult population, in comparison with around 86 percent in Malaysia, for instance.

With inflation easing since 2018, Bank of Ghana was able to gradually reduce lending rates, albeit from a very high level. Ghana achieved, for the first time in the last five years, a single-digit inflation in 2018 (9.8 percent, down from 12.4 percent in 2017). This was the result of the tighter monetary policy stance and lower non-food inflation. The Bank of Ghana used monetary restraints including the placement of a moratorium on Central Bank financing of the Government, as part of the program with the IMF between 2015 and 2018. The moderation in inflation created room for monetary policy easing.

Other countries with high lending rates have used different types of direct policy interventions but they yielded mixed results. Governments from emerging and developing economies with lending rates mostly used direct policy interventions to address this issue. Direct policy interventions were related to interest rate caps, credit guarantee mechanisms, or interest rates subsidies, and were used in Brazil, several transition economies in the European and Central Asian countries, Indonesia, Laos PDR, and in several countries in the Middle East and North Africa (MENA) region.

A cluster analysis of top reforming countries suggests that sovereign risks and credit risks are strongly correlated with nominal lending rate and lending-deposit spreads. Based on an analysis of clusters of top developing countries that significantly reduced nominal lending rates and lending-deposit spreads between 2003 and 2017, it can be concluded that lower sovereign and credit risks were strong characteristics of this group of countries. For instance, between 2003 and 2017, one can find a strong correlation between both changes in external debt and changes in NPLs, and changes in nominal lending rates.

Ghana's commercial banks could further improve operational efficiency, which is still below several benchmarks, and digital technology could be a plinth to achieve such objective. Ghana's commercial banks overhead costs declined to 6.3 percent of total asset in 2017 from 8.4 percent in 2003, but still are above levels observed in both LMIC and LIC. Better utilization of digital financial services and payment systems could help reduce banks' overhead costs, and act as negative weight on lending rate dynamics. Much more, it would broaden the reach of financial instruments in the economy, which not only is good for social-economic development through more inclusive financial services but would also positively impact the savings rate in Ghana. To facilitate this the already thriving ICT sector, which has much potential for business-related investment in Ghana (World Bank 2017), could support the creation of a reinforcing ecosystem between tech entrepreneurs and the financial system in Ghana.

Increasingly, FDI is playing a role in stimulating growth, productivity, and diversification through services. To date, most of Ghana's FDI projects have been greenfield investments, particularly in the extractives sector. Yet, over time, Ghana has seen its share of FDI shift from natural resources to services. Although extractives made up the bulk of Ghana's FDI (2003 to 2016) in terms of new greenfield projects, the largest number of projects were in services. The shift from natural resource to services FDI tells a story of structural transformation through FDI. Services projects have over time increased (from 45 percent in 2003 to 2007 to 64 percent in recent years), while projects in extractives have diminished from a quarter of projects in 2003 to 2007, to only a fifth in recent years. Facilitating investment, and particularly FDI, in high-productivity services such as ICT would be an important step in advancing economic diversification in the country.

World Bank (2017a) pointed to the potential for private sector investment to provide ICT services-enabling infrastructure such as the developing the capacity in the electrical grid for cable deployment or the promotion of internet exchange points.

While Ghana clearly has a potential to attract FDI inflows in the non-resource sector, the country needs to achieve an increase of investment size to maximize the development impact. According to the Investing Across Sectors World Bank database, Ghana is one of the most open economies to foreign equity ownership in the Sub-Saharan Africa region as restrictions only exist in selected sectors. Yet, taxation and tax administration remain an issue in Ghana because firm executives flag it as a major constraint that can affect investment decisions. Comparisons with aspirational peers like Malaysia show that taxation negatively affects investment decision, and custom procedures are burdensome. For instance, to facilitate payment, the government of Malaysia relies heavily online tools for tax payments. Any decision about tax rates, which are part of the policy mix to attract FDI needs to be made in the context of each host country's fiscal space. In Ghana, such space is very limited for the foreseeable future. But other, facilitating measures to ease the burden for tax administration will remain a viable policy option for Ghana.

Other constraints to non-resource FDI include red tape and corruption, contract enforcement, and access to land. More than 40 percent of Ghanaian firms rated corruption as a major or severe constraint to their daily operation (*Ghana 2013 Enterprise Survey*). Ghana also lags on contract enforcement procedures; the latter being critical to foster investment. Ghana ranks 116th out 190 economies in *Doing Business 2019,* while aspirational peers such as Malaysia and Vietnam rank at respectively 33rd and 62nd. Furthermore, access to land is a major issue that would limit the occurrence of large investment in productive land, for instance, for the development of agribusiness.

Summing it All Up: Exploring Potential Pathways for Economic Diversification

In conclusion, a product and sector analysis shows and identifies those sectors with potential for future development. This analysis is based on the concept of "Economic Fitness" as part of the framework to identify promising segments in the economy in the spirit of the "direct approach" for diversification. It helps identify relatively short-term opportunities to expand the production base. In addition, the work provides options for a policy reform agenda that aims to broaden the endowment of the country, which was earlier labeled as "indirect approach" for diversification. Broadening endowments requires institutions and time. Combining both to identify complementary opportunities allows the development of a forward-looking medium-term diversification agenda. The two are interdependent. The direct approach is a means to identify promising sectors that can have targeted interventions to broaden the endowment in this sector; as such, these interventions also contribute to the indirect, broadening of the endowments in the whole economy. To illustrate: if better access to land is a required element in the institutional framework for a more diversified economy, access to land *with irrigation* is a very specific, targeted requirement for diversification through agriculture and agribusiness.

Utilizing a mix of direct and indirect approaches would help to identify short-, medium-, and long-term priorities to achieve economic diversification. In terms of indirect approaches, Ghana needs to reduce macroeconomic volatility, further develop human capital, invest in infrastructure to tap into the regional potential market, and improve the currently weak business environment and institutional framework. These elements are cross-cutting issues that are important to enhance productivity, and foreign and domestic investment in the non-natural resource sector. In addition, access to finance, a major constraint in

Ghana, is analyzed through the lens of high nominal interest rates in Ghana. The direct approach provides a glimpse into potential sectors that can be considered in an economic diversification strategy going forward. The chart below provides a summary of recommendations to consider for policy makers.

SUMMARY OF KEY POLICY RECOMMENDATIONS

"Direct Approach" – Identified Sectors	"Indirect Approach" – Laying the foundation	
Interdependences exist between "Direct" and "Indirect" Approach		
Short-term upgrading potential	**Reduce macroeconomic volatility**	
Agribusiness Chemicals	• Preventing fiscal cycles • Implementing an economic diversification strategy	• Medium-term • Long-term
	Improve human capital	
Textiles Extractives and processed resources	• Allocating substantial resources to address the shortcomings of the education systems, and the Government Education program • Restructuring the TVET system to better align job skills to the market demand	• Medium-term • Medium-term
Medium-term diversification potential	**Enhance connectivity**	
Agribusiness	• Invest in trade and logistics infrastructure	• Medium- to long-term
Extractives and processed resources	**Strengthen the institutional framework**	
Plastics and rubber Information and Communications Technology	• Improve procedures for contract enforcements • Reform land administration and systems to ease secured access to land • Streamline tax policy and tax administration procedures • Anti-corruption in public service provision	• Medium-term • Long-term • Medium-term • Medium-term

Notes: Short-term = 1–3 years; Medium-term = 3–6 years; Long-term = more than 6 years.

GROWTH ANALYSIS AND MACROECONOMIC CHALLENGES

1

1.1 Growth Analysis

1.1.1 *What Kind of Growth and Diversification Suits Ghana?*[1]

After nearly a decade of strong growth fueled by the boom in commodity prices, Ghana's economy remains undiversified and vulnerable to external shocks. About 40 percent of workers work in non-wage agriculture and most urban workers are in low-productivity informal jobs (World Bank 2018). Ghana has also suffered in recent from recurrent macroeconomic instability, linked to election and commodity cycles; a self-inflicted energy crisis; and a financial sector weakened by high levels of bad loans. Going forward the Government's strategy is to achieve inclusive and sustainable growth, with the private sector as the main drivers for a more diversified domestic and trade economy. In the words of Ghana's President, the aim is to "build the most business-friendly economy in Africa" and foster the competitiveness of Ghanaian firms. To achieve this, the Government agenda includes improving the business environment and fascinating trade; investing in infrastructure; and diversifying the economy beyond hydrocarbons, cocoa and gold. This report strives to analyze the main challenges for economic diversification from a productivity angle.

In looking at a set of high-growth economies of the past, the Growth Report 2008 identified common characteristics of successfully applied growth models—the "ingredients of growth"—to inform policy formulation around the world. The Growth Report (World Bank 2008) analyzed the experiences of the thirteen fastest growing economies[2] in the world that managed to sustain growth rates of at least seven percent in the last 25 years (or sometimes longer). Six of these thirteen economies even managed to reach the per capita income level of industrialized economies.[3] The following is a short selection of those "ingredients of growth" that could be relevant for Ghana's future development.

For an economy to grow there is a need for high levels of investment and savings. This "ingredient" of growth is related to the need for an initial accumulation of resources that can be used later in the production of goods and services. Typical for the high-growth economies is that their overall investments (public and private) are around 25 percent of GDP. Within this envelope and especially shown by some of the successful Asian countries (China, Thailand, and Vietnam), the public investment in the infrastructure sector was between 5 and 7 percent of GDP. The 2008 Growth Report emphasizes the importance of domestic savings as a counterpart of investments. Attracting FDI is important, but the Growth Report argues that an economy should not only rely on foreign savings to avoid vulnerability to fluctuations in inflows, especially in downturns. The importance of domestic savings is their stability and relative predictability.

Investment in human capital is as important as investment in the more visible, physical capital of a country. Investments in the health, knowledge, and skills of the people—human capital—are as

[1] This summary is an excerpt of World Bank (2016b): Sudan Country Economic Memorandum—Realizing the Potential for Diversified Development.

[2] Botswana, Brazil, China, Hong Kong –China, Indonesia, Japan, the Republic of Korea, Malaysia, Malta, Oman, Singapore, Taiwan – China, and Thailand.

[3] Hong Kong – China, Japan, the Republic of Korea, Malta, Singapore and Taiwan – China.

important as investments in more visible, physical capital of a country. This is particularly important in natural-resource rich countries. Investments in human capital will generate opportunities for growth, including opportunities unforeseen at the time of the investment. But those investments do not translate mechanically into growth. Other factors can intervene. For instance, the timing of education spending matters as well as the amount. Investments in early childhood raise the returns to investments later in life—children must learn how to learn. If they do not, they may never regain the lost ground, leaving a society sapped of potential and scarred by inequality (World Bank 2008). Still, every country that sustained high growth for long periods put substantial effort into schooling its citizens and deepening its human capital. Conversely, considerable evidence suggests that other developing countries are not doing enough.

To foster structural change and growth an economy needs access to technology and knowledge through an active transfer of know-how. Technology transfer and inflow of know-how is usually associated with FDI inflows. In successful countries, domestically owned companies can absorb technologies and know-how from advanced countries, thereby compensating for the relatively low capacity and resources for research and development.

Export-led growth is associated with high-growth countries, especially if it is of a diversified nature. The export sector played a critical role in the thirteen high-growth countries, especially in the initial period of their growth process. Much more, policies to facilitate exports are most effective if they support export diversification. Designing policies for non-natural resource exports is particularly important in resource-rich countries.

Developed financial sectors that are open and connected with international financial markets are conducive to economic growth. Development of the financial sector is particularly relevant because of its ability to support the goal of high savings for high investments. A more developed financial system increases the level of financial inclusion, thereby helping the economy to better mobilize savings and to allocate them more easily to investment needs. Consequently, the Growth Report 2008 encourages policies that aid the development of financial systems. Another complementary determinant of growth is the financial openness of a country that, in the long run, aids the goals of financial development and deepening.

Last but not least, macroeconomic stability is one of the main pre-conditions for ensuring long-term growth of an economy. Yet, the Growth Report does not offer a unified definition of "macroeconomic stability." Instead, it points to the fact that monetary and fiscal policy makers hold the keys for macroeconomic stability in their hands. To this end, the Growth Report emphasizes the need for independent central banks. In terms of fiscal policy, the lessons from high-growth countries show that policies that avoid high budget deficits over long periods of time along with efforts to keep debt-to-GDP ratios at sustainable levels pay off positively over time. In addition, an effective and committed government, clearly focused on long-term growth objectives, is needed to maintain macroeconomic stability.

Economic diversification is a key element of economic development in which a country moves to a more diverse production and trade structure. First, diversification matters as it supports job creation and higher growth rates (Hesse 2008). More diverse economies have indeed more dynamic private sectors and are better able to move into activities with expanding global demand and to participate in global value chains (Abouchakra and al. 2008, Gelb 2010, Rodrik 2005). Second, economic diversification helps reduce increased vulnerability to external shocks that can undermine prospects for longer-term economic growth (World Bank 2019a). The world's poorest countries, many of which are often small or geographically remote, landlocked and/or heavily dependent on primary agriculture or minerals, tend to have the most concentrated economic structures. This creates challenges in terms of exposure to sector-specific shocks,

such as weather-related events in agriculture or sudden price shocks for natural resource commodities (World Bank 2019a). Growth also tends to be unbalanced in the case of natural resource dependent countries or slow and difficult to sustain in agrarian ones. Poverty-reducing, trade-driven, growth has been particularly difficult to achieve in countries whose economies are heavily dependent upon primary commodities (World Bank 2019a).

Economic diversification helps thus to manage volatility and provide a more stable path for equitable growth and development. Successful diversification is all the more important in the context of slowing global growth and the imperative in many developing countries to increase the number and quality of jobs. Moving labor from low productivity employment, mainly in agriculture, to higher productivity jobs in a range of mostly urban activities characterized by strong agglomeration economies is imperative for sustained growth. Countries in East Asia made such a growth transition in the 1990's through reliance on exports of labor-intensive manufactures. The challenge today for many developing countries is not only to grow labor-intensive manufacturing, but also value-adding agribusiness, horticulture, and selected services, activities that are all at once labor-intensive, tradable and value-adding (World Bank 2019a).

Institutions are critical to the diversification of the endowment base of the economy. To connect growth and diversification, World Bank (2014) argues that economies successful in their diversification efforts can broaden their endowments base by maximizing three types of institutions to deliver services that ultimately increase productivity. These institutions include the abilities to manage natural resource rents, to provide public services, and to regulate economic activity (and foster a business-enabling environment).

- The *ability to manage natural resource rents* refers to the ability to pursue overall stabilizing macroeconomic policies of which stable fiscal management is key, sometimes achieved with stabilization funds for natural resource rents.
- The *ability to provide public services* relates to the ability of governments to invest in the human capital of the younger generation and to build infrastructure that can be used for forward-looking economic activities in the long-term.
- The *ability to regulate economic activities* refers to the Government's capabilities to establish and nurture a business-enabling environment.

But in the short term, expanding the production base could help kick-start diversification. Ghana's export and trade levels are above other countries at similar levels of development, but they are very concentrated. Ghana's overall trade share of GDP was 88.6 percent in 2016 and Ghana's overall export share of GDP was 43.9 percent (World Bank, DEC Country Development Diagnostics, cited in World Bank 2018). However, Ghana's exports are concentrated in four categories: cocoa, gold, petroleum, and ICT and professional services, which make up most of service exports. Non-natural resource exports have been flat over time, reflecting a relatively weak overall trading environment and low integration with supply chains. Natural resources in the country tend to be exported in unrefined raw states, exposing Ghana to volatile commodity cycles and below-potential export rents.

The production base can be expanded by either adding new commodities to the aggregate production mix, or through simply upgrading of the existing exports. One recent example of expanding the production mix was the Government's approach to develop gas exploration, for instance through the Sankofa gas field in 2015; another example is the Government's desire to develop an integrated bauxite production base, which was kickstarted by a 2018 Financing Arrangement with China (IMF, 2018). Such expansion of the production mix requires large-scale investment, which if guaranteed by the Government could have a detrimental impact on long-term debt sustainability. An alternative way to expand the production base is to upgrade the existing commodity exports. Cocoa is an illustrative example: Ghana is the

world's second largest producer of cocoa, but Ghanaian chocolate is nearly absent on international markets. Developing basic refining capabilities to be able to export more differentiated products than just raw cocoa could be one way to expand the existing production base. Another example is groundnuts, Ghana's second largest agriculture commodity export, after cocoa.

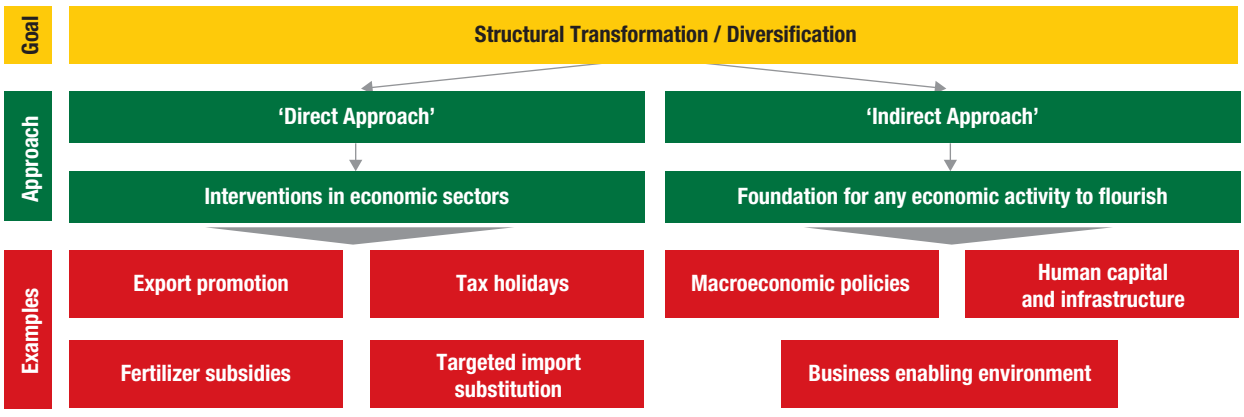
So, what kind of growth and diversification suits Ghana? There is a case for Ghana to approach growth through diversification from two angles: the production and the endowment base, both of which rely on the effective utilization of key institutions (Figure 1):

- *Indirect approach (endowment base).* To connect growth and diversification, World Bank (2014) argues that economies successful in their diversification efforts can *broaden their endowments base* by maximizing three types of institutions to deliver services that ultimately increase productivity. These institutions include the abilities to manage natural resource rents, to provide public services, and to regulate economic activity (and foster a business-enabling environment).
- *Direct approach (production base).* The *production base can be expanded* by either adding new commodities to the aggregate production mix, or through simply upgrading of the existing exports. A promising way to expand the production base is to upgrade the existing commodity exports. Cocoa is an illustrative example: Ghana is the world's second largest producer of cocoa, but Ghanaian chocolate is nearly absent on international markets. Developing basic refining capabilities to be able to export more differentiated products than just raw cocoa could be one way to expand the existing production base. Another example is groundnuts, Ghana's second largest agriculture commodity export, after cocoa. But increased processing and diversifying into new products based on existing production requires significant investment in production facilities and building new relationships with customers in foreign markets. If that cannot be shouldered through increased private investment (foreign and domestic), a more accessible alternative would be to upgrade the quality of existing export baskets and selling them at a higher price through improvements to National Quality Infrastructure & Branding (Portugal et al. 2019).

1.1.2 *Key Growth Drivers*

Since independence in 1957, Ghana's long-term growth dynamics have been mixed and can be divided into three distinct periods. From independence in 1957 until 1993, growth was largely stagnant and heavily relied on agricultural output. Between 1994 and 2005, growth sharply accelerated, and per

FIGURE 1: Two Approaches to Diversify an Economy



Source: Adaptation of World Bank (2016b), which drew on World Bank (2014).

capita GDP doubled in just 13 years. During this period, Ghana undertook several structural reforms resulting in a rapid increase in total factor productivity (TFP) with a shift of labor from agriculture to the service sector. In 2006–2017, per capita GDP growth averaged 4.4 percent a year, and per capita GDP almost doubled in just 10 years (Figure 2a). Growth during this period was considerably above the averages of non-high-income, Sub-Saharan African (SSA) countries (2.0 percent) and other low-income countries (LICs) (2.6 percent) and slightly above the average of lower-middle-income countries [LMICs] (4.3 percent). The initial boom during this latter period mainly reflected increased prices for Ghana's main commodity exports, notably gold and cocoa, and the start of commercial oil production in 2011.

Drivers of the economic expansion changed significantly over the years; more recently, the service and natural resources sectors provide the main sources for growth. On the supply side, between 1990s and 2000s, there has been a significant increase in the contribution of the service sector and other industries (including mining and oil) as a greater number of people found economic opportunities in those sectors, and Ghana started producing oil (Figure 2b). For instance, in 2011, out of 14 percent of real GDP growth recorded, 5.4 percentage points was attributed to the oil sector. Because of those changes, the share of the service sector in GDP increased to about 52 percent in 2012–2016 and the share of the agricultural sector declined to 21.2 percent in 2012–2016 (Figure 2c).

On the demand side, commodity exports are the dominant source of growth. Commodity exports play an increased role in the expansion of the Ghanaian economy while investments, which had been quite volatile in 2006–2016, recently had a marginal contribution to growth (Figure 2d). In 2017, Ghana's goods export value totaled US$17.1 billion, making it the 70th largest exporter in the world. Almost two-third of all goods exports are concentrated in two products: gold, which represented 48.7 percent of the total exports of Ghana in 2017, and crude petroleum, which accounted for 17.3 percent of exports in the same year (MIT, Observatory of Economic Complexity 2017).

FIGURE 2: Growth Dynamics in Ghana

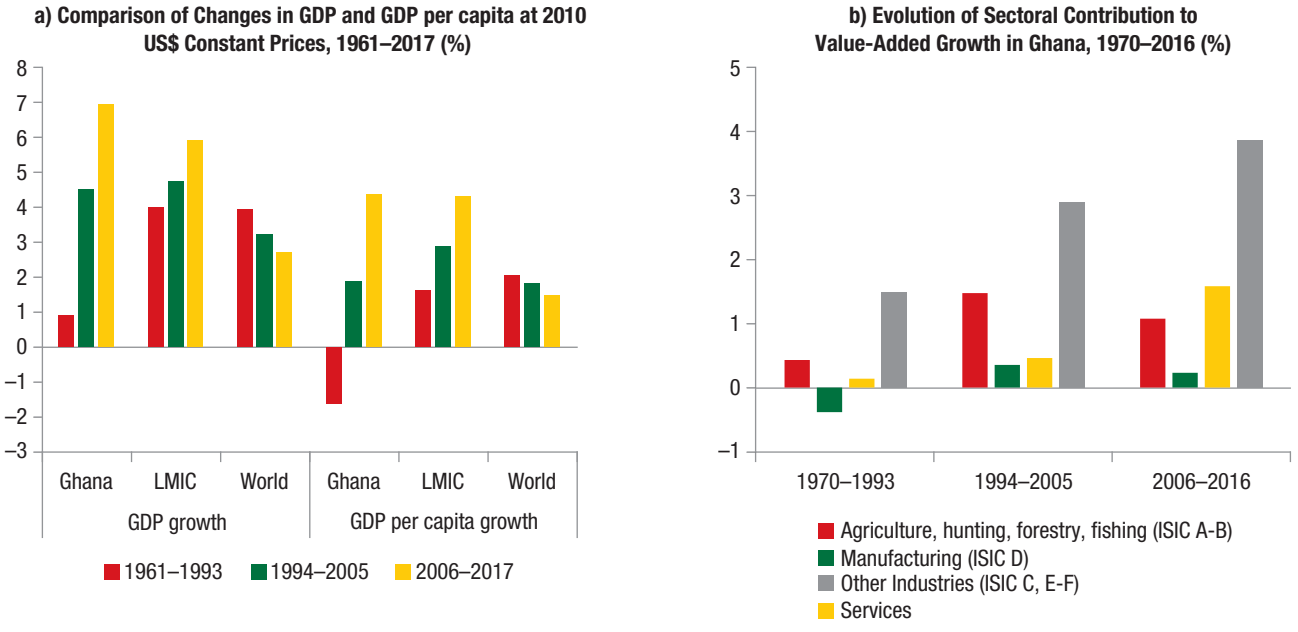


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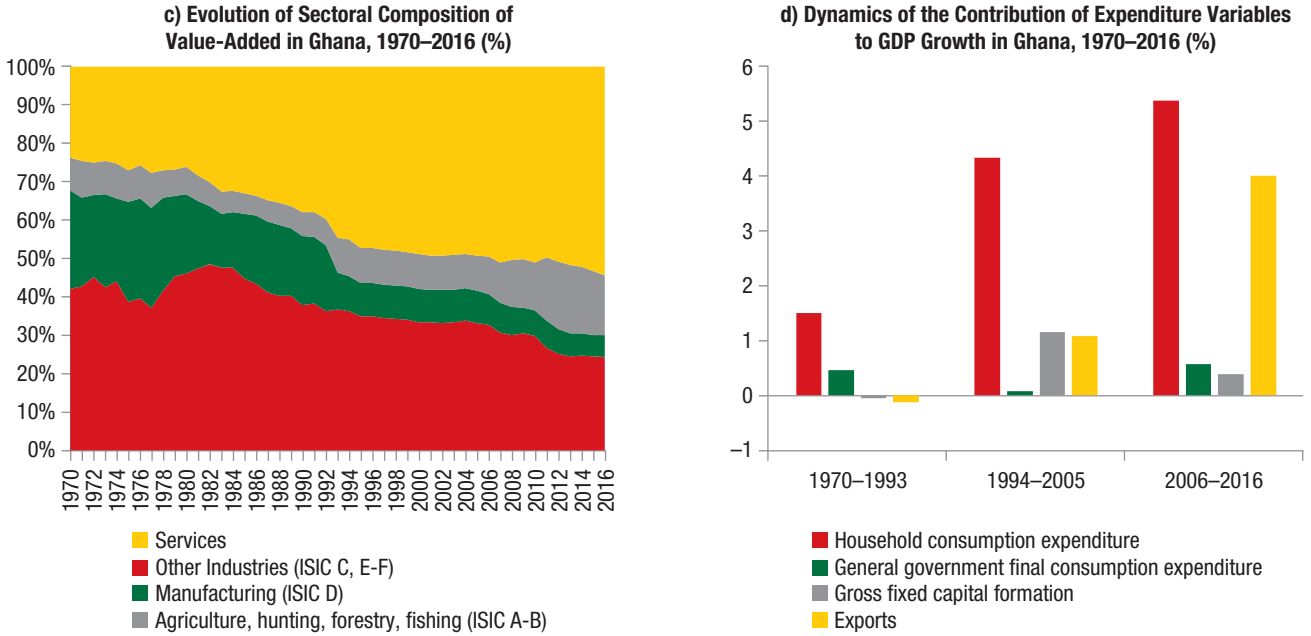
FIGURE 2: Growth Dynamics in Ghana *(continued)*



Source: Staff calculations based on data from World Development Indicators (WDI), and the United Nations Statistics Division (UNSD) data.

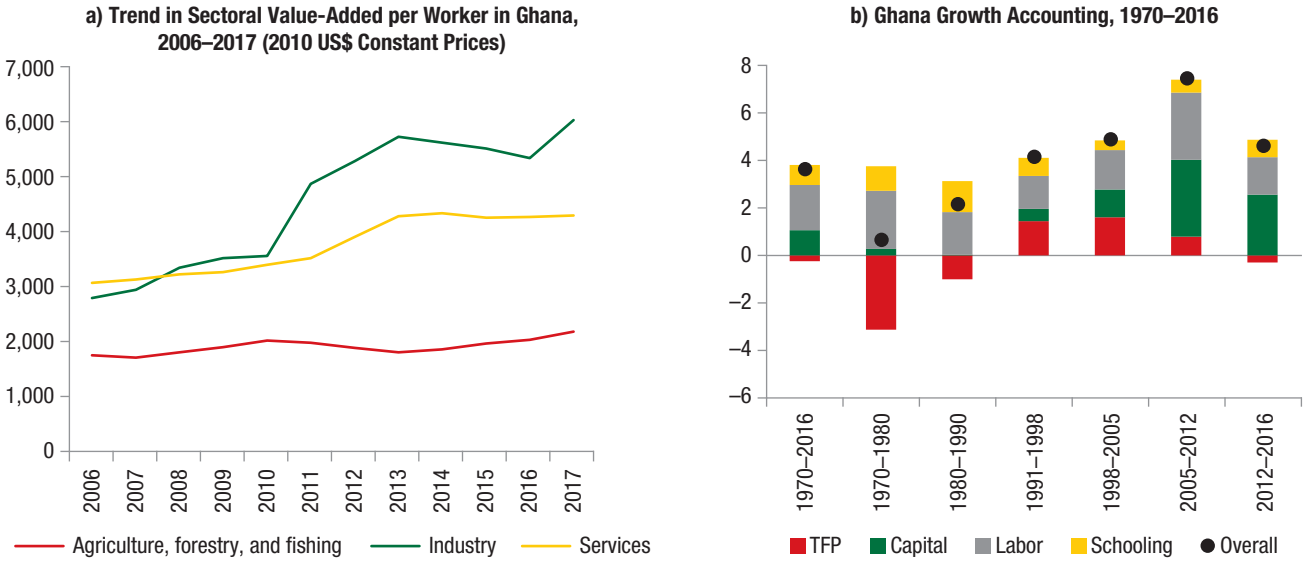
1.1.3 *Falling Productivity Growth*

The contribution of total factor productivity to growth is on a declining path, signaling an important change in input factors to the growth performance. While, a growth decomposition shows that capital accumulation has always been a major input to growth, the contribution of TFP declined and reached negative values during recent years (Figure 3). This situation is worrisome because TFP is generally associated with technological innovation and technical efficiency which both drive labor productivity. In fact, with Ghana not yet a frontier technological economy, it would be expected that TFP would have a greater contribution to the economic expansion. The contribution of capital accumulation to growth can be explained by recent investment in the natural resource sector.

There is a concentration of jobs in low productivity growth service activities while labor productivity is declining in the manufacturing sector. Overall, productivity levels increased in all sectors, mainly driven by within-sector effects. For all sectors excluding trade services, shifts in the labor force between sectors also contributed to positive productivity growth as the labor force moves into sectors with above-average productivity levels (*Structural static effect*).[4] However, within the service sector, workers moved into sectors with negative productivity growth (*Structural dynamic effect*), and recent labor productivity growth in the service sector has been sluggish. This situation suggests that high-productivity service sectors are not able to absorb most of the labor supply (partially freed up by productivity increases in agriculture) or that this labor supply does not have the skills to enter high-productivity services and hence end up in low-productivity sectors such as retail trade. Concerning the manufacturing sector, its productivity growth (originating from within-sector effects) was below the national average and could reflect lagging technical efficiency of firms, firm dynamics, and a strong link between wage levels and firm size that

[4] See Appendix 1 for details.

FIGURE 3: Sectoral Value Added and Growth Accounting



Source: Staff calculations based on data from World Development Indicators (WDI), and Penn World Table 9.0 (Feenstra et al. 2015).

weighs on international competitiveness (see Teal 1999; Davies and Kerr 2018). Furthermore, labor productivity growth in the manufacturing sector recorded in 2013–2017 has been below levels recorded in 2007–2012 (excluding 2011 during the launch of commercial oil production).

1.1.4 *Declining Impact of Structural Factors*

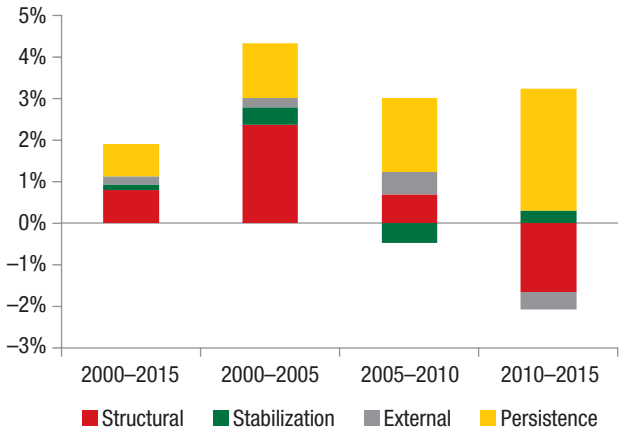
During the period 2000–2015, growth was mainly driven by structural factors, but their impact has declined, and key macroeconomic factors had a marginal contribution to growth. Growth was driven by structural improvements, particularly in infrastructure and financial development. Infrastructure (telephone lines) and financial development (credit as a share of GDP) improved markedly especially during the early 2000s, which explains most of Ghana's growth performance in the 2000s. For the latter half of the decade, this is also reflected in the persistence term, as initial improvements had a fading-out effect on the growth rate. The persistence term captures the transition of a country towards its steady state. Improvements in the country's commodity exports' prices and associated terms of trade gains, macroeconomic stabilization policies concerning inflation, the real exchange rate, and financial stability marginally explained growth performance since 2000 (Figure 4).

1.2 Major Growth Challenges

1.2.1 *Reliance on Natural Resources*

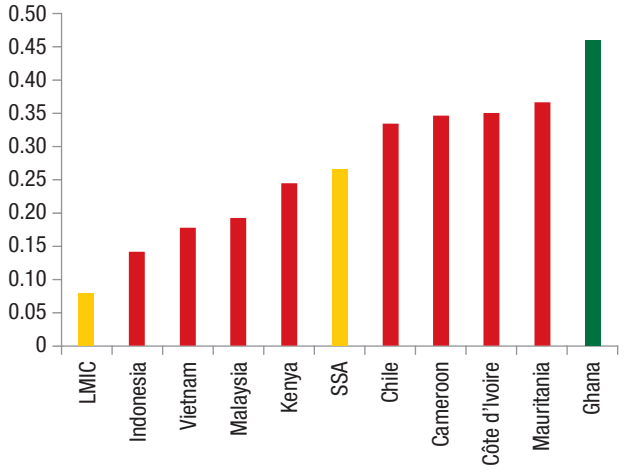
One major challenge that Ghana faces is its heavy reliance on natural resources. This points to the need to diversify the economy, which could improve growth inclusiveness and help reduce macroeconomic volatility. Ghana's export concentration index is above its aspirational peers, and that of lower-middle-income countries and SSA countries (Figure 5). This suggests that, in comparison with peers, exports are concentrated in few products. The recent increase of the contribution of the natural resource sector to growth raises some challenges such as: the capital intensity of the emerging natural resource sector (oil) which limits jobs creation despite demographic pressures, the depletion of the stock of natural resources which limits future income opportunities from this sector and

FIGURE 4: Key Growth Drivers of Real GDP per Capita in Ghana (Percentage Points)



Source: Staff calculations based on data from WDI.
Note: "Stabilization" variables contain inflation, banking crises, and the real exchange rate, capturing the idea that macroeconomic fluctuations can influence growth over an extended period. "Structural" variables capture a broad set of fundamental country characteristics. This includes secondary school enrollment as a proxy for human capital, a measure for trade openness (trade-to-GDP ratio adjusted for population), an institutional variable (polity2), private credit-to-GDP as a measure of financial development, fixed telephone lines per capita as a proxy for infrastructure, and government size measured by government consumption/GDP. "External factors" are reflected in terms of trade and commodity prices, more specifically net barter terms of trade and the country-specific commodity export price index.

FIGURE 5: Export Concentration, 2017



Source: UNCTAD database.
Note: The export concentration index is the Herfindahl-Hirshmann product index (for exports) and it indicates that exports are concentrated in few products.

requires adjustment in the non-resources sector, and the increasing macroeconomic volatility that affects the country's capacity to grow at an adequate rate. To overcome this challenge, it will be necessary to stimulate new sources of growth and to diversify the national asset portfolios that include natural resources, built capital, and public institutions (World Bank 2014).

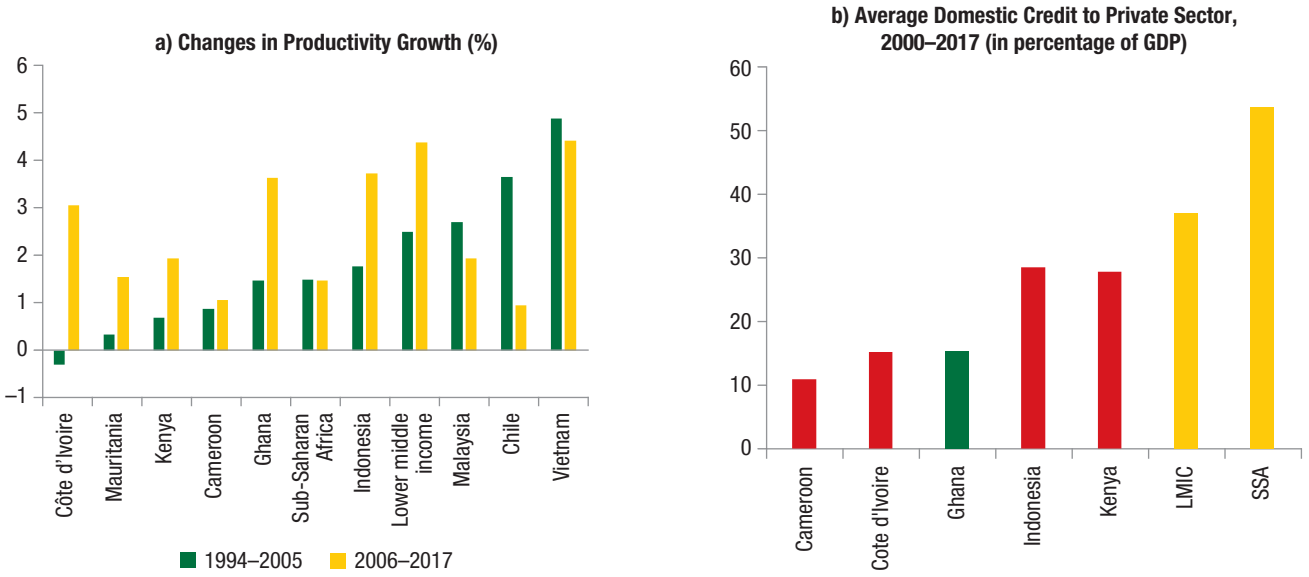
Adequate natural resources management and economic institutions are key success factors of the diversification, but Ghana faces some challenges in these areas. Empirical analyses find that resource-rich countries that were able to diversify their economy had appropriate institutional mechanisms to manage natural resources revenues and developed strong institutions that supported private sector development (World Bank 2014; International Monetary Fund 2011). However, government effectiveness has been identified as a constraint to growth in general, and to the creation of a sound business environment (World Bank 2018). Addressing these constraints would help reshape Ghana's major growth drivers through the needed increase in the contribution of investment and productivity to economic expansion.

1.2.2 *Low Productivity and Investment*

Increasing productivity could help unleash new sources of growth as witnessed in Ghana's aspirational peers. Just as sustained increases in productivity levels were recorded in Malaysia, Chile and Vietnam during the past twenty-five years (Figure 6a), increased productivity would be important to to the diversity of the economy in Ghana. While there might an endogeneity between productivity and diversification because firms invest in sectors with high potential of productivity growth, this report emphasizes the importance of productivity for economic diversification as evidenced by (Imbs and Wacziarg 2003). In addition to those aspirational peers, increases in productivity and innovation[5] contributed to the economic diversification

[5] Innovation refers to improved products, services, organization, or processes.

FIGURE 6: Productivity and Investment



Source: Staff calculations based on data from WDI.
Note: Productivity is measured in GDP per worker (PPP) in 2011 US$ constant prices.

of countries such as the United States of America or Canada (World Bank 2014). Moreover, policies that spur efficiency and foster the entry of new firms would be essential for economic diversification (International Monetary Fund 2011).

Increasing investment in the non-natural resources sectors and mobilizing more domestic savings will be essential to diversify the economy and to sustain growth. To maintain an economic expansion of seven percent and become an upper middle-income country by 2040, long-term growth analyses suggest that investment should reach 30 percent of GDP by 2022 and remain at around 31–33 percent of GDP for the remaining period. However, investment rates and gross savings rates observed in Ghana during the past fifteen years were below that of aspirational peers, and lower-middle-income countries (Table 1 and Figure 6b). Furthermore, despite the recent increase in FDI inflows, technological spillover effects on the overall economy were likely limited because more than 50 percent of FDI projects were in the natural resource sector.

1.2.3 *Macroeconomic Volatility*

Aggregate indices for stabilization and structural policies in Ghana suggest that the country needs to improve its macroeconomic framework and to initiate structural reforms. Based on the approach of Araujo et al. (2016), a structural policy index is computed with the following variables: schooling, credit in percentage of GDP (proxy of financial development), openness, government consumption, telephone lines, and mobile phone subscriptions. Macroeconomic policy variables are as follows: inflation, real exchange rate, and banking crisis.[6] Figure 7 shows that Republic of South Korea (KOR) achieves the highest possible level of the structural policy index; it means that Korea performs well in those structural policy variables that matter for growth. Ghana's performance is average in terms of structural policies among comparator countries but falls short in terms of macroeconomic

[6] See Geiger, Trenczek, and Wacker (2018) and Araujo et al. (2016) for detailed results, explanations and methodology.

TABLE 1: Average Gross Savings and Total Investment, 2000–2017 (in Percentage of GDP)

Countries/Group of Countries	Gross Savings	Gross Fixed Capital Formation
Cameroon	17.9	22.6
Chile	22.4	22.4
Cote d'Ivoire	15.2	12.6
Ghana	15.5	21.7
Indonesia	27.9	27.2
Kenya	12.3	19.0
Lower-middle income	29.3	26.0
Malaysia	33.3	23.7
Mauritania*	26.7	38.5
Sub-Saharan Africa	20.7	21.3
Vietnam	31.6	29.0

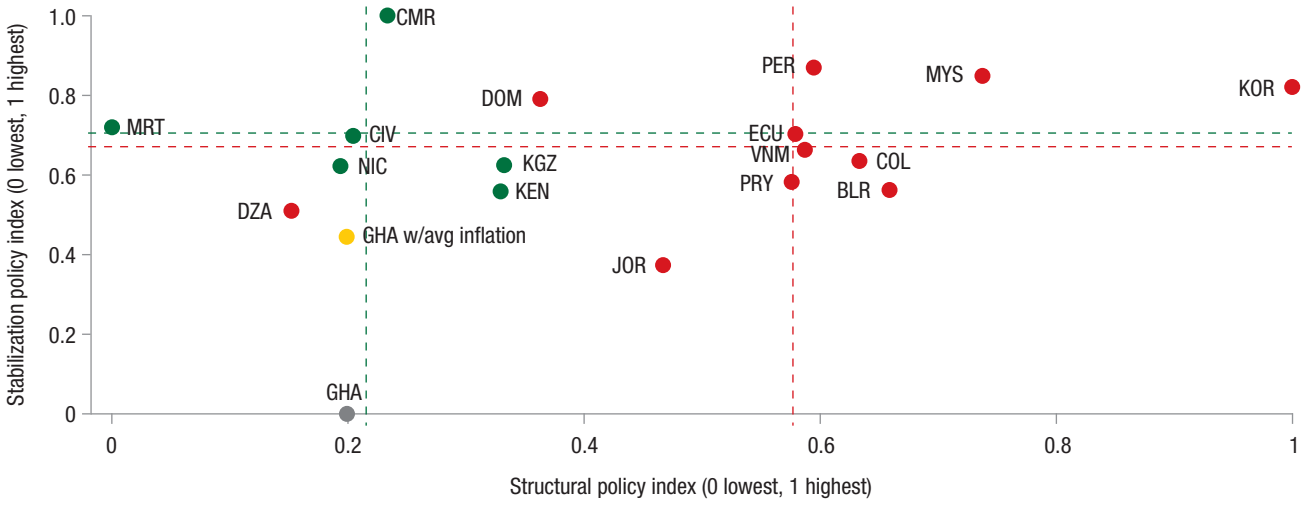
Source: WDI.
* For Mauritania, there are missing points in 2000–2011.

stabilization policies, where it shows the worst performance among both groups.

Ghana experienced an increased macroeconomic volatility that retarded growth in recent years. Macroeconomic volatility seems to have increased as the volatility of GDP growth and GDP per capita growth is increasing (Figure 8a), and inflationary pressures mount in 2000s. During the period 2000–2015, macroeconomic volatility reduced annual GDP growth by 0.3 percentage points, and the cost of volatility increased to 0.7 percentage points in early 2010s after the discovery of oil reserves. Ghana's growth volatility mirrors the heavy reliance on natural resources and is exacerbated by fiscal volatility that results from election cycles. In fact, forest and mineral rents have together accounted for about 8–13 percent of GDP since 2000, and oil rents brought natural resource rents to 20 percent of GDP in 2015, the highest such share in West Africa (World Bank 2018). Moreover, fiscal slippages increased significantly during elections cycles (Figure 8b).

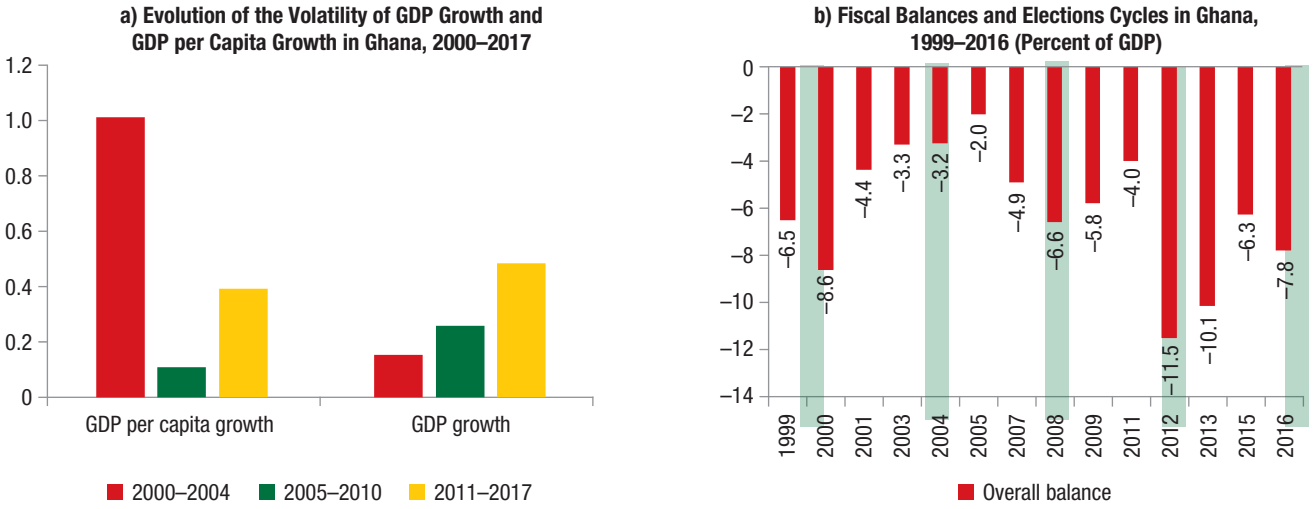
In addition to emerging Dutch disease effects, changes in macroeconomic variables also suggest that Ghana has already been affected by a pre-source curse. The term "pre-curse" refers to situations where growth is lower after the discovery of a major natural resource in comparison with initial projection, resulting thus in imprudent behaviors of public and private economic agents (Cust and Mihalyi 2017). These imprudent behaviors, amplified by weak institutions, can lead to imbalances as the government can

FIGURE 7: Stabilization vs. Structural Policy Indices in Ghana and Peer Countries



Source: Geiger, Trenczek, and Wacker (2018).

FIGURE 8: Growth Volatility and Fiscal Balances



Source: Staff calculations based on data from WDI, and Ministry of Finance.

overborrow at low costs, or it can overspend before the effective commercial production of the discovered natural resource. In the case of Ghana, the combined effect of election cycles and 'jubilation of discoveries' resulted in higher fiscal deficit in 2011–2018, and a surge of the external debt level to 57.8 percent of GDP in 2018.

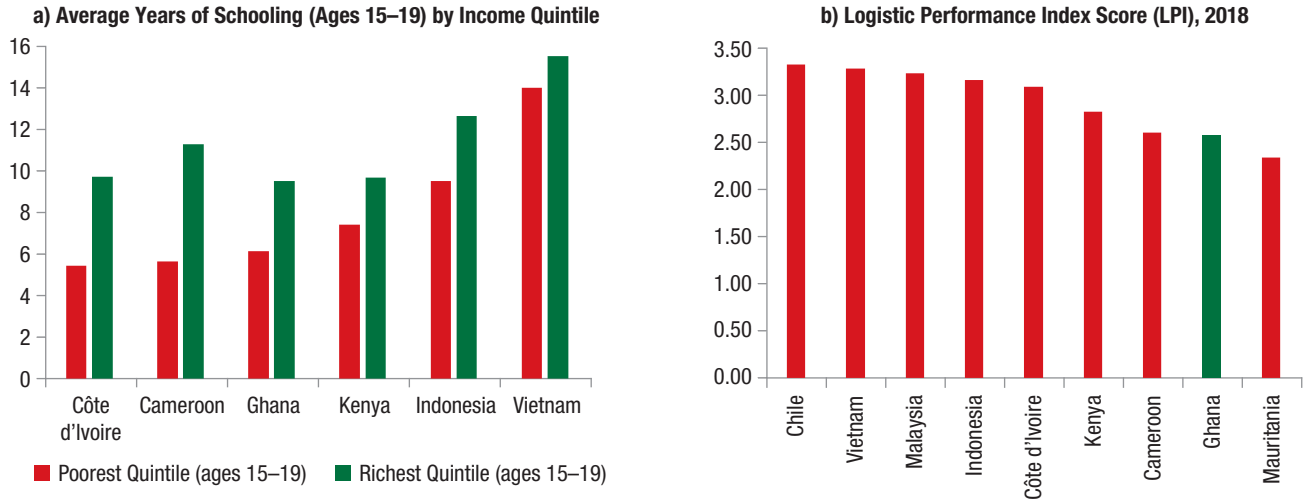
At the same time, and despite having sovereign wealth funds, Ghana lacks effective institutions that could improve the management of fiscal risks and contribute to fiscal sustainability and transparency. While Ghana has sovereign wealth funds (the Petroleum Holding Fund and the Ghana Petroleum Fund) that were established by the Petroleum Revenue Management Act, it lacks formal institutions that could improve the management of fiscal risks and contribute to fiscal sustainability. Adopting and constantly implementing clear fiscal rules and establishing a fiscal responsibility council could help to reduce the fiscal volatility related to election cycles, and negative terms of trade shocks. Moreover, as transparency is an essential element of governance and natural resource revenues management, Ghana could benefit from designing and implementing a strategy that fosters fiscal transparency, and accountability.

1.2.4 *Lagging Human Capital and Infrastructure*

Growth is still constrained by structural issues even though structural factors heavily contributed to growth during the 2000–2015 period. In fact, the impact of structural variables on growth has been fading in 2000–2015 (See Figure 4). A comparison of Ghana with its aspirational peers and lower-middle income countries shows that infrastructure indicators are well below those observed in comparators (Figure 9b). Moreover, despite improvement on several human capital indicators, there are still significant disparities in the completion of school between poor and non-poor or the access to health services—the average years of schooling is between four and five years for the poorest quintile (Figure 9a).

The provision of basic public services remains a challenge according to private sector executive surveys. In comparison with the average lower-middle-income countries and Sub-Saharan African countries, the quality of the educational system (primary and tertiary levels), roads, and ports is better in Ghana. However, Ghana falls well below its aspirational peers in the above-mentioned areas, as well as health

FIGURE 9: Human Capital and Infrastructure



Source: WDI, and Logistics Performance Index 2018.
Note: A high logistic performance index (LPI) score means that the country has a better perceived logistic infrastructure for trade.

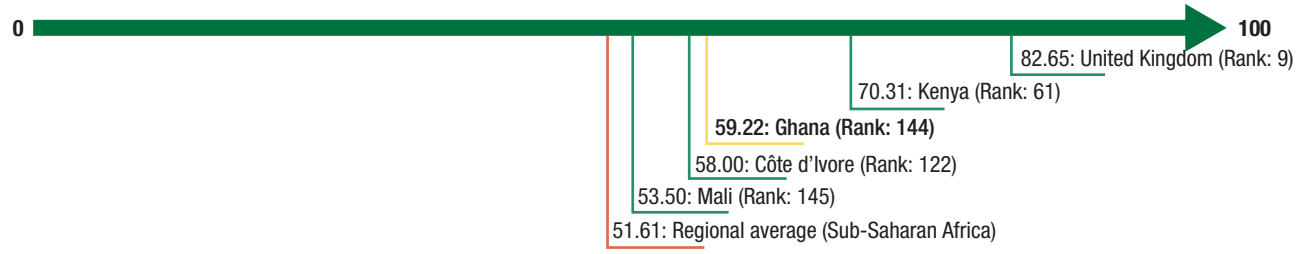
and electricity. For instance, the economic impact of diseases such as malaria, tuberculosis, and HIV/AIDSs are still severe in Ghana according executives (Appendix 2). Health issues could affect the quality of the workforce, its capacity to increase productivity, and thus diversification prospects.

1.2.5 *Stagnant Business Environment*

Despite positive reforms implemented during the past 10 years, Ghana still needs to substantially improve the quality of its business environment. Ghana implemented several positive reforms during the past 10 years, including the implementation of a paperless customs clearance system, the publication of construction regulations, a strengthened construction quality control, and several simplification measures for trading across borders. However, the country still needs to further reform its business environment as it ranks 114th out of 190 countries in *Doing Business 2019* (Figure 10).

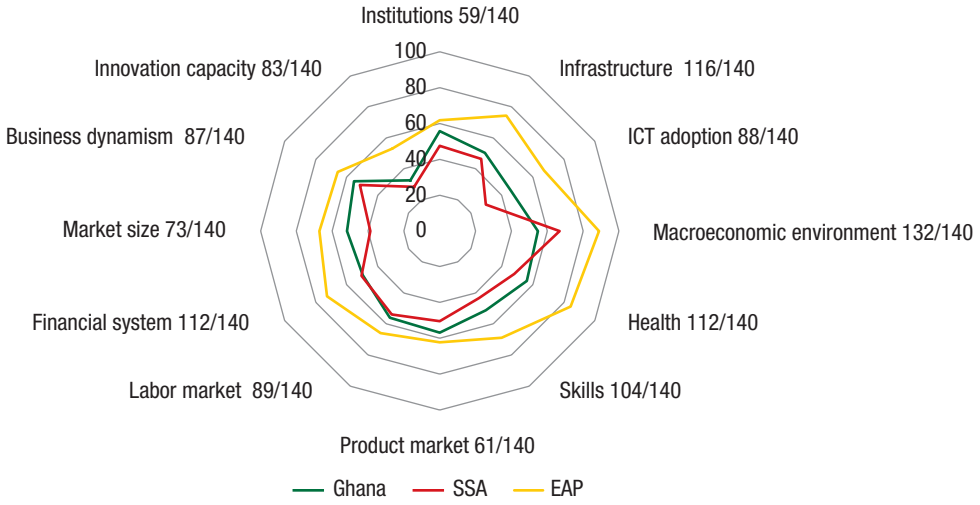
While Ghana has a relative favorable regional positioning in Africa, firms' executives identified financial system, infrastructure, and macroeconomic

FIGURE 10: Ease of Doing Business Score in 2018



Source: Doing Business 2019.
Note: The ease of doing business score captures the gap of each economy from the best regulatory performance observed on each of the indicators across all economies in the Doing Business sample since 2005. An economy's ease of doing business score is reflected on a scale from 0 to 100, where 0 represents the lowest and 100 represents the best performance. The ease of doing business ranking ranges from 1 to 190.

FIGURE 11: Global Competitiveness Scores (0–100)



Source: World Economic Forum Competitiveness Report 2018.

volatility as key competitiveness issues. Figure 11 illustrates Ghana's competitiveness position over the twelve main drivers of competitiveness compared to Sub-Saharan Africa (SSA), and the East Asia and Pacific region (EAP).[7] Even though, Ghana ranks 106th out of 140 countries, it outperforms the SSA region on the majority of all twelve pillars of competitiveness, but lags countries in the EAP region. In addition, global competitiveness scores are particularly low for the financial system (112th), infrastructure (116th), and macroeconomic stability (132nd).

This report focuses on key constraints on the supply side and proposes potential product-based diversification pathways that are based on demand side analyses. The remaining chapters of the report are organized as follows: Chapter Two analyzes the status of productivity and innovation in Ghana and identifies their key constraints; Chapter Three analyzes the role of public and private investment to achieve economic diversification; and Chapter Four explores potential pathways for economic diversification by presenting potential sectors that can be considered in a diversification strategy, and discusses important policy recommendations that would support the implementation of this strategy.

[7] Individual rankings are included near each twelve pillars while indices scores are depicted in the radar chart.

ENHANCING PRODUCTIVITY TO ACHIEVE ECONOMIC DIVERSIFICATION

2

2.1 Status of Firm Productivity[8]

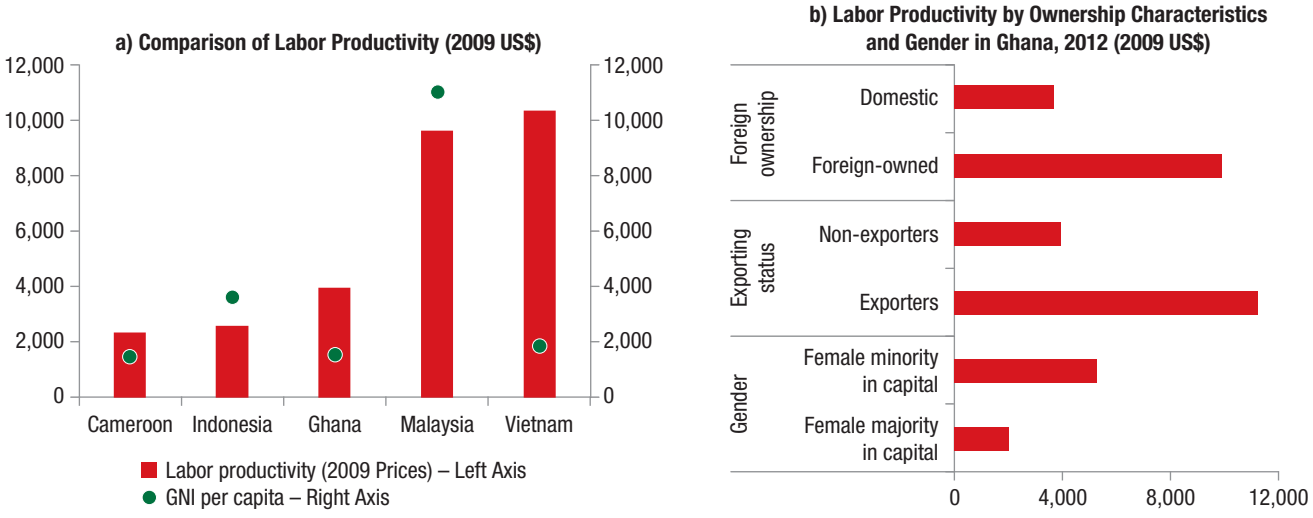
Firm productivity is higher in Ghana than in most regional peers, but there is significant potential to raise it further to global levels. Half of Ghanaian manufacturing firms have a labor productivity below US$3,969, which is above the level observed in a peer regional country such as Cameroon and an aspirational country such as Indonesia (Figure 12a). However, an income per capita based analysis suggests that this median productivity level could be further increase to the level recorded in Vietnam, one of Ghana's aspirational peers.

There are notable differences in productivity by type of firms in Ghana. This is shown in Figure 12b, and, in more detail in Appendix 3. Such differences indicate that there are barriers to the allocative efficiency of resources between firms, leading to concentration of resources as they primarily flow to more productive sectors and more productive firms within sectors. As a result, large firms have higher labor productivity levels than smaller ones, foreign firms are more productive than domestic ones, and exporters show higher productivity than non-exporters.

Female-owned firms show particularly low productivity levels in Ghana. This can be explained by the type and size of their activities, and the existence of gender-based inequalities. About 56.1 percent of female-owned enterprises are in food, hotel, restaurant, and retail activities, and 84.2 percent of female-owned firms are small. However, the recent productivity of the service sector has been sluggish,

[8] This section is primarily based on the *Ghana 2013 Enterprise Survey*. To account for the fact that the economic structure has evolved since then, where possible, the analysis will rely on additional data sources; these are clearly marked.

FIGURE 12: Comparison of Labor Productivity



Source: World Bank Enterprise Surveys.
Note: Survey years are as follows: Ghana (2013), Cameroon (2016), Indonesia (2015), Malaysia (2015), and Vietnam (2015). All data points are median values observed in the manufacturing sector.

and small firms have low productivity. In addition to these sectoral specificities, in Ghana, there is an unequal care burden between men and women (within households) that reduces the potential learning time of women; a period that could have been used to build business skills or other specific skills (Charmes 2015; and Ghana Statistical Service 2014).

The gender gap in productivity level is confirmed in econometric analyses, and it suggests female-owned firms may face specific challenges. The median firms with a minority of female owners have a labor productivity which represents 2.6 times the productivity of female-owned firms. While this situation is partially explained by the small size and low capital intensity of female-owned firms, there are signs of lower efficiency in the latter as: (1) their TFP is lower than in for female-minority firms; and (2) the labor cost per unit of value-added is higher than either the national median or in female-minority firms (Appendix 3). In addition, Ghana's institutional framework is somewhat biased against women;[9] and female entrepreneurs face more challenges to increase their productivity because significant gender differences have been identified in areas related to broadening skills, access to finance and/or access to land (World Bank 2018).

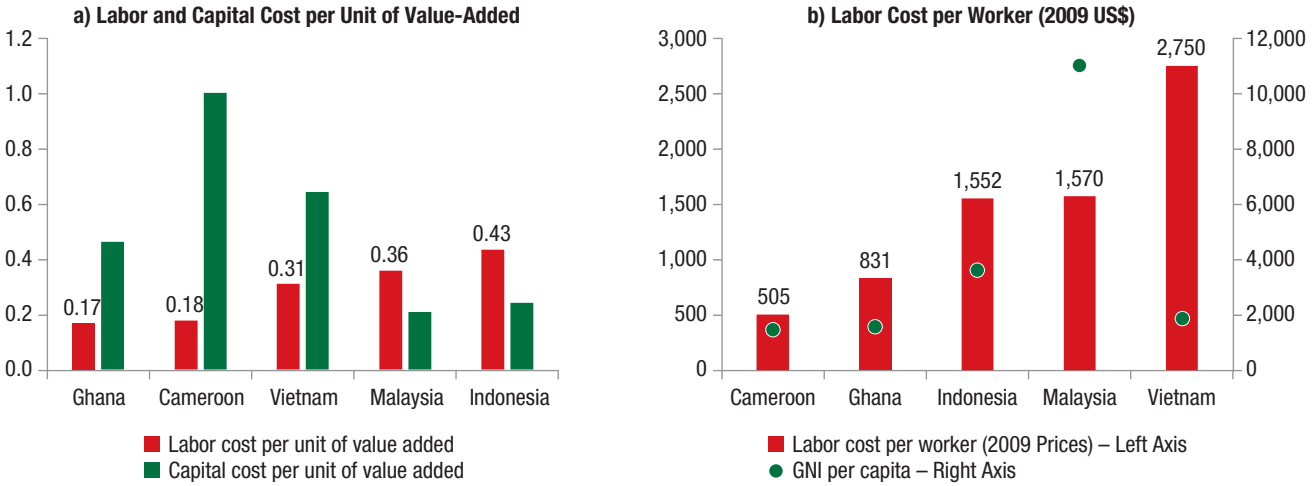
Differences in productivity levels, that emerge from exporting status and the foreign ownership, may be related to the positive effects of the access to international markets.[10] Empirical and theoretical analyses show that the access to foreign market and the receipt of foreign capital can increase the probability to innovate and to increase productivity level (Brambilla, Hale and Long 2009). International trade can affect the structure of an economic sector by allowing more productive firms to get in, and less productive to exit (Melitz 2003). To remain efficient and record profit, international competition would force firms to be more creative and to innovate regularly. A firm can have access to more innovations developed abroad and foreign licenses by having foreign shareholders (Kafouros et al. 2008; Sun & Du 2010), and it can internalize the acquired knowledge for future developments through copying and re-engineering. Econometric analyses confirm the role of foreign ownership and exports in enhancing labor productivity.

Econometric analyses confirm that productivity increases alongside increases in firm size but raise questions on the quality of innovations reported by firms. The positive impact of firm size on productivity level suggests that larger firms may have access to more resources for innovation and marketing. However, econometric analyses do not show a statistical and significant impact of firm age, manager experience in the sector, and innovation on productivity. While this insignificant impact of age on firm's productivity may be interpreted as an opportunity for all entrepreneurs to perform well (everything else being equal), the insignificant impact of most innovation variables (excluding the holding of an internationally recognized quality certificate) on productivity contrasts with the fact that more than half of enterprises report an introduction of product innovation or process innovation. While there could be some data issues related to the understanding and definition of "innovation" by respondents and the sample size, this situation raises questions on the quality of new products and innovative products.

The cost of production factors partially explains differences in productivity as capital cost and labor cost are respectively higher and lower than in aspirational peers. The fact that, despite a lower capital intensity, capital cost per unit of value-added is higher in Ghana than in aspirational peers (Figure 14a) suggests that access to capital is an issue in Ghana. Labor cost per unit of value-added, and labor cost per worker are low in Ghana, in comparison with those observed in comparators (Figures 13a and 13b). However, these lower labor costs did not translate into higher productivity as low salaries can be associated with low human capital, or the existence of a large pool of potential workers that are active in the informal sector.

[9] http://wbl.worldbank.org/en/data/exploreeconomies/ghana/2018 (Accessed on June 11, 2019) – Ghana Rank in Women, Business and the Law.
[10] A firm is foreign-owned (or a multinational enterprise) if more than 10 percent of its capital is owned by foreign firms. An exporting firm is defined as one selling more than 80 percent of its output on the international market.

FIGURE 13: Labor and Capital Cost



Source: World Bank Enterprise Surveys.
Note: Survey years are as follows: Ghana (2013), Cameroon (2016), Indonesia (2015), Malaysia (2015), and Vietnam (2015). All data points are median values observed in the manufacturing sector.

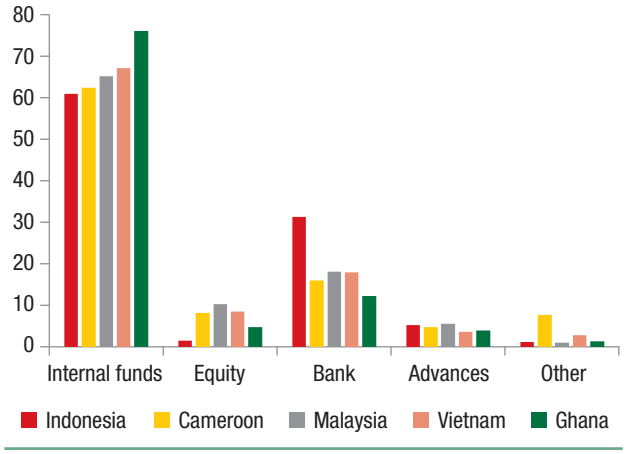
The above analyses suggest that the high cost of capital (access to finance), inadequate human capital for frontier firms, and inadequate access to land are retarding productivity in Ghana. Capital cost per unit of value-added is higher than in aspirational peers. Moreover, signs of inefficiencies or inadequate human capital emerge from two contrasting facts: the existence of a low labor cost per worker and the reporting of several innovations by firms despite lower productivity, in comparison with peers. Exporting and foreign ownership are positive elements that could help increase productivity and stimulate meaningful innovation.[11]

2.2 Constraints to Firm Productivity

2.2.1 *Access to Finance*

Constraints to productivity are analyzed by focusing on major constraints to physical capital and knowledge accumulation or reallocation, and to efficiency increase. Based on results from the Ghana Enterprise Survey (2013) and the analytical frameworks proposed by World Bank (2010, p.8) and Cusolito and Maloney (2018, p.119) to enhance,

FIGURE 14: Proportion of Total Purchase Fixed Assets by Financial Sources (% of Total Purchase of Fixed Asset)



Source: World Bank Enterprise Surveys.
Note: Survey years are as follows: Ghana (2013), Cameroon (2016), Indonesia (2015), Malaysia (2015), and Vietnam (2015). All data points are average values observed in the manufacturing sector. Advances refers to "Credit from supplier and advances from customers."

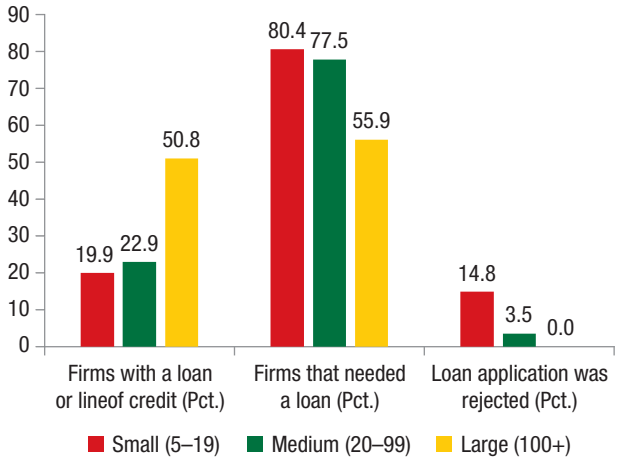
[11] Cusolito and Maloney (2018) stress that entrepreneurs are too optimistic about their capabilities, and it is assumed that this entrepreneurial characteristic can affect Ghanaian firms' judgement on their own innovations.

respectively, innovation and productivity (See Appendix 4 and Appendix 5), this section focuses on financial constraints to productivity and innovation, and on constraints related to infrastructure, and human capital. This focus is also justified by the consistency of the ratings of finance and electricity as major constraints in Ghana (Appendix 8).

Firms' access to finance is a major business constraint as it impedes asset purchase and innovation activities. About 62 percent of Ghanaian firms mentioned access to finance as a major or severe obstacle to their current operation. An international comparison with peer countries confirms firms' perception of access to finance as a major constraint because Ghana has the lowest proportion of purchased fixed assets financed through banks or non-bank financial institutions (Figure 14), and only one in four firms have at least 20 percent of their purchase of fixed assets being financed by banks or non-bank financial institutions. While some minor disparities in financial sources of purchased assets exist (Appendix 6), the overall impact of this constraining financial situation is the development of innovations or the use of innovations that are mostly new to the local market, and cannot benefit from scale effects related to sale of products/services sold on the national or international market. Limited resources would thus be available to research and development activities (R&D), even though an analysis shows that the occurrence of R&D activities could increase firm efficiency by an average of about eight percent.[12]

Access to finance is uneven and collateral requirement represents a major obstacle to loan access. Large firms are significantly more likely to have a loan or a line of credit: 50.8 percent of large firms vs. 19.9 percent for small firms. The need for a loan as well as rejection rates are inversely correlated with firm size: the larger the firm the lower the need for a loan and the lower the rejection rate (Figure 15). The amount of collateral required to obtain a loan is high with banks demanding more than twice the value of the loan amount; approximatively 240 percent of loan amount, which is higher than the averages for SSA

FIGURE 15: Access to Finance by Firm Size



Source: Ghana Enterprise Survey (2013).

(219 percent of loan amount) and the world (209 percent). In addition, the type of collateral required by banks—often the owner's personal assets and immovable assets such as building and land—makes it challenging to obtain a loan, particularly for start-ups and small enterprises.

2.2.2 *Human Capital*

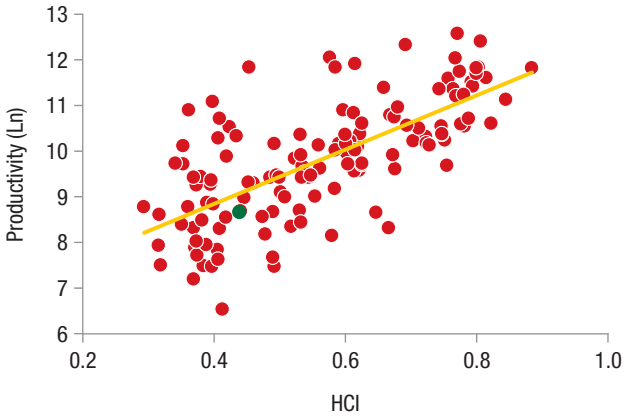
Lack of human capital seems to be an impediment to productivity growth and innovation; Ghana, with the quality of education lagging, has a low human capital index (HCI). This is an issue for firms at the technological frontier where specific skills are important inputs. The issue will likely be increasingly important as the economy at large moves closer to the frontier of production and processes over time. As such, it is necessary to address the low HCI now, given reforms to the education system take time and changes in the human capital of an economy will lag behind educational reform. The development of innovative products and processes relies heavily on human capital as a critical input. While 71 percent of

[12] This result is the outcome of a data envelopment analysis (DEA) of Ghanaian firms to calculate their efficiency scores, and a set of Tobit regressions that explain efficiency scores.

Ghanaian firms do not identify inadequately educated work force as an obstacle or rate it as a minor obstacle (*Ghana 2013 Enterprise Survey*), Ghana's HCI is low and does not match with its income level. Ghana's HCI is lower than the average of its income group, and below the ones of its aspirational peers (Appendix 7). Differences with peers originate mainly from the adult survival rate and educational quality. Based on Ghana's HCI, it could be inferred that the Ghanaian labor force has a learning gap of 5.9 years, and such gap is a drag on the country's productivity and innovation capacity (Figure 16).

Low education quality, and disparities in the access to education services can explain the level of human capital proxied by the HCI. There are issues related to the skills acquired by students throughout their life, since only two percent of learners are fully proficient (Ghana 2017). Performance in mathematics and science has been below standards across education levels. This situation can be explained by substantial weaknesses in the education system such as teacher absenteeism, poorly defined standards, shortage in education teaching and learning materials, the poor state of education infrastructure, significant dropout rates in rural regions, and the persistence of gender and income disparities in the access to educational services (Honorati & Johansson 2016; Ghana 2017).

FIGURE 16: Correlation between the HCI and the Productivity of Industry (2010 US Constant Prices)



Source: World Bank Human Capital Project, and WDI.
Note: Ghana is the green dot on the chart.

2.2.3 *Access to Land for Industrial Use*

Access to well-located, well-serviced, and affordable industrial land is a binding constraint in Ghana, especially for FDI. World Bank (2017a) reports that access to land for large-scale investment continues to be complex and costly, with one case taking as much as six years to secure its land lease. The market rate for one acre of land in the TEMA Free Zone (the only operational Special Economic Zone in Ghana, already at full capacity) is $350,000, reportedly the highest price in West Africa. Ghana's Special Economic Zone (SEZ) regime remains in inception stages despite the relative success in filling the TEMA Free Zone, two hours outside of Accra. The TEMA Free Zone is operated by private developer/operator LMI Holdings and houses 75–80 companies. TEMA has received World Bank assistance in the past, and, as measured by uptake of plots, has been successful in providing serviced, industrial land to its tenant companies with a 98 percent occupancy rate. However, the demand of the private sector in Ghana for serviced, industrial land is far greater than this single project can supply. Additionally, there have been some coordination challenges with LMI Holdings that should be improved upon for subsequent private developer/operators (World Bank 2019b).

Challenges in the access to land are reflected in Ghana's low rank in the Doing Business Report Property Indicator (123rd out of 190). Ghana overall performs within regional norms, but behind the best performers (Doing Business 2019). More specifically, delays associated with closing a land transaction, although better than the regional average, are still larger than many competitors. These are the result of long searches at the Land registry to ensure that rightful ownership and that the property to be transferred is free of dispute. In addition, the difficulty in finding the ownership of plots is reflected in the low quality of the land administration index, which has a score

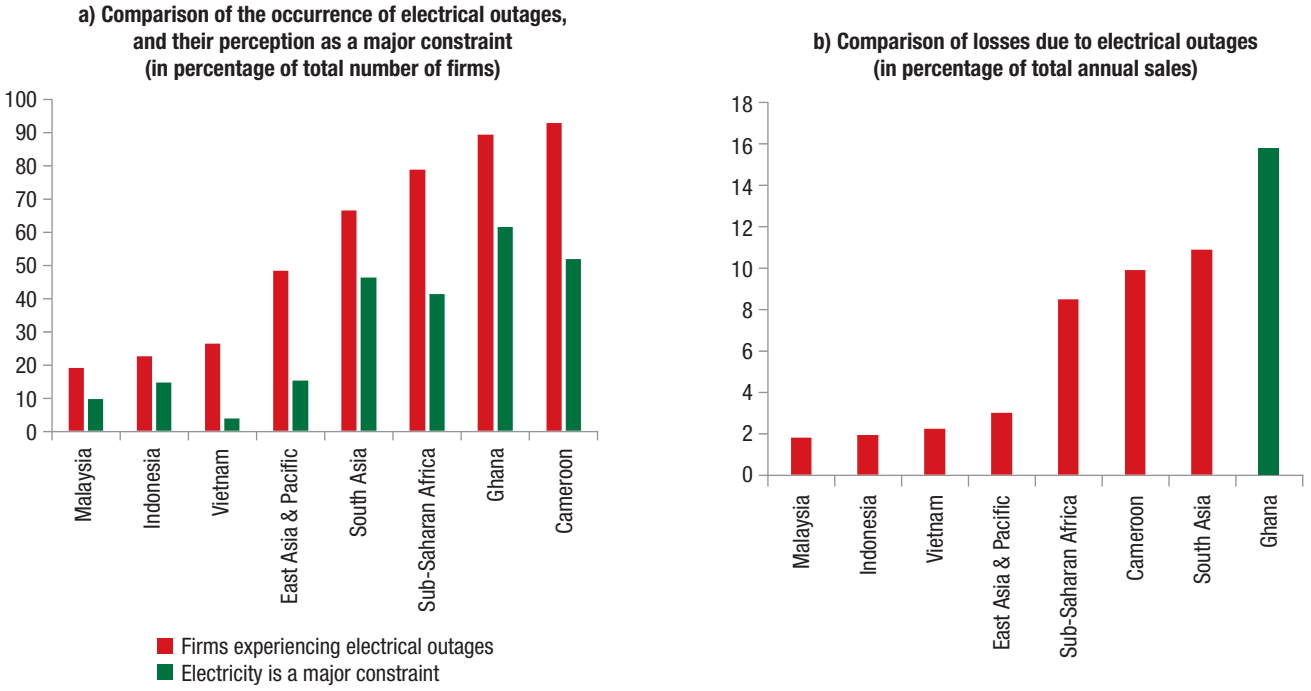
of 8 over 30, below the regional average and many competitors. There is no electronic or computerized system for deeds or title record keeping, nor is there an electronic database for searches related to encumbrances such as liens, mortgages, etc.

2.2.4 *Reliable Access to Electricity*

Firms identified electricity outages as a major constraint to conducting business, and losses due this issue significantly reduced productivity levels in 2012/2013. About 61 percent of firms identify electricity as a major constraint—almost nine out ten firms experience electrical outages, well above the regional average and levels recorded in aspirational peers (Figure 17). Losses due to electrical outages are also substantial in Ghana. Losses due to electrical outages average 15.8 percent of annual sales at the national level but increase to 18.3 percent for small firms, and 18.6 percent for domestic firms that have fewer financial resources. For small and medium enterprises, those losses are difficult to address as the purchase of electrical generators is required, and their main source of financing is "internal funds or retained earnings."

Overall, access to electricity is likely to be less of a problem now than during the Ghanaian 'Dumsor' energy crisis of 2014/15. Then, there were dramatic, frequent, and largely unpredictable outages around the country (Hardy and McCasland 2017). Blackouts led to economically meaningful declines in both weekly revenues and weekly profits; each additional blackout day was associated with an 11 percent decrease in weekly profits on average. Firm owners respond to blackouts by working fewer hours during blackouts, without fully shifting labor supply to non-blackout days. Expenditures on wages fall, suggesting that firm owners may shift from the use of higher-paid workers to low-wage apprentices, which is evidence of a real human impact. Power outages have since decreased, but poor financial sector performance is still creating substantial fiscal risks and reducing the security of supply (World Bank 2018).

FIGURE 17: Access to Electricity and Associated Losses



Source: World Bank Enterprise Surveys.
Note: Survey years are as follows: Ghana (2013), Cameroon (2016), Indonesia (2015), Malaysia (2015), and Vietnam (2015).

2.3 Opportunities for Productivity Growth: Exporting and Foreign-Owned Firms

2.3.1 *Maximizing Positive Spillovers*

Positive spillover effects could occur through an enhanced integration of other firms in the production chain of exporting firms and Multi-National Enterprises (MNEs). Positive spillovers may arise from the entry of foreign firms in a country because multinational firms can transfer knowledge to local producers through interactions with downstream clients and upstream suppliers (vertical spillovers). Moreover, potential competitors can have access to some technical information on new products, and they could develop improved products through demonstration effects (horizontal spillovers). The mobility of workers who previously worked for MNEs could help local firms to access specific technical knowledge. The same principle could be applied to exporting firms as: (i) they are expected to be more efficient because their survival relies on their level of productivity; and (ii) the competition with international firms may result in the access to more technical knowledge. However, the occurrence of the above-mentioned spillovers will depend on the absorptive capacities of local firms, the motivation of foreign investors, and the type of output.

In Ghana, horizontal spillover effects from both channels of technological transfer exist but the resulting level of innovativeness seems to be limited. About six percent of firms export directly more than 20 percent of their output, and 16 percent of firms have foreign ownership above 10 percent of the total capital. Results from empirical analyses show that there exist positive horizontal spillovers (intra-industry) from both types of firms on productivity levels of domestic firms and non-exporting firms.[13] These results are also supported by the fact that 38 percent and 54 percent of firms report product and process adaptation respectively as the main origin of their innovation idea. However, with about 29 percent of firms reporting product innovations that are considered "new to the national market" and most innovations being new to the local market, the level of innovativeness of product innovations could be considered limited.

Vertical spillover effects from exporting firms are more important than the ones from MNEs as the latter have fewer linkages with domestic firms. There is weak integration of domestic firms with MNEs, since half of MNEs have a 70 percent share of imported inputs. Exporting firms are more connected to domestic firms even though their main inputs are mostly imported. Overall, the proportion of imported main inputs is substantial across sectors, excluding the following sectors: textiles, non-metallic mineral products, and furniture (Table 2).

Spillover effects from MNEs to domestic firms could be increased by fostering MNE assistance programs but results from such initiative would depend on the FDI motives and local absorptive capacities. In a study of SSA countries, including Ghana, empirical analyses show that backward spillover effects were more significant when local suppliers receive assistance from MNEs. For instance, an increase of export occurred for local suppliers that received technical audits before and after signing contracts, along with assistance from their foreign customers, jointly developed products with their foreign customers, and made use of foreign licenses from their clients. However, the probability of receiving assistance was significantly greater for market-seeking FDI, and for firms with the largest shareholders being from SSA. Moreover, the occurrence of positive spillovers was also conditioned by the proximity with the MNE and the existence of a minimal stock of human capital within local firms. For instance, local firms with at least 20 percent of workers with a secondary education were more likely to supply MNEs while local firms, that are located more than 500 km from the MNE, are less likely to be integrated in the value chain of the latter.[14]

[13] This conclusion is based on results from an econometric analysis of labor productivity. Spillover effects measures are like the ones used by Gui-Diby (2016), Farole and Winkler (2014), and Brambilla, Hale and Long (2009).
[14] Farole and Winkler 2014.

TABLE 2: Median of Share of Imported Products in Ghana by Economic Activities

Activities	Main Input	2nd Most Important Input	3rd Most Important Input	Imported Inputs (% of total input)
Textiles	40	30	15	50
Garments	60	25	0	30
Publishing, printing and record media	100	100	25	90
Chemicals	67.5	20	20	62.5
Plastic & rubber	100	45	0	97
Non-metallic mineral products	0	0	0	2.5
Basic metals	95	0	0	77.5
Fabricated metal products	100	70	50	82.5
Electronics	90	20	0	90
Furniture	0	10	0	20
Overall economy	65	25	5	50
MNEs	95	17.5	0	70
Exporting Firms	80	20	0	30

Source: Ghana World Bank Enterprise Survey (2013).

While several FDI projects have been announced in the service sector, the value of accumulated FDI stock confirms the relative importance of the natural resource sector. Fifty-eight percent of the 408 announcements of FDI projects received by Ghana between 2003 and 2018 had services as their destination according to Financial Times FDi Markets, a database of FDI announcements. Manufacturing industries accounted for 33 percent of the projects, the largest being food and tobacco (six percent), metals (four percent) and industrial machinery (four percent). Natural resources extraction industries accounted for the remaining (8.8 percent). However, of the US$42.9 billion of realized investment since 2003, US$22 billion (over 50 percent) corresponds to natural resource extraction activities, and 28 percent of the total stock of announced foreign direct investment (in US$) were for the manufacturing sector (Figures 18a and 18b).[15]

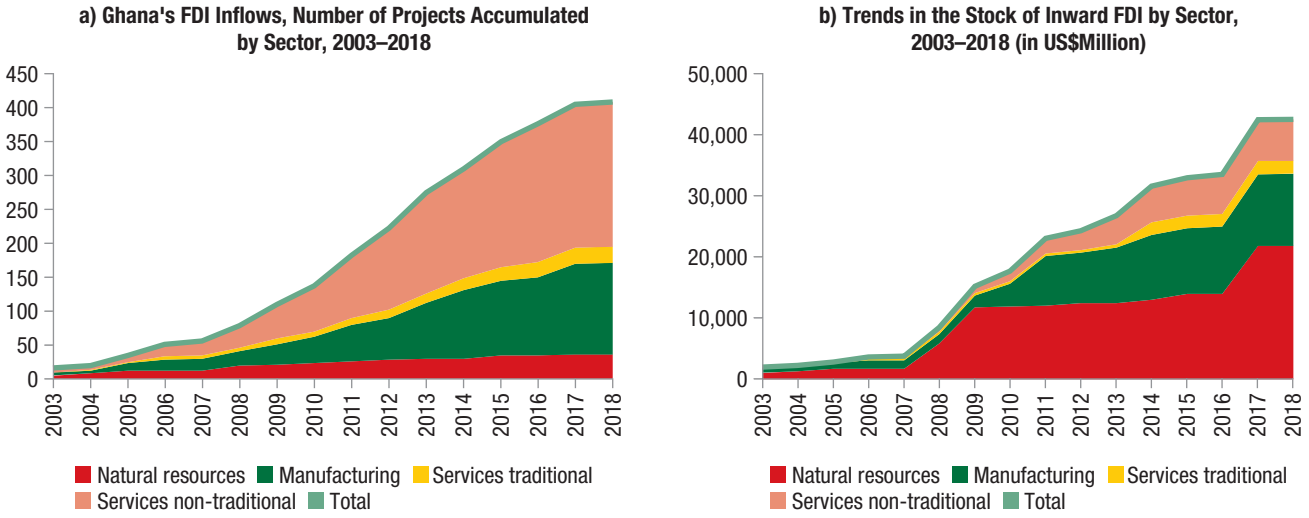
Ghana could leverage its ECOWAS membership and the upcoming implementation of the continental free trade agreement to attract market-seeking FDI. Market-seeking FDI inflows are positively affected by, among others, the size of the market (and its potential to grow), the availability and price of a skilled labor force, the quality of infrastructure, institutional quality, sound macroeconomic policy, and the existence of local service support facilities.[16] While Ghana could attract market-seeking FDI inflows because of its ECOWAS membership and the future implementation of the African Continental Free Trade Agreement (AfCFTA),[17] it still faces challenges in some of the identified determinants

[15] The main sources of Ghana's inflows of FDI are the EU, South Africa and US. When FDI is decomposed by country of origin, we see that the majority comes from 3 sources that account for almost 70 percent of total FDI: the EU (39 percent), South Africa (21 percent) and the United States (9 percent). FDI projects in services are not labor intensive: services related projects only represent one fifth of total direct jobs created by FDI. If we analyze the accumulated number of jobs directly created by FDI projects since 2003 and we decompose them by sector, we see that the largest contribution is made by projects that have manufacturing as a destination (59 percent), followed by primary activities (21 percent) and services (20 percent).

[16] Narula and Dunning 2010.

[17] Ghana is one of the 44 countries having signed the Framework Agreement of the AfCFTA on March 21, 2018. Key details of the Agreement are still to be agreed upon, including which specific tariff lines will be liberalized. The Agreement requires members to remove tariffs on 90 percent of products, though countries have not yet decided which ones. Also, rules of origin for the Agreement have not been finalized.

FIGURE 18: FDI in Ghana



Source: Staff calculations based on Financial Times FDi Markets Database.

of market-seeking FDI inflows. In addition to challenges discussed previously in Chapter 2 or in Chapter 1, the fact that service provision is identified as a major constraint by firms—particularly the ones integrated into the global market—shows that there is scope to further develop the service sector.

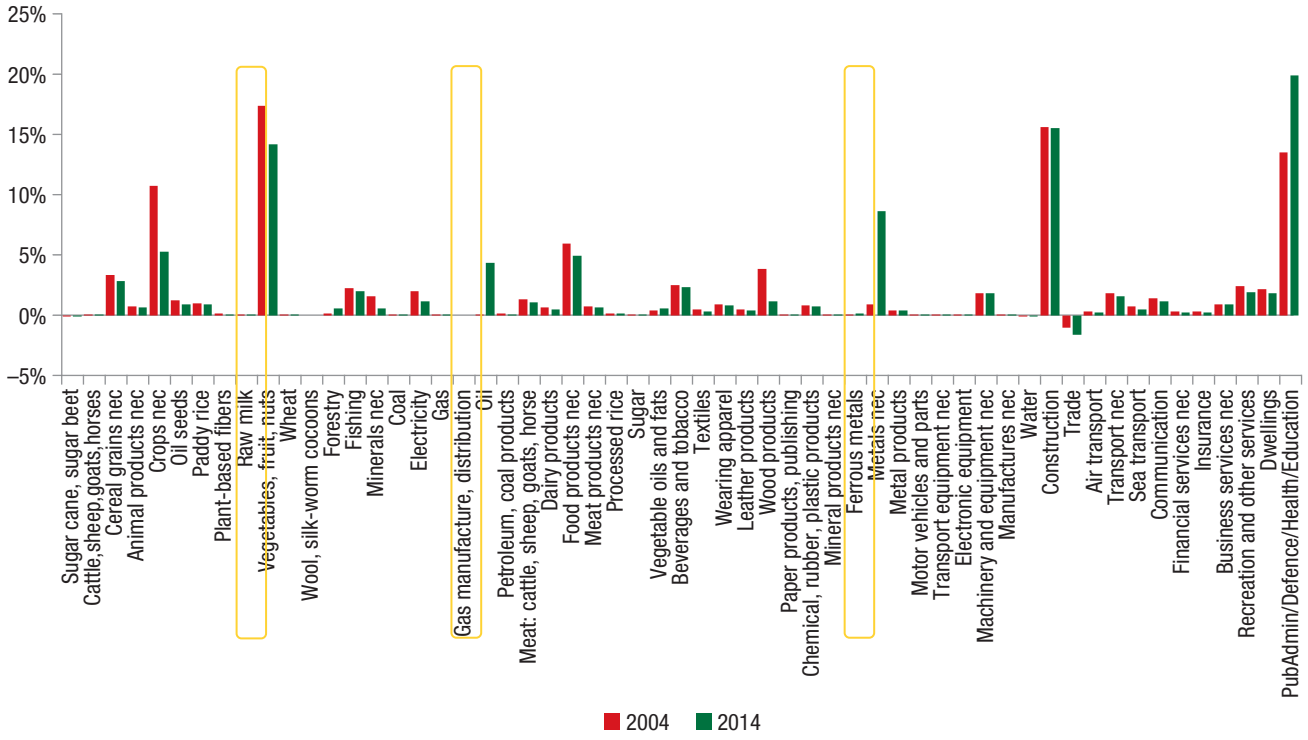
2.3.2 *Enhancing Service Quality*

Although the size of the service sector has increased, commodities still account for the bulk of domestic value-added in Ghana. The participation of fruits and vegetables (mainly cocoa), oil, and metals (mainly gold) as embedders of value-added grew from 18 percent in 2004 to 27 percent in 2014 (Figure 19). This means that although there has been some diversification towards services value-added in the economy, a large proportion of that value-added ends up being embedded in traditional commodities with highly volatile prices. It is estimated that, out of every US$100 of Ghanaian value-added exported, US$32 are generated in services and exported in a good, and within those US$ 32, that US$28 correspond to commodity exports: US$16 is value-added generated in services and embedded in energy (oil) products, US$10 are embedded in metals (mainly gold), and US$2 in agriculture (mainly cocoa) (Figure 20).

In the absence of quality backbone services, productivity will be subdued due to the inherent inefficient supply of services inputs. In lower-middle income countries, both worldwide and in SSA, obstacles to accessing services inputs affect firms' performance. For lower-middle income countries, such as Ghana, improving the quality of services supply, so that firms perceive that supply as less of an obstacle, is associated with improved firms' performance. In regions in which transport infrastructure is, for example, perceived as only a moderate obstacle, firms are, on average, 5.1 percent more productive than in regions where it is perceived as a major obstacle (Appendix 9).

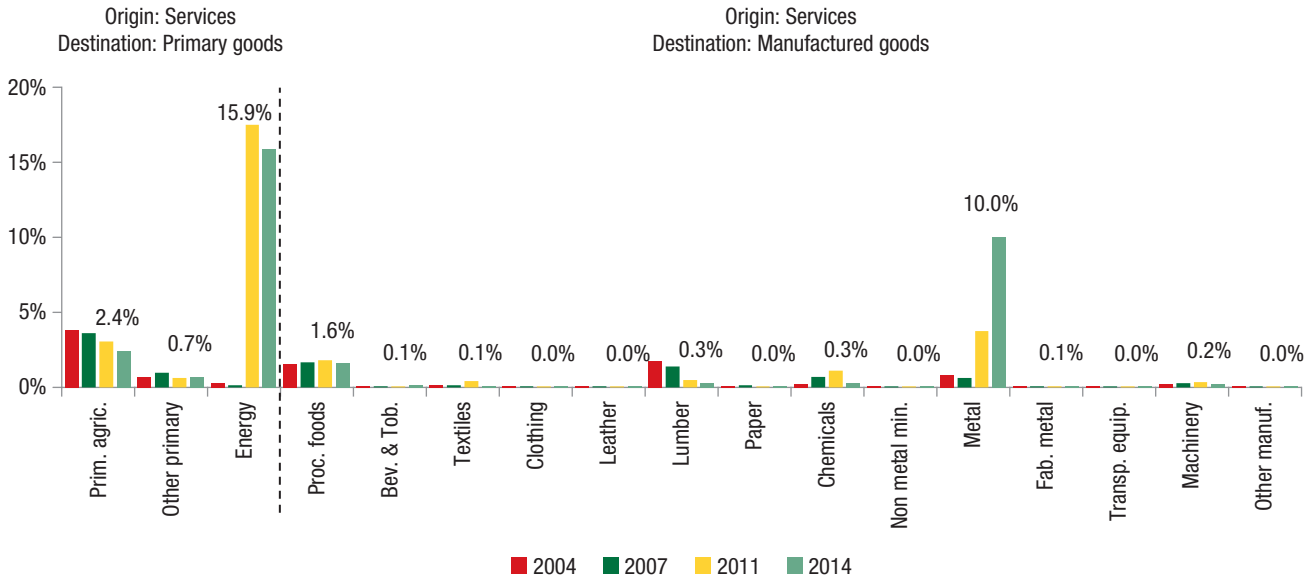
Improving services provision is key to Ghana's economic upgrading and vertical diversification process. The provision of competitive backbone services is crucial to create the conditions for a more diversified and sophisticated productive structure. For example, if Ghana is to keep its leading position as an exporter of cocoa beans, it will require the knowledge to adapt its cocoa bean growing techniques to meet new, more stringent EU regulations on cadmium

FIGURE 19: Backward Value-Added Composition, Ghana (%-age of Total Value Added)



Source: Staff calculations based on Global Trade Analysis Project (GTAP) database 10.

FIGURE 20: Exported Service Value Added by Sector, Ghana (%-age of Total Exported Value Added)

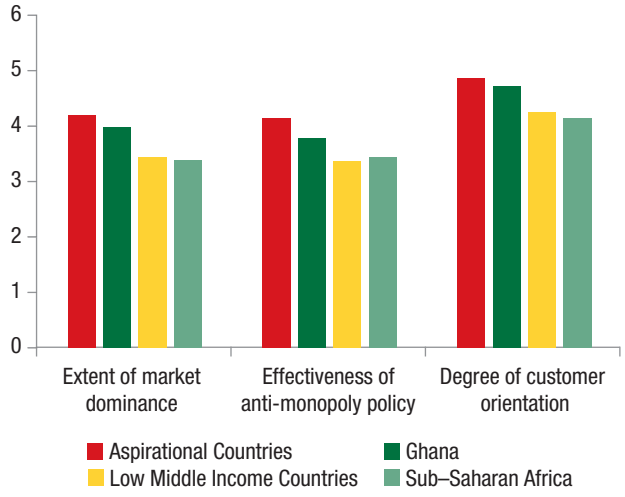


Source: Staff calculations based on Global Trade Analysis Project (GTAP) database 10.

content in cocoa. This will require tapping into expert consulting services so that farmers implement the needed mitigation techniques.

Increased efficiency in backbone services provision could be achieved by encouraging competition at home and by reducing the regulatory burden on firms. When implemented strategically, such reforms can result in reduced prices of services inputs, increased varieties, and improved quality. Private firms' perceptions of the extent of market dominance, the effectiveness of anti-monopoly policy and the degree of customer orientation (of firms) show that Ghana is above the SSA average but fall well below levels observed in aspirational peers (Figure 21). Moreover, even though Ghana has a more liberal policy stance for several services trade than comparators in the region, there is scope to reduce the restrictiveness observed for financial and professional services.

FIGURE 21: Firms' Perception of Some Market Efficiency Issues, 2017–2018



Source: Staff calculations based on World Economic Forum data (2017–2018).
Note: Score ranges between zero and seven. A higher score is associated with a better perception by executives.

INCREASING INVESTMENT FOR PRODUCTIVITY ENHANCEMENT AND ECONOMIC DIVERSIFICATION

3

The importance of capital accumulation to growth has steadily increased over the past three decades but investment has been driven by FDI inflows in the hydrocarbon sector and domestic investment is constrained by the level of interest rate. Over the period 1991 to 1998 capital accumulation contributed 0.52 percentage points to growth at a time when growth was driven primarily by TFP and labor growth. Since then, the importance of capital has increased substantially in light of large-scale capital accumulation in natural resource sectors such as oil and gas. Between 2012 and 2016, capital contributed 2.56 percentage points to growth far outpacing contributions from labor accumulation (1.59 percentage points) and TFP; the latter, in fact, has been negative since 2012 (–0.29 percentage points)**.** Capital accumulation has been accompanied by strong increases in total investment since 2011; but this investment had only limited impact on economic diversification as it was primarily driven by FDI inflows in the hydrocarbon sector. To maintain high rates of investments, especially domestic private investment, there is a need to mobilize more domestic savings in the economy. However, unfavorable interest rates and high collateral requirements constrain access to finance and represent an impediment to channeling savings into productive (investment) use; the former being already relatively low.

3.1 Overall Investment Trends

While total investment has increased substantially since 2011, it had a limited impact on economic diversification as it was primarily driven by FDI inflows in the hydrocarbon sector. After a decline between 2000 and 2010, total investment has substantially increased since 2011 (Figure 22a) as the country continues to encourage investment in its hydrocarbon sector through greenfield projects (Figure 31). This surge in investment was primarily driven by FDI inflows; the latter representing about 54 percent of total investment in 2013–2017 (Figure 22b). Despite these increases, total investment has been below levels recorded in aspirational countries (Table 1). Concomitantly, public investment has slowly declined since 2011 as the country made efforts to restore fiscal sustainability through a fiscal consolidation that significantly curtailed domestic-financed public investment.

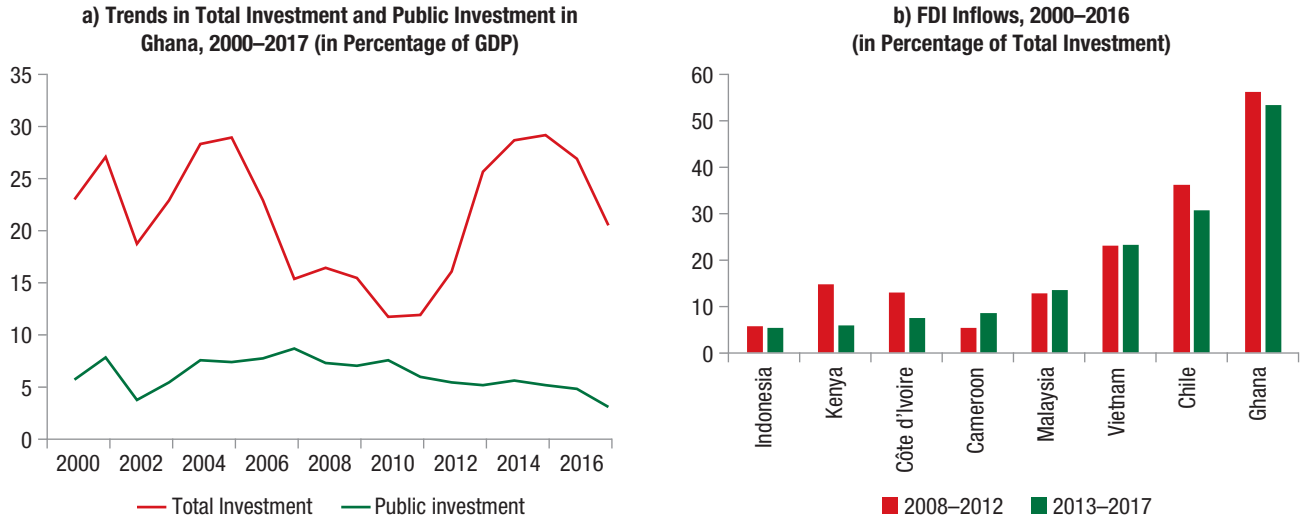
From the above trends, boosting domestic private investment, attracting more FDI in the non-resource sector, and mobilizing more savings seem to be major issues. In fact, with the Government not having the required fiscal space to further invest, the role of the private sector should be strengthened by helping domestic firms and attracting FDI inflows in the non-resource sector. Moreover, while the gap between investment and savings recently narrowed to an average of 4.9 percent of GDP 2013–2017 as financial inclusion improved, there is still a need to mobilize savings to shore up the capacity of the financial sector to contribute to development because Ghana savings level is below peer countries (Table 1).

3.2 Constraints to Domestic Private Investment

3.2.1 *Nominal Interest and Lending Rates*

Ghana shows a low level of usage of loans to finance capital goods due to unfavorable interest rates and high collateral requirements. While

FIGURE 22: Trends in Investment



Source: WDI and IMF.

Source: UNCTAD Database.

about 30 percent of Ghanaian firms report that they did not apply for a loan because they do not need it, the top three reasons for not applying for loans are (in descending order of importance): unfavorable interest rates, high collateral requirements, and complexity of application procedures. Firms reporting the above three reasons for not applying for loans also have the lowest level of capital funded by financial institutions (ranging between 2.1 and 7.4 percent in average).

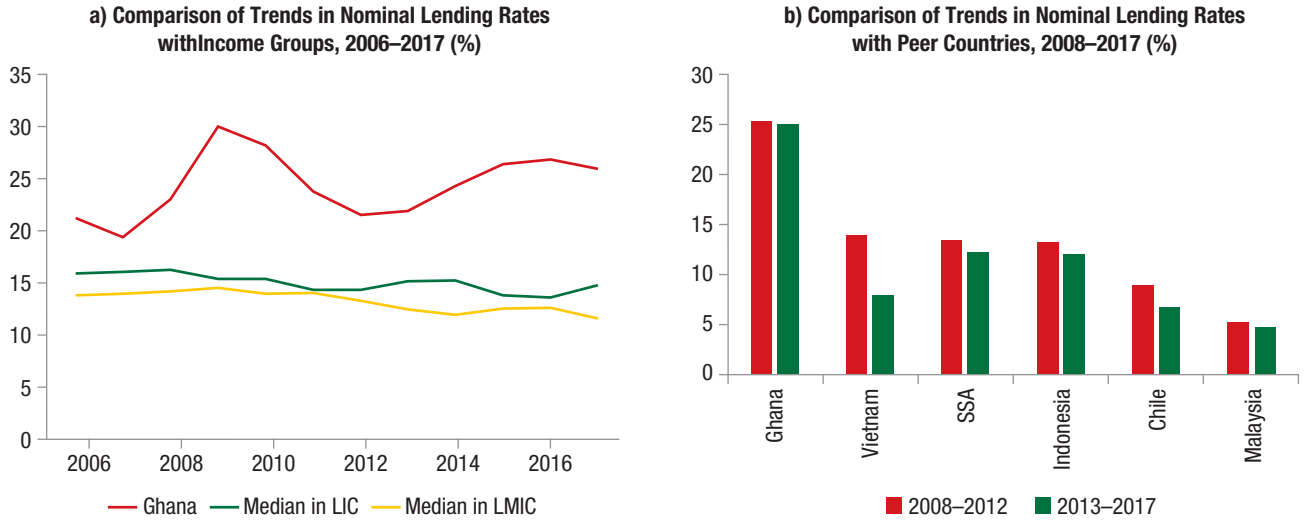
Nominal lending rates are also high in Ghana in comparison with lower-middle-income countries, and aspirational peers. Nominal lending rates that commercial banks offer in Ghana have been higher than the ones observed in median LMIC and LIC during the period 2006–2017 (Figure 23a). This situation is also observed when comparing Ghana with its aspirational peers (Figure 23b). The difference between lending rates offered by commercial banks in Ghana and the average rate observed in aspirational peers increased to 17.3 percentage points in 2013–2017 from 15 percentage points in 2008–2012.

High interest rates can be explained by macro-financial conditions, the banking sector structure, and business environment variables. Macroeconomic instability (inflation) and increases in sovereign risks due to higher public debt can create upward pressures on nominal lending rates (Figure 24a). Specifically, increases in sovereign risks due to higher public debt, and increases in non-performing loans fueled the increase of interest rates (See Appendix 11 for econometric results). Low competition, high credit risks, low efficiency, high opportunity costs, and low diversification of bank income can also contribute to the increase in lending rates. Business environment factors that can fuel higher nominal lending rates are related to poor creditor rights, information asymmetry, and poor contract enforcement.[18]

Challenging macro-financial conditions, due to sovereign risks and substantial inflationary pressures, contribute to high nominal lending rates. Except for the period 2010–2012, inflationary pressures have been quite high in Ghana, in comparison with LMIC (among which there are some aspirational

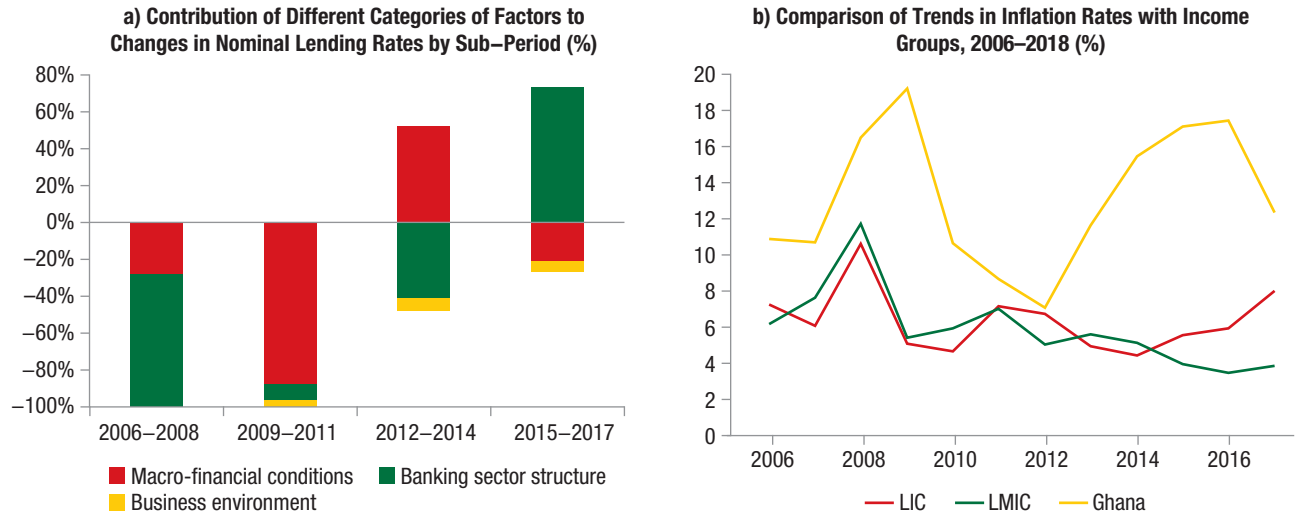
[18] For details, see Demirguc-Kunt and Huizinga (1999), Demirguc-Kunt, Laeven and Levine (2003), Poghosyan (2012) and Calice and Zhou (2018). The conceptual framework used in this report is extracted from World Bank (2019c).

FIGURE 23: Trend Change of Nominal Lending Rates, Ghana and Comparator Countries



Source: FinStat 2019, and Central Bank of Ghana.
Notes: Acronyms: LIC = Low Income Countries, LMIC = Lower-Middle-Income Countries, and SSA=Sub-Saharan Africa. For group of countries, the median of lending rates is reported.

FIGURE 24: Factors of Change in Nominal Lending Rates, Ghana and Comparator Countries

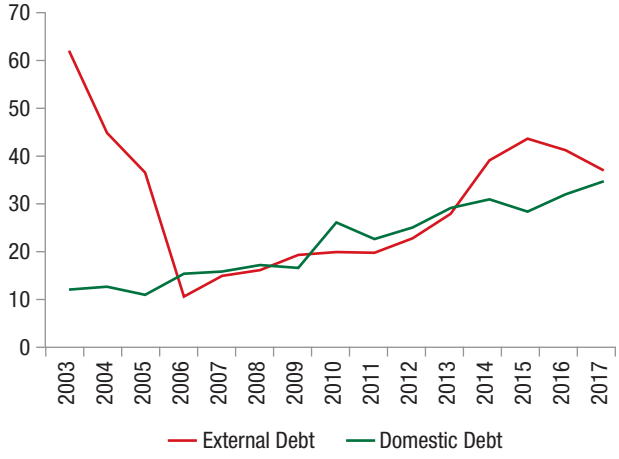


Source: Staff calculations based on data from WDI.
Notes: Acronyms: LIC = Low Income Countries, and LMIC = Lower-Middle-Income Countries. For group of countries, the median of lending rates is reported.

peers) and LIC (Figure 24b). Inflation is fueled by fiscal dominance and depreciation of the exchange rate in Ghana (IMF 2018). Moreover, after being granted a debt-relief in 2006, external debt has an increasing trend, and the same pattern is observed for domestic debt (Figure 25a). The positive trend of public debt results from the recurrence of fiscal deficits and contributed to the rise of sovereign risks as interest

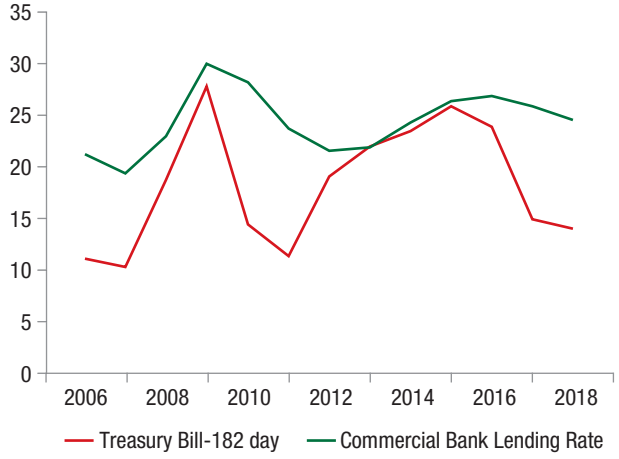
FIGURE 25: Public Debt and Lending Rates in Ghana

a) Trends in Public Debt, 2003–2017 (% of GDP)



Source: International Monetary Fund.

b) Comparison of Trends in Nominal Lending Rates and Treasury Bill Yield, 2006–2018 (%)



Source: Bank of Ghana.

payments reached 6.4 percent of GDP in 2016 (about 26 percent of total expenditure). This increase in sovereign risks is also reflected by the level of treasury bill yield; the latter being strongly correlated to nominal lending rate (Figure 25b) and representing a measure of opportunity cost for commercial banks.[19]

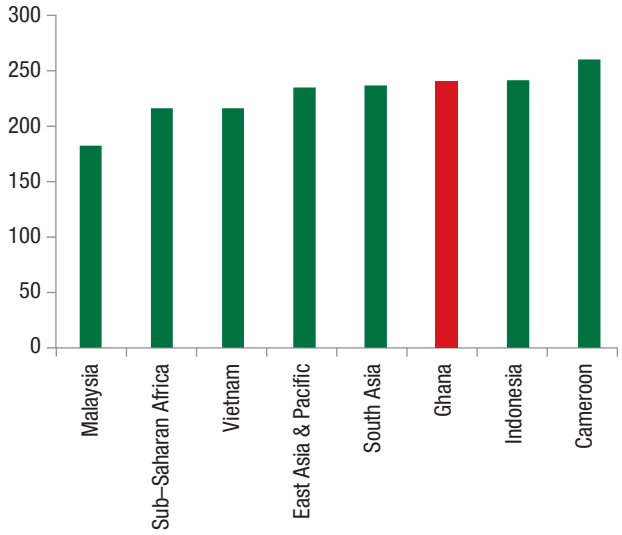
Credit risks substantially increased as non-performing loans have been on the rise since 2014, and lower competition levels have weighed on lending rates dynamic. Higher credit risks are reflected by the surge in non-performing loans to 22.7 percent in 2017 from 11.3 percent of gross loans in 2014. This increase in credit risks was driven by poor corporate policies and practices.[20] In addition, credit risks seem to be more important in Ghana than in aspirational peer countries as the non-performing loan (NPL) level is well above the median observed in LMIC. The efficiency of the banking sector has improved as operational costs are declining, but poor competition (measured by the increase in the concentration of total assets held by the top three banks) is creating upward pressures on nominal lending rates.

While progress was made to reduce information asymmetry, the credit information coverage remains low, and contract enforcement remains challenging; with consequences on collateral requirements. Ghana has three credit bureaus since the adoption of the Credit Reporting Act in 2007 and they have credit data on about 22.4 percent of adult population, compared with 86.6 percent in Malaysia, for instance. However, the use of these credit bureaus by commercial banks is limited by: (i) the data availability and data quality (standardized datasets proposed by the credit bureaus); and (ii) some legal issues such as the one related to the possibility that a consumer can revoke his/her previously given consent on credit reporting, or the need to update the regulation (World Bank 2016a). Contract enforcement remains challenging in Ghana as reflected in the fact that the country ranks 116th out of 190 countries in the 2019 *Doing Business* survey. For instance, the time to enforce a contract is 710 days in Ghana while it ranges between 400 and 480 days in aspirational peers, and the quality of the processes fall below that observed in aspirational peers. One result of the

[19] Ghana had had high risks of external debt distress and has important vulnerabilities related to its domestic debt (World Bank 2017b).

[20] https://www.bog.gov.gh/privatecontent/Public_Notices/State%20of%20the%20Banking%20System.pdf (Accessed on March 26, 2019).

FIGURE 26: Value of Collateral Needed for a Loan in 2018 (% of the Loan Amount)



Source: World Bank Enterprise Survey database.

above-mentioned challenges is the level of collateral requirements which stands around 240 percent of loan amount (Figure 26).

3.2.2 *Options to Lower Interest Rates*

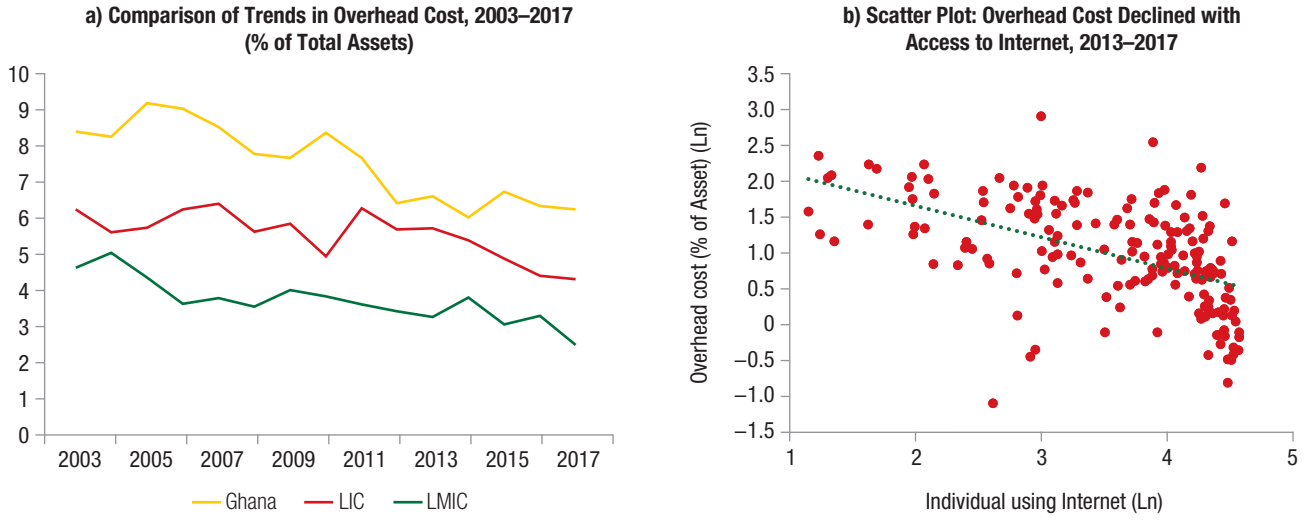
With easing inflation since 2018, the Bank of Ghana was able to gradually reduce lending rates. Ghana achieved, for the first time in the last five years, single-digit inflation in 2018 (9.8 percent, down from 12.4 percent in 2017). This was the result of the tighter monetary policy stance and lower non-food inflation. The Bank of Ghana practiced monetary restraints including the placement of a moratorium on Central Bank financing of the Government between 2015 and 2018, as part of the program with the IMF. The moderation in inflation created room for monetary policy easing. Consequently, the Central Bank cut its policy rate from 21.5 percent in July 2017 to 20 percent in September 2017, and further to 17 percent in March 2018. In January 2019, the Central Bank reduced the rate to 16 percent—the lowest rate since 2013—and an appropriate level at the current state of the macroeconomy. The weighted average interbank rate, the rate at which commercial banks lend among themselves, eased further to 16.2 percent in October 2018 from 20.9 percent a year ago in line with the monetary policy rate. The average lending rates of banks also declined to 26.9 percent in October 2018 from 29.1 percent a year before, consistent with the increase in credit to the private sector.

Reducing information asymmetry could be instrumental to the reduction of nominal lending rates as regulatory gaps exist. In fact, despite the efforts that have been made by the government of Ghana to strengthen financial credit bureaus and collateral registry regimes, regulatory gaps persist. The effectiveness of the registry is hampered by deficiencies in the legal framework. Specifically, the Borrowers and Lenders Act fails to harmonize disparate legislation governing securities rights and its scope is narrow (i.e., it only applies to regulated institutions). The lack of a unique identification system to facilitate the matching of information from various data providers also constrains the functioning of the collateral registry and credit bureaus (World Bank 2018).

But Ghana's commercial banks could further improve their operational efficiency as it is still below several benchmarks, and digital technology could be a plinth to achieve such an objective. Commercial banks operation improved as overhead costs declined to 6.3 percent of total asset in 2017 from 8.4 percent in 2003. However, the level of overhead cost remains above the one observed in lower-middle-income countries and low-income countries (Figure 27a). With Ghana having a low density of bank branches (6.1 branches per 100,000 adults) in comparison with the African average (8.1 branches per 100,000 adults), digital technology could help further efforts to reduce operational costs that weigh on nominal lending rates. In fact, a correlation analysis shows that countries with a high percentage of individuals using Internet have lower overhead costs (Figure 27b) [See Box 1 for a discussion].

While Ghana made remarkable progress in ICT and at creating an attractive ecosystem for tech

FIGURE 27: Trends in Overhead Cost, Ghana and Selected Countries



Source: Finstat 2019.

Source: Finstat 2019 and WDI.

entrepreneurs, the sector growth is facing several constraints. First, previously issues with electricity supply have impeded development of the sector. Second, the lack of highly skilled ICT specialists tends to push the cost of salaries upward and creates development bottlenecks. In addition, young ICT specialists often prefer to work for established companies—ones that offer better benefits—instead of riskier start-ups. Finally, access to finance is an issue of importance for ICT firms; particularly start-ups that could develop more solutions that are adapted to the local demand.

Other countries with high lending rates have used different types of direct policy interventions but they yielded mixed results. Governments in emerging and developing economies with high lending rates have mostly used direct policy interventions to address this issue. Direct policy interventions were related to interest rate caps, credit guarantee mechanisms, or interest rates subsidies in Brazil, several transition economies in the European and Central Asian countries, Indonesia, Laos PDR, and in several countries in the Middle East and North Africa (MENA) region. However, while these policy interventions could reduce lending rates for some categories of projects, it created some distortions as credit growth to MSMEs declined in some cases, or commercial banks compensated for losses by charging higher rates on non-targeted sectors. With such adverse consequences, some countries had to abolish the interest cap law, including Laos PDR in March 2019, while others, including Indonesia, adopted additional strategies to deal with some negative externalities.

Indonesia fostered the dialogue with banks on the issue and used specific targets to foster credit to some sectors. Despite differences in their products, services, clientele, risk appetite, and sectoral know-how, Bank of Indonesia (BI) requires all banks to meet minimum MSME exposure targets. To foster credit to MSMEs, the government extended its credit guarantee and interest rate subsidy programs to MSME and micro lending. The Indonesian Financial Authority (OJK) fostered also dialogue with banks, and it used moral suasion to induce all banks to lower lending rates to single-digit levels, particularly for the corporate and mortgage segments.

A cluster analysis of top reforming countries suggests that sovereign risks and credit risks are strongly correlated with nominal lending rate and lending-deposit spreads. Based on an analysis of clusters of top developing countries that significantly

BOX 1: The Potential of Digital Technology to Reduce Operational Cost in Ghana

In recent years, digital technologies have spread globally at a faster pace than previous waves of technological innovation, and are re-shaping consumer behavior, social interaction, business models, and the way government is working (Dahlman et al. 2016; World Bank 2016; World Bank 2018d). They are also disrupting the traditional industrial models as we know it, with an impact at a global scale.

However, along with disrupting traditional models, digital technologies encompass a wide range of new applications of information technology in business models and products, thereby enabling growth and change. There can be major consequences for countries' growth prospects and productivity by allowing them to: (i) exploit economies of scale and network effects; (ii) raise productivity; and (iii) facilitate access to global value chains. Digital technologies may also contribute to greater inclusion by lowering transaction costs and addressing information asymmetries associated with certain activities (for example access to finance) (Dahlman et al. 2016).

Ghana has the potential to use digital technology as a plinth to enhance access to financial services, including the reduction of overhead costs because of the current trends in the usage of ICT services and mobile payment solutions. While initial investment in the development of digital banking could have a significant sunk cost for banks, a national strategy that is implemented by both the government and the private sector could help reduce such cost.

Ghana's progress in the ICT sector is remarkable. From March to September 2018, the number of mobile subscriptions increased by more than 1 million, to 40 million (NCA 2018). Today, by most accounts, Ghana ranks among the best performers in West Africa. ICT indicators confirm the country's leading regional position for mobile cellular subscriptions (127 per 100 persons), while internet usage and the large user base of social media are among the highest in the region.

Mobile payments solutions have been expanding. The total number of mobile voice subscriptions grew by 39 percent from 25.6 to 37.4 million between 2012 and 2017. Similarly, registered mobile money accounts increased more than sixfold between 2012 and 2017, from 3.8 million to 23.9 million. Active mobile money accounts also increased significantly from 345,434 to 11.2 million between 2012 and 2017. As a result, the volume and value of mobile money transactions dramatically increased since 2012—to GH¢982 million and GH¢156 billion in 2017, respectively (World Bank 2018c).

The deep penetration of mobile technology in Ghana has made it a great medium for innovation in service delivery. Since it was introduced to the Ghanaian market in 2009, mobile money has played a key role in the push for financial inclusion. According to a study conducted by the Consultative Group to Assist the Poor (CGAP), in 2010 a relatively large segment of the Ghanaian population (44.0 percent) was excluded from the financial services sector altogether. By 2015 following the introduction of mobile money services, the segment of the population excluded from financial services fell to 25 percent.

The mobile money sub-sector is set to experience faster growth in the years ahead because of favorable regulatory environment and pro-financial inclusion policies. Interoperability of mobile payments is one of the key priorities for Ghana. The overall objective is to reduce transaction costs, engender competition, and promote all-inclusive financial growth.

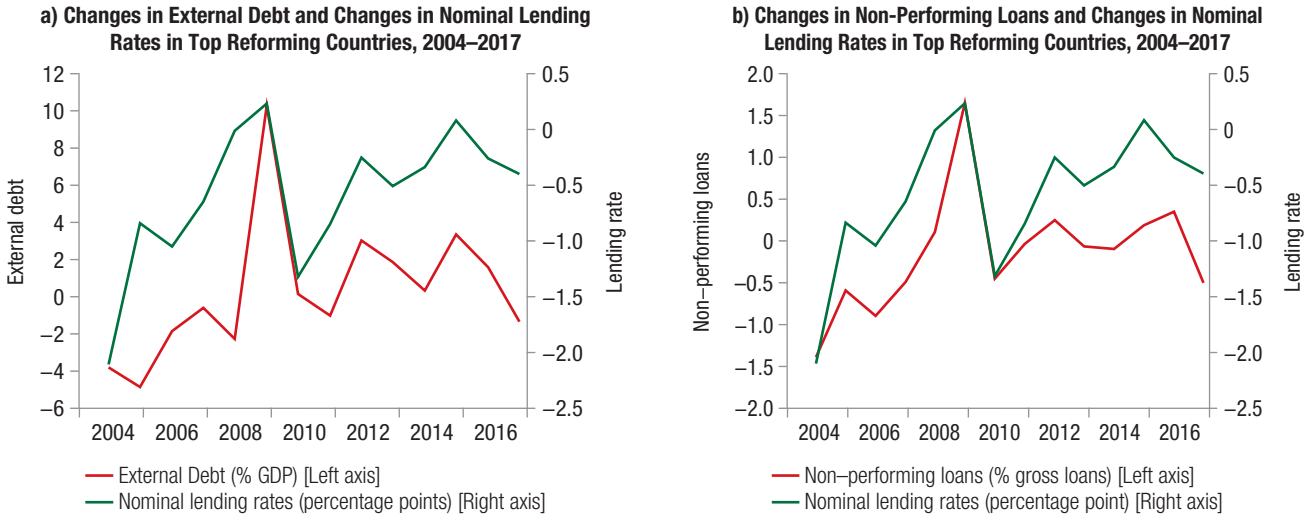
The growth of the ICT sector in Ghana was supported by the emergence of the middle class. In addition, the increasing availability of applications and content of interest for local clients is also sustaining demand. Indeed, growing online local language content and apps with practical uses are encouraging more and more people to sign up for mobile subscriptions, acquire or use smartphones, and use mobile internet (Oxford Business Group, 2018).

In April 2019, Google opened its first AI research center in Africa with 10 staff—a true revolution for the continent. The center will host engineers and researchers together to work on AI-dedicated projects. It will partner with local universities and institutions as well as policy-makers. Following the strategic decision of an expansion on the African continent, Ghana was chosen because of a reliable security and stability, the business environment, and internet infrastructure. AI is to be applied in sectors such as agriculture, health, and education. For example, thanks to AI small farmers could detect problems with their production or evaluate prices in online markets. The center will also focus on enhancing Google Translate's ability to capture African languages more precisely. The center will also establish links with local universities to help foster a supply of qualified young graduates.

Source: Staff compilation based on Ghana Investment Promotion Centre/Bank of Ghana.

reduced nominal lending rates and lending-deposit spreads between 2003 and 2017, it can be concluded that lower sovereign and credit risks were strong characteristics of this group of countries. For instance, between 2003 and 2017, one can find a strong correlation between both changes in external debt and changes in NPLs, and changes in nominal lending rates (Figure 28).

FIGURE 28: Changes in Debt, Lending Rates and NPLs, Selected Countries



Source: Staff calculations based on data from WDI, and FinStat 2019.

3.3 Foreign Direct Investment (FDI) in the Non-Resource Sector

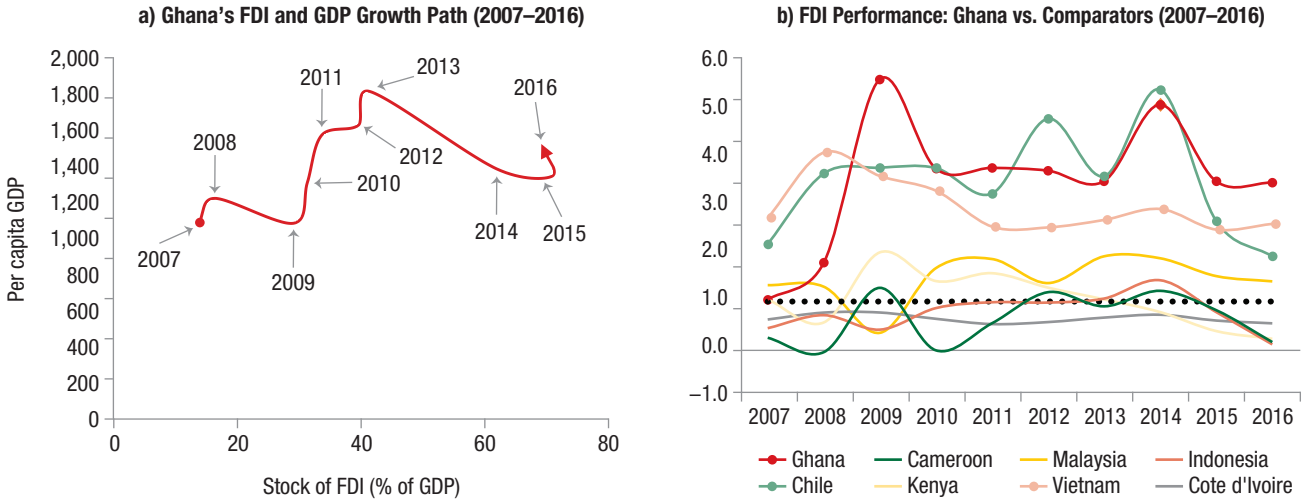
3.3.1 *Overall Trends in FDI in Ghana*

FDI is playing a powerful role in stimulating growth, productivity, and diversification in resource-rich countries such as Ghana. Between 2006 to 2017, Ghana saw volatile (though increasing) FDI inflows, while simultaneously experiencing an increasing rise in its inward stock of FDI. FDI (as a share of GDP) climbed from four percent in 2007 to 11 percent by 2009, before falling to about eight percent of GDP in 2010, where it has remained (on average) since 2011 (Figure 29). FDI stock increased from 14 percent of GDP in 2007 to 70 percent of GDP by 2016, signaling the significance of foreign direct investment in the country. Again, Ghana saw its inward FDI stock grow substantially from 2008 to 2009, when it effectively doubled (from 16 percent to 29 percent of GDP).

To best leverage the FDI that Ghana receives for its national development objectives, Ghana should articulate a clear investment vision and prioritize targeted investment policy reforms. Ghana's high flows of inward FDI were correlated with strong growth until 2013. Since 2013, FDI has continued to accumulate, although Ghana's per capita growth has been declining. Over the same period, the high FDI stock and limited growth has resulted in an FDI performance that is above parity for Ghana. In other words, Ghana's share of global FDI inflows exceeded the amount that would be expected of an economy of its size. Ghana's FDI performance often exceeds top comparators, Chile and Vietnam. With rising macroeconomic pressures and a growing labor force (that is predominantly young) it remains critical that Ghana pursue policies that will diversify its economy through FDI.

Though Ghana has received high amounts of inward FDI, the components of this FDI have not been diverse. FDI has primarily consisted of new equity with some intra-company loans. Since 2010, FDI has consisted only of foreign direct investors' purchases of shares of enterprises in Ghana (Figure 30). Intra-company loan investments are common for capital-intensive sectors, including the extractives sectors where Ghana receives the bulk of its capital investments. Likely, the absence of other reinvested earnings and intra-company loans is due to lack of reporting. For example, the lack of reporting of

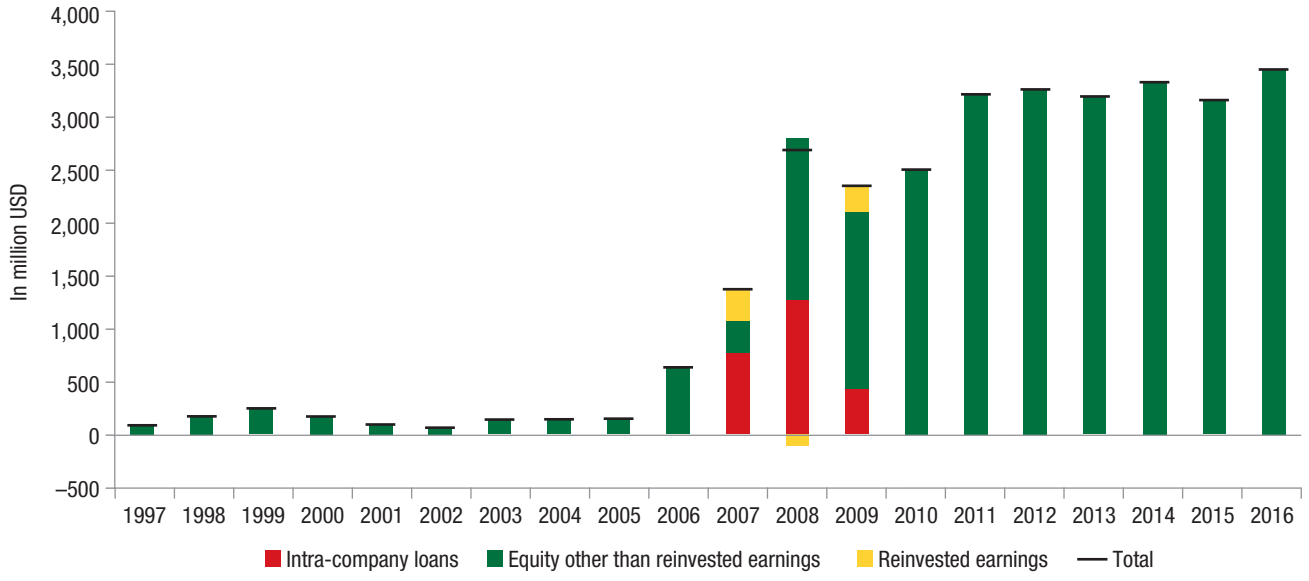
FIGURE 29: FDI in Ghana and Selected Countries



Source: Staff calculations based on World Bank FDI Snapshot (2019), using UNCTAD data.
Note: This graph shows the extent to which the country's GDP growth path has been domestically driven or driven by FDI. This shows correlation not causation.

Source: Staff calculations based on World Bank FDI Snapshot (2019), using UNCTAD data.
Note: The FDI performance index provides a comparative insight into a country's FDI attraction with respect to its relative economic size, dividing its share of global FDI by its share of Global GDP. This provides a measure of a country's "fair share of global FDI".

FIGURE 30: Ghana's Composition of Inward FDI Flows, 1997–2016 (in US$Million)

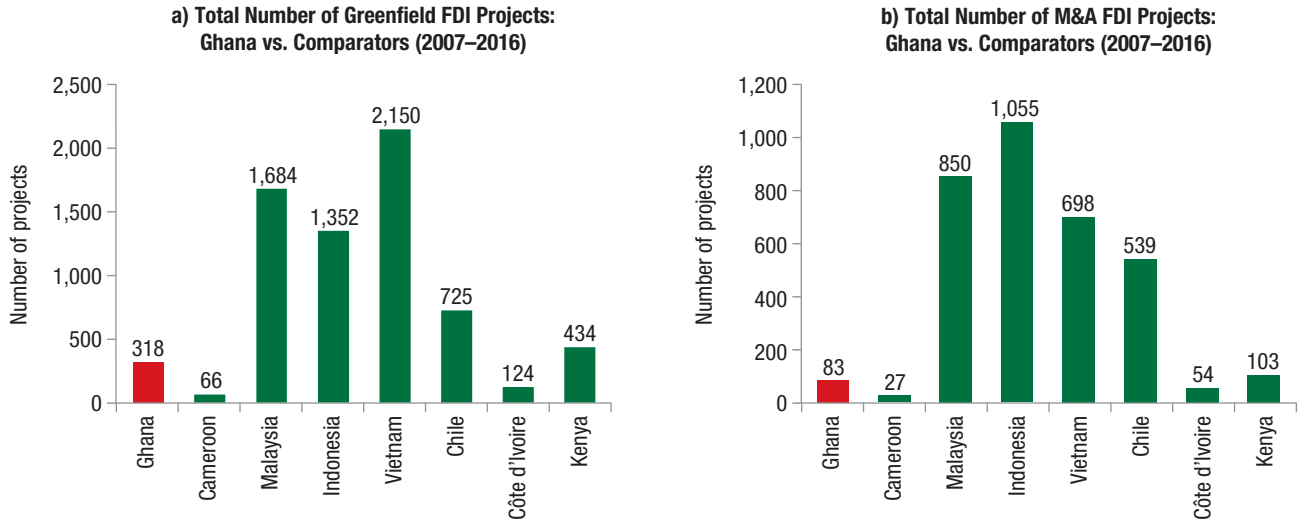


Source: Staff calculations based on World Bank FDI Snapshot (2019), using IMF BoP data.

reinvested earnings could be due to limited data and difficulties in obtaining this information. Analysis of historical data (from the early 1950s) confirms that up until 2007.

Most of Ghana's FDI projects have been greenfield investments. There are two types of FDI projects: mergers and acquisitions (M&A) and greenfield. Broadly speaking, M&A investments refer to the

FIGURE 31: Greenfield FDI in Ghana and Selected Countries



Source: Staff calculations based on World Bank FDI Snapshot (2019), using Financial Times fDi data.

Source: Staff calculations based on Thomson Reuters database.

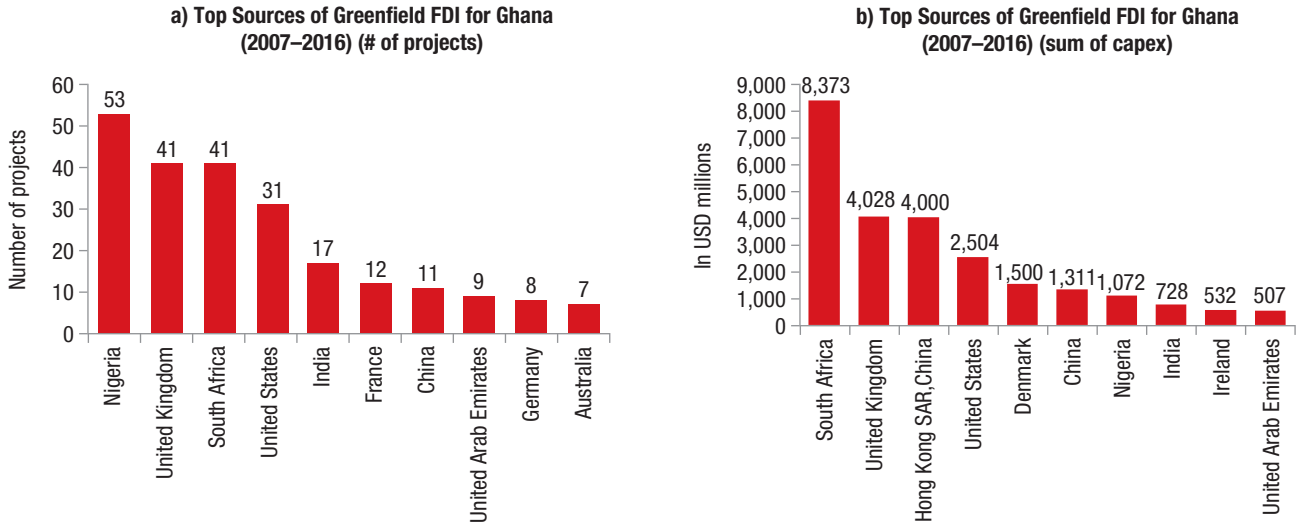
numerous types of transactions that occur as companies merge and acquires assets. Greenfield investment projects are the brand-new foreign investment projects in a country. Thus, greenfield investments provide a good measure of the entry of new FDI in a country across time**.** Between 2007 to 2016, Ghana saw about four times as many greenfield projects as M&A investments. Relative to its African peers, Ghana received more of both types of foreign investment projects than both Cameroon and Cote d'Ivoire combined. Moreover, Ghana received only slightly less than the number of projects recorded in Kenya (Figure 31).

The top sources for such greenfield FDI inflows into Ghana in the last decade have been Nigeria, the United Kingdom, South Africa, the United States, and India. Ghana's greenfield trends are consistent with the average trends of Sub-Saharan African countries. The top greenfield investors in the region (2003 to 2016) were the United States, United Kingdom, South Africa, India, France, Kenya, and China (Figure 32).

Greenfield investments from Ghana's top source countries have predominantly been in financial services. Greenfield projects from top African investors in Ghana (Nigeria and South Africa) were concentrated in financial service: 79 percent of total Nigerian projects and 26 percent of South African projects (2007–2016). Likewise, most greenfield projects from the UK (19 percent) and India (11 percent) were also in financial services. Ghana also received significant projects from the United Kingdom (14 percent) and the United States (17 percent) in business services.

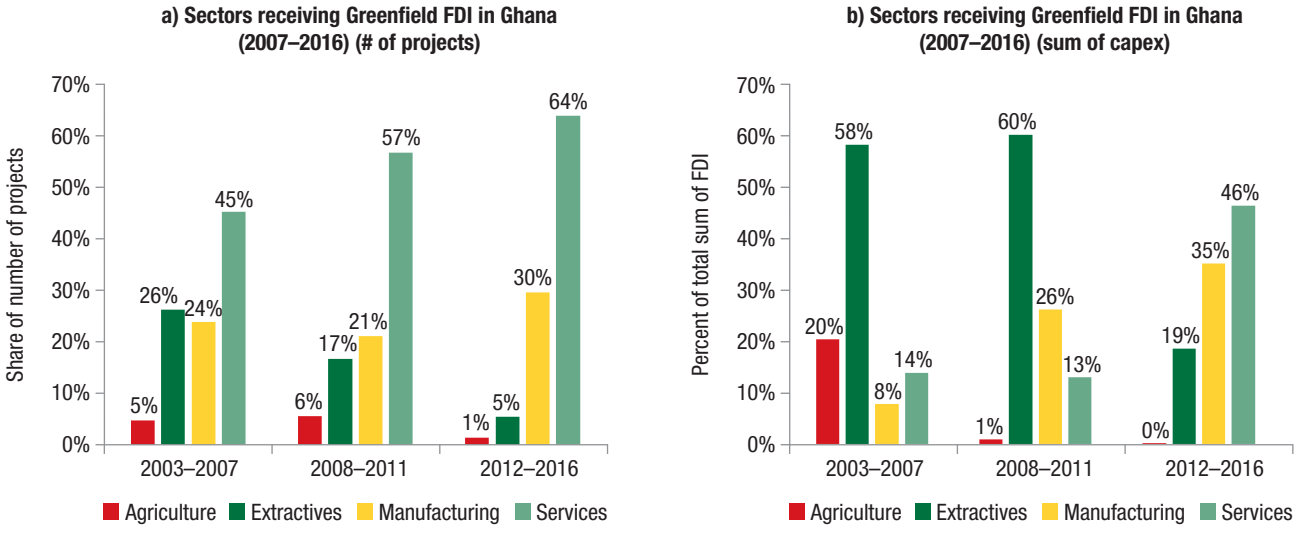
Since not all FDI is the same, different types of investments present varying challenges and opportunities for economic growth and development for Ghana. In Ghana, services contribute nearly 60 percent to domestic value addition, compared to only seven percent from extractives. Moreover, investments in the service sector are important for job creation in Ghana. Investments in services sectors, such as financial and business services, provide high-knowledge and technology-intensive jobs. These latter job opportunities, through FDI, would be important for boosting Ghana's competitiveness in global markets. According to the IFC's Ghana Country Private Sector Diagnostic, about 80 percent of Ghana's jobs are in services.

FIGURE 32: Top Sources of Greenfield FDI in Ghana



Source: Staff calculations based on World Bank FDI Snapshot (2019), using Financial Times fDi data.

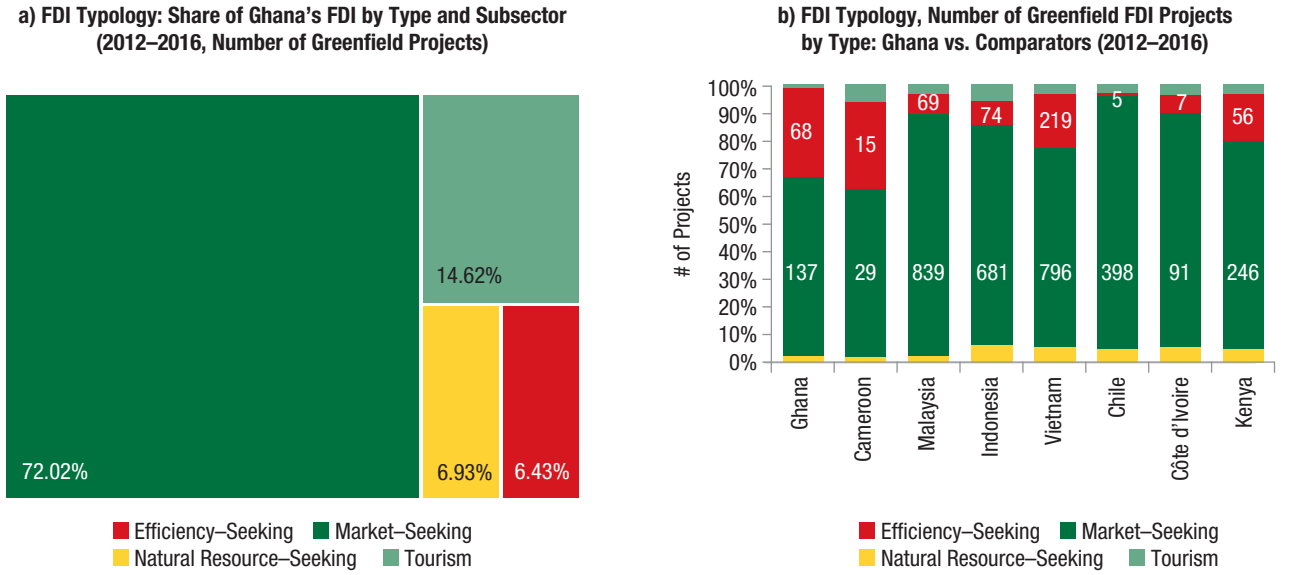
FIGURE 33: Sectors Receiving Greenfield FDI in Ghana



Source: FDI Snapshot, WBG 2019. Using Financial Times fDi Markets data.

Over time, Ghana has seen its share of FDI shift from natural resources to services. Although extractives made up the bulk of Ghana's FDI (2003 to 2016) in terms of new greenfield projects, the largest number of projects were in services (Figure 33). Commonly, as natural resource investments are capital-intensive, countries such as Ghana may see the lion's share of their greenfield investments in a few large extractive projects. Following the 2010 commodity boom, there was a two percentage points increase in its share of extractives FDI projects. However, as the number of greenfield projects is a

FIGURE 34: FDI Typology and the Situation in Ghana



Source: Staff calculations based on World Bank FDI Snapshot (2019), using UN COMTRADE and Financial Times fDi data.
Note: Numbers in bar are numbers of projects.

signal of new investor interest, the shift from natural resource to services FDI in Ghana over time, tells a story of structural transformation through FDI. Services projects have over time increased (from 45 percent in 2003 to 2007 to 64 percent in recent years), while projects in extractives have diminished from a quarter of projects in 2003 to 2007, to only a fifth in recent years. Financial services projects have been concentrated in the upper West, upper East and northern regions of the country. All in all, this tells a story of FDI-led diversification in Ghana.

Most of Ghana's foreign greenfield investments have been market-seeking (See Figure 34 for reference). Specifically, 64 percent of Ghana's greenfield projects are categorized as market-seeking investments.[21] Ghana has received this type of investment in financial services, retail, electricity, and telecom, among others. Market-seeking investment depends on the attractiveness and size of the receiving country's market, and hence is determined by long-term variables of the economy. Consequently, policy changes to attract more market-seeking investment require substantial time to kick in.

Efficiency-seeking investment, on the other hand, is export-oriented and can be determined by relatively short-term policy changes. Such FDI, if attracted, has the potential to help Ghana improve the productivity of its workforce and connect domestic suppliers to Global Value Chains. This type of FDI occurs when investors seek to increase cost-efficiency of production, by taking advantage of various location-specific competitive factors, such as knowledgeable workforce and supply of key inputs like transport or logistics, etc. Given the mobility of efficiency-seeking investment, global competition for this type of FDI can be fierce and attracting it can be difficult. As such, efficiency-seeking FDI generally relies on a strong investment climate in the host country. The 2017/2018 *Global Investor Survey* found evidence that efficiency-seeking investors may be more responsive to policies aimed at improving the host country business environment. Export-oriented FDI can bring both jobs and technological advancements to Ghana.

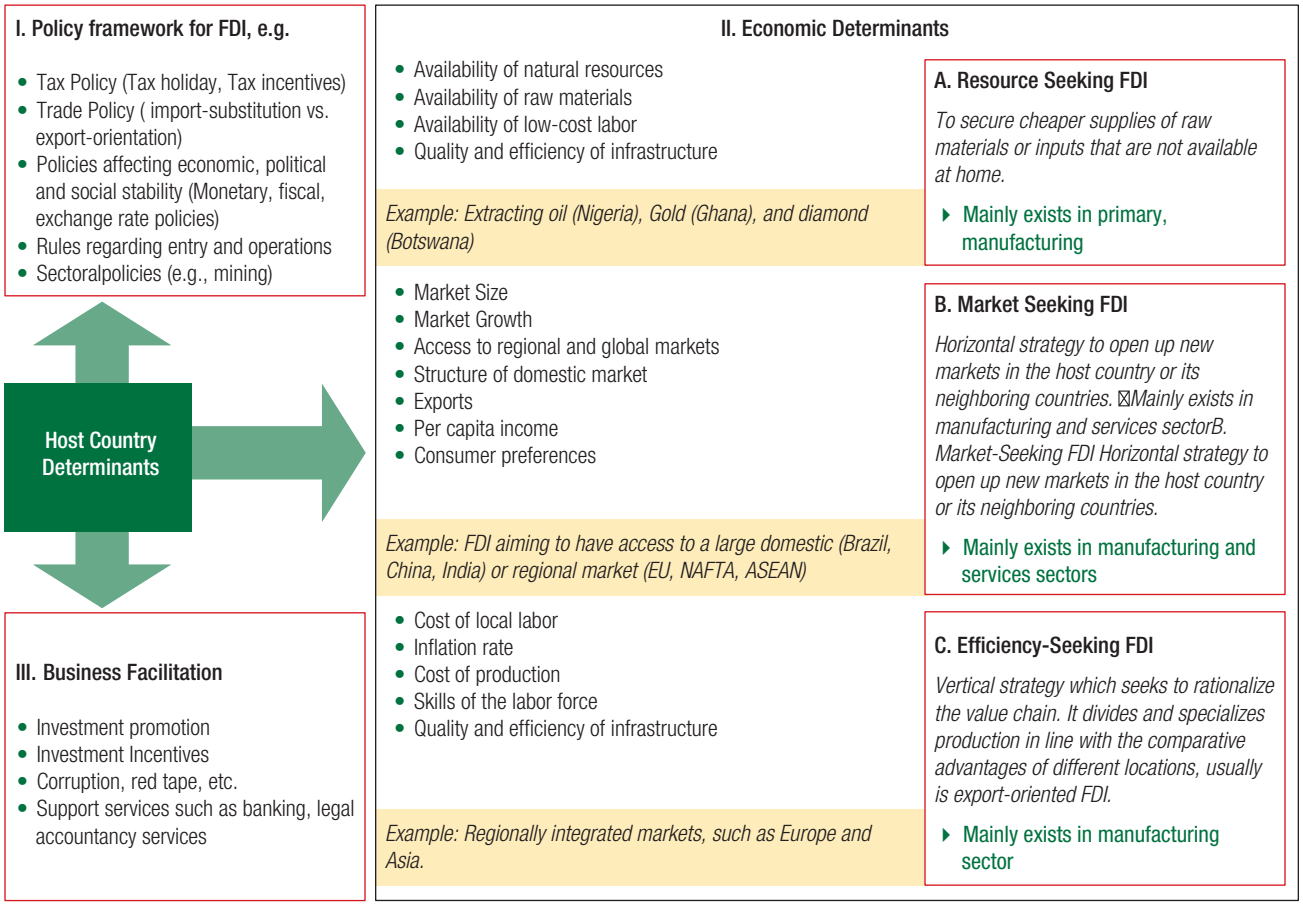
[21] Market seeking investment is driven by an investor's intention to establish production facilities in the host economy, with the ultimate intent of supplying goods and services to the host country's market.

About 30 percent of greenfield investment projects into Ghana have been efficiency-seeking (i.e. non-market seeking in Figure 34a). Of these, 6.4 percent were purely efficiency-seeking FDI inflows and these were entirely concentrated in business services. Tourism and natural resources account for the remainder of overall efficiency seeking FDI. Compared to the rest of SSA, Ghana's share of these projects is relatively high. By comparison, over the same period, Cameroon also saw 31 percent of its greenfield projects as efficiency-seeking investments (non-market-seeking), compared to 20 percent in Vietnam, 17 percent for Kenya and less than 10 percent each for Malaysia, Indonesia, and Cote d'Ivoire.

3.3.2 *FDI Determinants: How to Attract Non-Resource Inflows?*

Ghana has potential to attract significant FDI inflows in the non-resource sector. Figure 35 presents a theoretical framework to analyze FDI determinants and to guide the development of sectoral strategies to attract foreign investors according the national development plan. Determinants are organized within the following categories: (i) policy framework, (ii) economic determinants and (iii) business facilitation. It appears that Ghana can improve as a destination for FDI by tackling a few selected issues in its policy framework and its ability to facilitate business (left-hand side of Figure 35).

FIGURE 35: Host Country Determinants of FDI: A Theoretical Framework



Source: Chen, Geiger, and Fu (2015).

Ghana is one of the most open economies to foreign equity ownership in the SSA region as restrictions only exist in selected sectors, according to the Investing Across Sectors World Bank database. Excluding some primary sectors, all of Ghana's major sectors are fully open to foreign capital participation. In the mining and oil and gas industries, there are equity restrictions stipulated in the Minerals and Mining Act (2006, Act 703), and the Petroleum (Exploration and Production) Law (1994, Act 84). Both acts mandate a compulsory local participation in investment projects in the electricity transmission and distribution sectors; the government automatically acquires a minimum equity share of 10 percent in ventures at no cost. Moreover, the dominance of public owned firms in the electricity transmission and distribution sectors could represent a potential obstacle to foreign equity ownership in those industries.[22]

Firm executives doing business in Ghana frequently flag taxation as a major constraint that can affect investment decisions. Despite the existence of a substantial number of tax incentives (World Bank 2017), about 52 and 38 percent of Ghanaian firms respectively, perceive issues around taxes and the tax administration as major or severe constraints for their operation (*Ghana 2013 Enterprise Survey*). Recent data, from the World Economic Forum, confirms the likelihood of these issues (2017–2018). In fact, this data suggests that, in comparison with an aspirational peer like Malaysia, taxation negatively affects investment decision and custom procedures are burdensome in Ghana. For instance, for tax and mandatory payments within a year, firms should make eight payments in Malaysia and 31 payments in Ghana (*Doing Business 2019*). Moreover, firms should spend an average of 77.7 hours per payment in Ghana but only 23.5 hours in Malaysia. To facilitate payment, the Government of Malaysia relies heavily on online tools for tax payments. Any decision about tax rates, which are part of the policy mix to attract FDI needs to be made in the context of each host country's fiscal space. In Ghana, such space is very limited for the foreseeable future. But other facilitating measures to ease the burden for tax administration remain viable policy options for Ghana.

Red tape and corruption also weigh on prospects to attract FDI in the non-resource sector. While institutional factors have been found to be determinants of FDI inflows by several empirical studies such as Globerman and Shapiro (2002), Busse and Hefeker (2007), and Kenisarin and Andrews-Speed (2008), more than 40 percent of Ghanaian firms rated corruption as a major or severe constraint to their daily operation (*Ghana 2013 Enterprise Survey*). Moreover, the severity of this issue is confirmed by the recurrence of bribes according to data from the World Economic Forum (2017–2018), and the trend of the corruption perception index published by Transparency International.

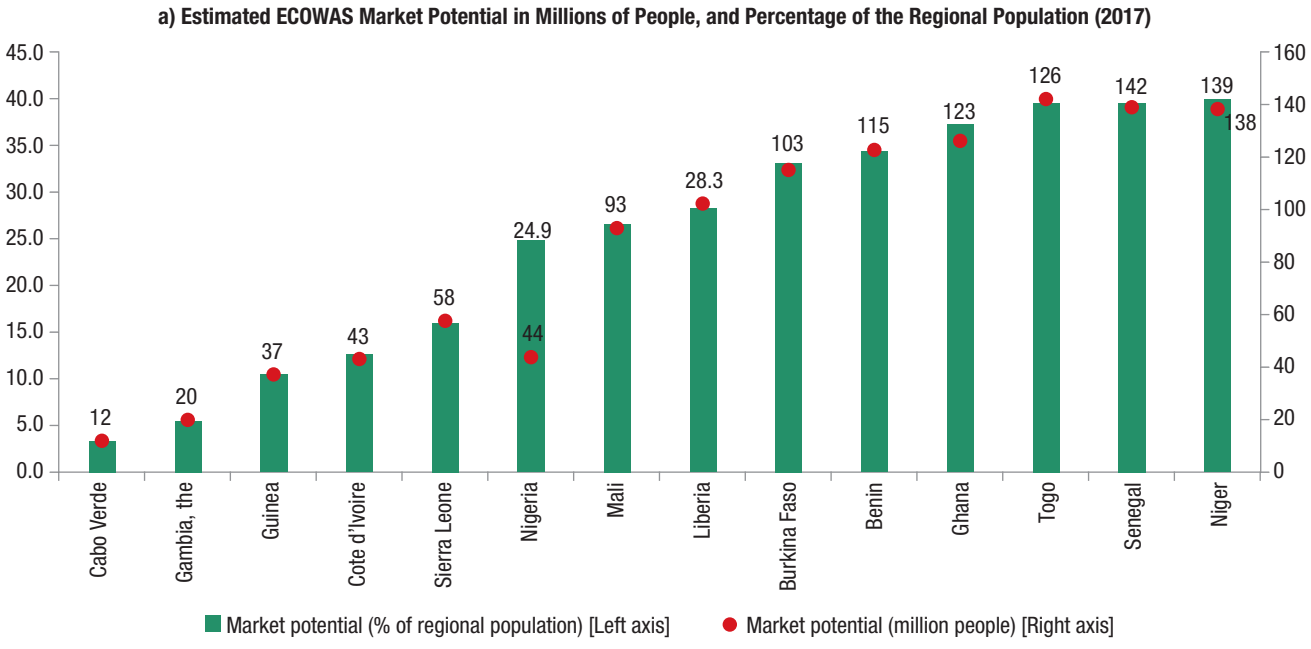
Ghana lags on contract enforcement procedures; the latter being critical to foster investment. Ghana ranks 116th out of 190 economies in the *Doing Business 2019* while aspirational peers such as Malaysia and Vietnam ranks are respectively 33rd and 62nd. Ghana could greatly benefit from an improvement of contract enforcement procedures despite limited empirical evidences on the impact of contract enforcement on investment (Aboal, Noya, and Rius 2014). In fact, the impact of contract enforcement—and institutions in general—on investment or economic performance has been found by several authors such as Djankov, McLiesh, & Ramalho (2006), Nunn (2007), Quintin (2008), and Haidar (2012). Critical areas of improvement are related to case management since trial, judgment, and the enforcement of the latter are lengthy in Ghana: 365 days are required for trial and judgment in Ghana while 270 days are required in Malaysia; and 330 days are required to enforce judgment in Ghana, in comparison with 120 days in Malaysia (*Doing Business 2019*).

[22] This is according to the World Bank's Investing Across Borders Indicators (available at: http://iab.worldbank.org/data/exploreeconomies/ghana#investing-across-sectors; accessed on May 11, 2019).

Furthermore, access to land is a major issue that would limit the occurrence of large investment in productive land, for instance for the development of agribusiness. Access to land is often reported as an issue by the private sector. As in many countries in SSA, the supply of land in Ghana is regulated by a dual framework including customary (traditional/religious) and statutory (legal and judicial) systems. An estimated 80 percent of the land is governed under customary law and only 20 percent under statutory jurisdiction. Although the commercial exploitation of land in traditional areas is made possible through a variety of customary arrangements, Ghana's contradictory institutional and legal arrangements result in unclear tenure arrangements, which allow informal acquisition of land. In this context, the ownership and management of land leaves space for opacity and potential conflict especially at the expense of smaller operators and smallholders. Challenges in this area are reflected in Ghana's low rank (123rd out of 190 countries) on a property registration indicator (*Doing Business 2019*).

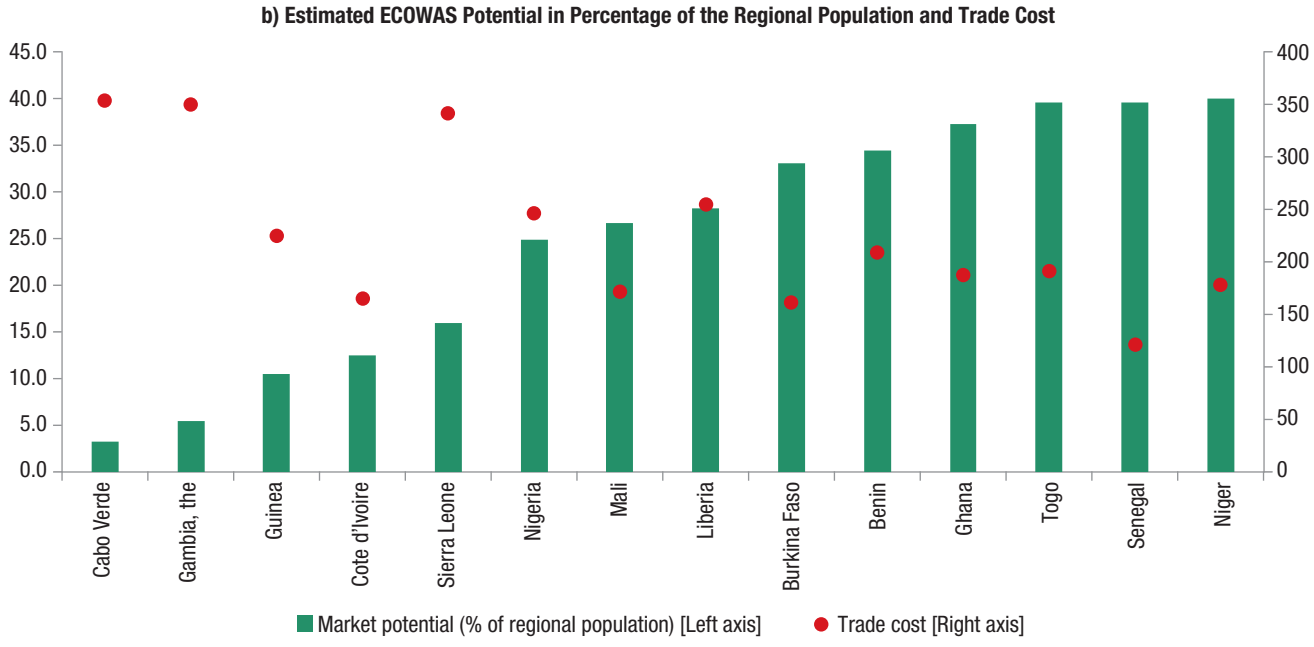
In the ECOWAS region, Ghana has some market potential to attract market-seeking FDI, but its attractiveness is reduced by trade costs and the quality of infrastructure. Ghana is the second market of the ECOWAS region after Nigeria, and it is the third economy in terms of GDP per capita (estimated at 2011 international constant prices) after Nigeria and Cabo Verde. The above-mentioned characteristics of the Ghanaian economy and its ECOWAS membership provide opportunities to attract market-seeking FDI inflows. Ghana is one of the countries with the highest potential to have access to the regional market (Figure 36a), particularly among countries that do not share an immediate border with Nigeria (about 190 million inhabitants in 2017). Analysis suggests that, considering the current trade cost among ECOWAS countries, a foreign-owned plant in Ghana could target a maximum of 126 million inhabitants from the ECOWAS region; which is only 37 percent of the regional potential. This potential could be significantly improved by reducing the trade cost that represents about 187 percent of the value-added of product (Figure 36b).

FIGURE 36: Estimated Regional Market Potential for Ghanaian Products



(continued on next page)

FIGURE 36: Estimated Regional Market Potential for Ghanaian Products *(continued)*



Source: Staff calculations based on data from ESCAP-World Bank International Trade Costs Database, and WDI. Note: Estimation method adapted from Carstensen K. and Toubal F. (2004).

Note: These graphs calculate the regional market potential approximated by ECOWAS. The potential market share is a function of a country's own population, total ECOWAS population, and trade cost. For each country the share excludes its own population and focuses on non-domestic ECOWAS markets. Consequently, larger countries, like Nigeria, will have a comparatively small regional market share relative to smaller countries, like Liberia.

POTENTIAL PATHWAYS FOR ECONOMIC DIVERSIFICATION

4

4.1 Summing It All Up

This final chapter analyses different potential pathways to support economic diversification in Ghana. Opportunities for future growth through diversification are presented in the short-, medium-, and long-term. To help identify short- to medium-term opportunities to expand the production base this analysis is based on the concept of "Economic Fitness," which is a measure of a country's capabilities and is computed as the complexity-weighted diversification of its exports relative to 180 countries.[23] The analysis around "Economic Fitness" fits well into the framework of identify promising segments in the economy in the spirit of the "direct approach" for diversification.. In addition, the work provides options for a policy reform agenda that aims to broaden the endowment of the country, which was earlier labeled as an "indirect approach" for diversification. Pathways and priorities that fall under this category have the potential to make a development impact over the medium- to long-term; this is because broadening endowments requires institutions and time.

Combining the "direct" and the "indirect" approach to identify complementary opportunities allows the development of a forward-looking medium-term diversification agenda. The two approaches are interdependent. The "direct approach" is a means to identify promising sectors that can have targeted interventions to broaden the endowment in this sector; as such, these interventions also contribute to the indirect, broadening of the endowments in the whole economy. To illustrate: if better access to land is a required element in the institutional framework for a more diversified economy, access to land *with irrigation* is a very specific, targeted requirement for diversification through agriculture and agribusiness. Likewise, if human capital elements from the "indirect" approach are applied in a specific sector, such as training for specific skills in ICT or chemical industries, a sub-set of that country's human capital endowment is expanded.

Table 3 summarizes the short-, medium-, and long-term pathways for a more diversified economy in Ghana. More details are subsequently provided in this chapter. In terms of the "indirect" approach, over the medium- to long-term, it is found that Ghana needs to reduce macroeconomic volatility, further develop human capital, invest in infrastructure to tape into the regional potential market, and improve the currently weak business environment and institutional framework. These elements are cross-cutting issues that are crucial to enhance productivity as well as foreign and domestic investment in the non-natural resource sector. In addition, access to finance, a major constraint in Ghana, is analyzed through the lens of high nominal interest rates in Ghana. The "direct" approach provides a glimpse on potential sectors that can be considered in an economic diversification strategy with a short-to-medium impact..

[23] Economic fitness is based on the concept of hidden capabilities (Tacchella et al. 2012). Productive structures are ever-changing interactions of economic, political, social, technology, and other less definable indicators. Some are measurable: human capital, resource endowments, and governance. Others are more difficult to define, even conceptually. Instead of trying to estimate each factor that influences competitiveness and productivity, economic fitness uses economic output as a proxy for a country's capability set. If a country can compete globally with other suppliers, then the country has the skills and inputs to make a given product. By understanding the combination of goods and services a country can produce competitively, it is possible to learn how developed its capability stock is without having to measure or define explicitly all the abilities present within an economy. The analysis is based on trade data from 2008 to 2016.

TABLE 3: Summary of Key Policy Recommendations

"Direct Approach" – Identified Sectors	"Indirect Approach" – Laying the foundation	
Interdependences exist between "Direct" and "Indirect" Approach		
Short-term upgrading potential	**Reduce macroeconomic volatility**	
Agribusiness Chemicals	• Preventing fiscal cycles • Implementing an economic diversification strategy	• Medium-term • Long-term
	Improve human capital	
Textiles Extractives and processed resources	• Allocating substantial resources to address the shortcomings of the education systems, and the Government Education program • Restructuring the TVET system to better align job skills to the market demand	• Medium-term • Medium-term
Medium-term diversification potential	**Enhance connectivity**	
Agribusiness	• Invest in trade and logistics infrastructure	• Medium- to long-term
Extractives and processed resources	**Strengthen the institutional framework**	
Plastics and rubber Information and Communications Technology	• Improve procedures for contract enforcements • Reform land administration and systems to ease secured access to land • Streamline tax policy and tax administration procedures • Anti-corruption in public service provision	• Medium-term • Long-term • Medium-term • Medium-term

Notes: Short-term = 1–3 years; Medium-term = 3–6 years; Long-term = more than 6 years.

4.2 Short- to Medium-Term: Product and Sector Opportunities

Economic Fitness predicts long-term growth in GDP per capita. Economic Fitness is a complexity framework which characterizes an economy's level of diversification and its capabilities to produce more complex products (see Box 2 for a definition of the most important terms used in this framework). It provides a rigorous quantitative basis to develop strategies for growth. The Country Opportunity Spotlight (COS) uses Economic Fitness to assess current level of capabilities and filters industries with upgrade and diversification potential based on those capabilities. Because country endowments shine a light on what is within reach, Economic Fitness predicts a feasibility score for new industries: the likelihood that a country will become competitive in an industry in the next five years. COS results serve as a starting point for policymakers to shape and validate priorities, compare countries, assess the capabilities needed in specific industries and begin identifying constraints to growth. The outcome is a useful input to policy-making that would like to embark on immediate policies for the expansion of the production base using the "direct approach" described in Figure 1.

Ghana's Economic Fitness trajectory has been unstable between 2008 and 2016, which reflects losses in most sectors and the reliance on natural resource exports. Fitness increased slightly since 2008, but with heavy fluctuations. In its current position (Figure 37), Ghana is at risk of continuing its volatile trajectory. Ghana's position on the Sector Fitness Chart, and its movement between 2008 and 2016 is characterized by erratic trajectories with unstable growth in both dimensions of GDP per capita and product fitness. Broadening and upgrading the production capabilities would not only help raise Product Fitness (horizontal axis) but also help to sustain increased GDP

BOX 2: Key Terminology in the Economic Fitness Analysis

Economic Fitness is the complexity-weighted diversification of a country's exports. It serves as a benchmark for the level of productive knowledge available in an economy. This knowledge—the level of a country's capabilities—is the basis for countries' patterns of growth: As they industrialize and diversify, they combine and expand their productive know-how, adding new and more innovative capabilities to their tool kit.

Sector Fitness is the sector-level equivalent to Economic Fitness. It is the complexity-weighted diversification of a country's exports in a specific sector. In this way, it captures the country's level of productive capabilities in different sectors, each of which contribute to overall Economic Fitness.

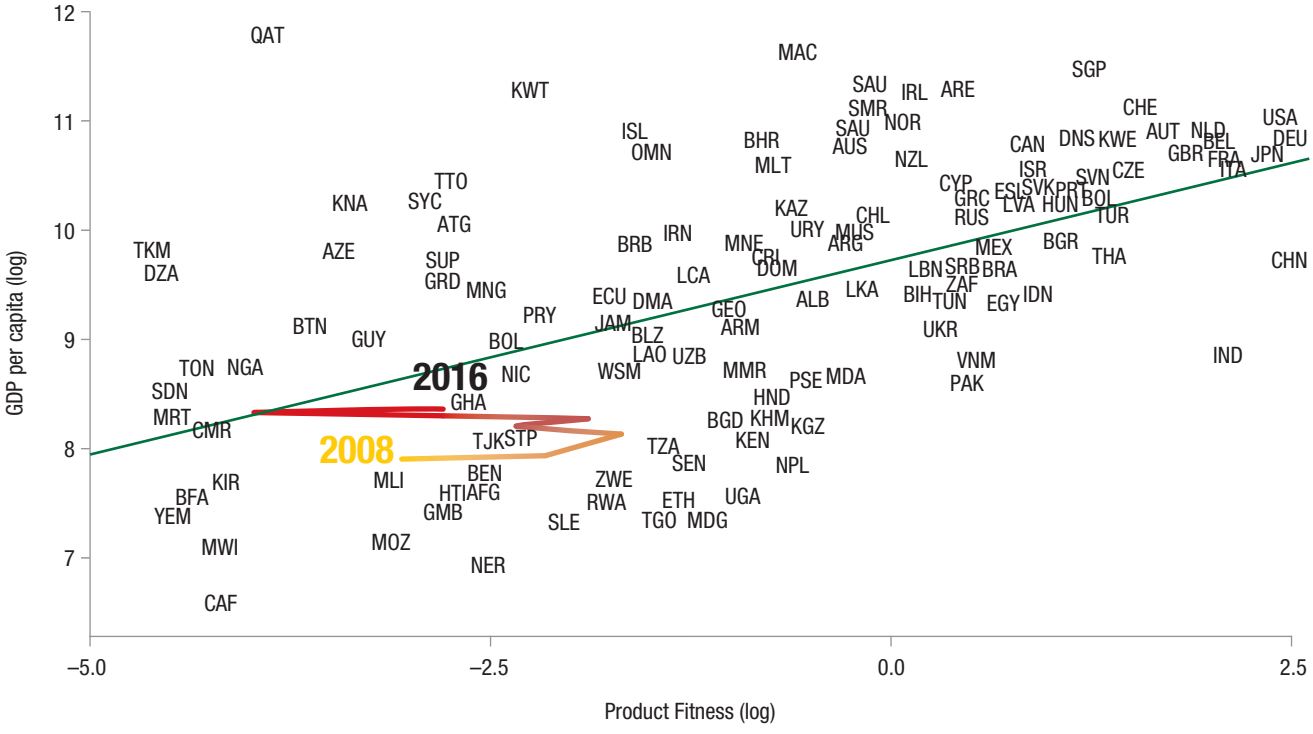
Industry Complexity is the exclusiveness of a product or service weighted by the inverse of the exporting countrys' Economic Fitness. It captures the level of capabilities that is required to become competitive in a given industry. Industry Complexity tells us how rare or difficult the production of a certain good is. A product that is made by many different countries, including countries with a poor capability stock, will receive a low complexity score. If a product is competitively exported by only few, very sophisticated economies, then it has a high complexity.

Upgrade and Diversification Potential correspond to the two factors that drive Economic Fitness: diversity and complexity of production. In this sense, diversification potential refers to the likelihood that a country will become a competitive exporter in a new industry (or product group). Upgrade potential refers to the likelihood to develop more sophisticated capabilities by moving into more complex industries (or product groups). The simplest form of the latter is to add production steps to an existing industry (or product group), thereby increasing the complexity.

Economic Complexity in this context is a product-level metric influenced by the number of countries able to competitively export a product and the Fitness of these countries. Intuitively, it captures the level of capabilities required to produce a good.

Source: International Finance Corporation, Country Analytics.

FIGURE 37: Ghana Economic Fitness: 2008–2016



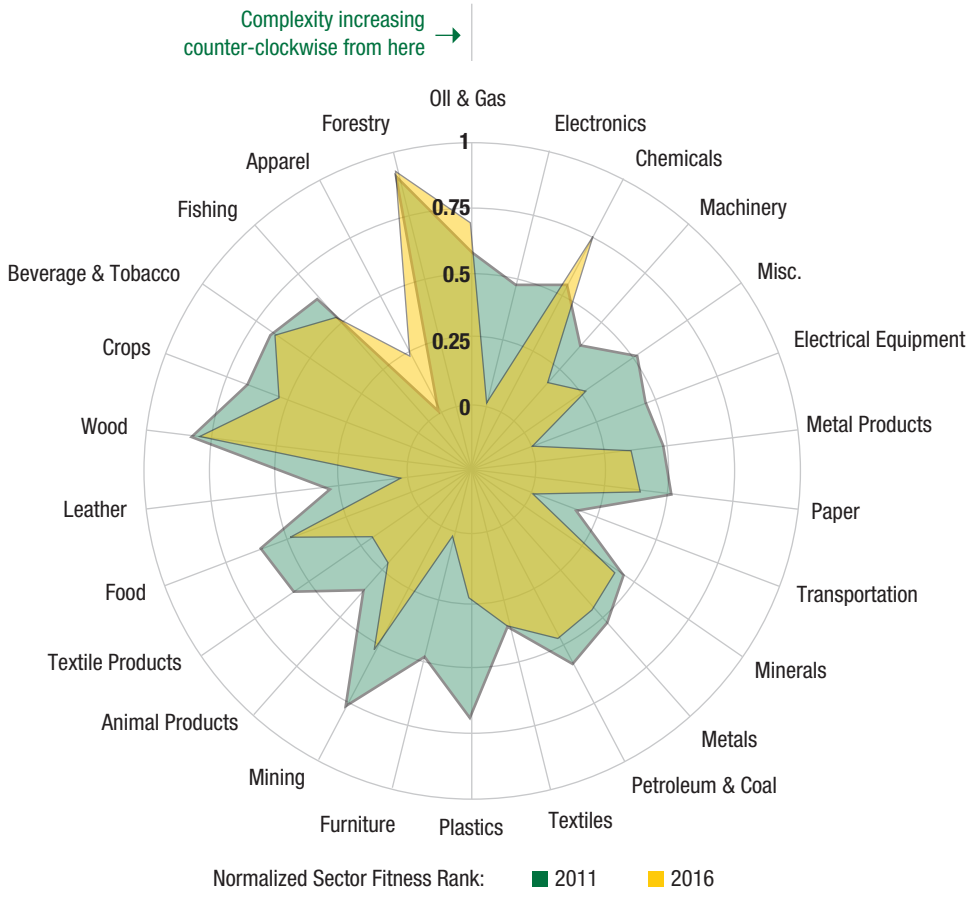
Source: Staff calculations based on data from Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) and WDI.

per capita (vertical axis) and thereby raise Ghana's overall Sector Fitness.

Various product groups, particularly within the agriculture sector, show potential for future growth through diversification. The complexity and Economic Fitness analysis provide a filter of goods and services that are: (*i*) feasible because the country already possesses many of the required capabilities, and (*ii*) likely to upgrade the existing capabilities. These industries have the potential to contribute to a country's future Fitness and consequently affect GDP per capita. Ghana's Sector Fitness indicates potential in a variety of different economic sectors despite having lost significant capabilities in areas, including furniture and electronics. Areas with potential to revive, indicated by only small declines of capabilities between 2011 and 2016, include processed commodity sectors such as food and animal products as well as textile industries. Areas where the country could capitalize on already prevalent, yet small Fitness gains between 2011 and 2016 include forestry, apparel and chemicals (Figure 38).

The agriculture sector is not only a desirable sector for diversification through the Fitness lens,

FIGURE 38: Ghana Sector Fitness, 2011 and 2016



Source: Staff calculations based on data from CEPII and WDI.
Note: Sector fitness measures both the level of within-sector diversification and balance of more sophisticated product competitiveness relative to all other countries – top decile (0.9–1) denotes world class and diversified. Two snapshots are provided – 2016 (in red) and 2011 (in black). The sectors are organized from the least complex oil & gas extraction (at 12 noon) counter clockwise in increasing complexity to electronics (the most complex is at 1 pm).

but also due to its capacity for job creation. World Bank (2017a) highlighted agriculture and agribusiness as key priority sectors for private sector development due to their high desirability in terms of potential for development impact. World Bank (2017a) showed that agribusiness creates 750 jobs for every additional US$1 million of output, one of the highest such multipliers of all the sectors analyzed in the study. Furthermore, agriculture and agribusiness sectors provide important inputs for manufacturing products; two-thirds of non-oil manufacturing depends on agriculture for raw materials. And agribusiness is itself is a step toward manufacturing as it has the potential to upgrade (raw) agriculture exports through processing and refinements.

Even though Ghana provides favorable conditions for agribusiness, transformational FDI has yet to materialize in the sector. Ghana has vast expanses of arable land with access to large resources of freshwater, such as the Volta river, which runs through the entire length of the country and is a crucial factor for agriculture. In addition, significant improvement in the business environment over the past 20 years make Ghana a promising place for agribusiness activities (World Bank 2017). But transformational FDI has yet to materialize in the sector despite the opportunities and a vibrant local entrepreneurial class of actors involved in commercial agriculture and the distribution of food products. If more and better FDI were to materialize, this would bring tangible benefits in terms of employment, technical know-how and managerial skills, as well as access to new markets (World Bank 2017).

Improved managerial and entrepreneurial skills are critical for farms and agriculture-related firms to raise their productivity. World Bank (2018) argues that in agriculture, the development of a cadre of skilled farmers is essential if Ghana is to expand commercial agriculture. Skills are not simply in the form of technical know-how of seeding rates, nutrient requirements, or pest control, but they must also include the capability to manage farms as businesses, carry out farm operations at the right time, and understand the bottom-line impact of decisions. This management aspect is often lacking in Ghana and is one reason why extension services with technical advice do not lead to higher productivity (World Bank 2018).

Women entrepreneurs in Ghana face particular constraints, especially in agriculture. Reviewing the literature, World Bank (2018) shows evidence that women farmers are less productive than men. Accordingly, in the cocoa sector, women farmers are 25–30 percent less productive than men due to lower access to training, loans, and agricultural inputs such as fertilizers compared with male farmers. Women farmers also have lower yields because they leave land fallow for shorter periods. Women are more likely to have their land taken away due to weak tenure rights when they leave it fallow. There is a significant gender gap in agricultural land ownership, making women in the three Northern regions more vulnerable. Despite this, World Bank (2018) reports that Ghana scores favorably on most indicators with respect to the legal barriers women might face in the private sector, except for building credit. There is a significant gender gap in investment capital that is often related to challenges that women face in intrahousehold resource allocation. World Bank (2018) cites evidence that when households include both female- and male-owned enterprises, microfinance loans tend to be directed to the man's business, even if the woman is the intended recipient. To overcome this, in-kind grants which can shield women from competing household demands appear to be more effective than cash at improving women's business performance. Offering specific services to women to close the gender gap of access to land, market, credit, and extension services would hence have a short-term and immediate positive impact on farm productivity (World Bank 2018).

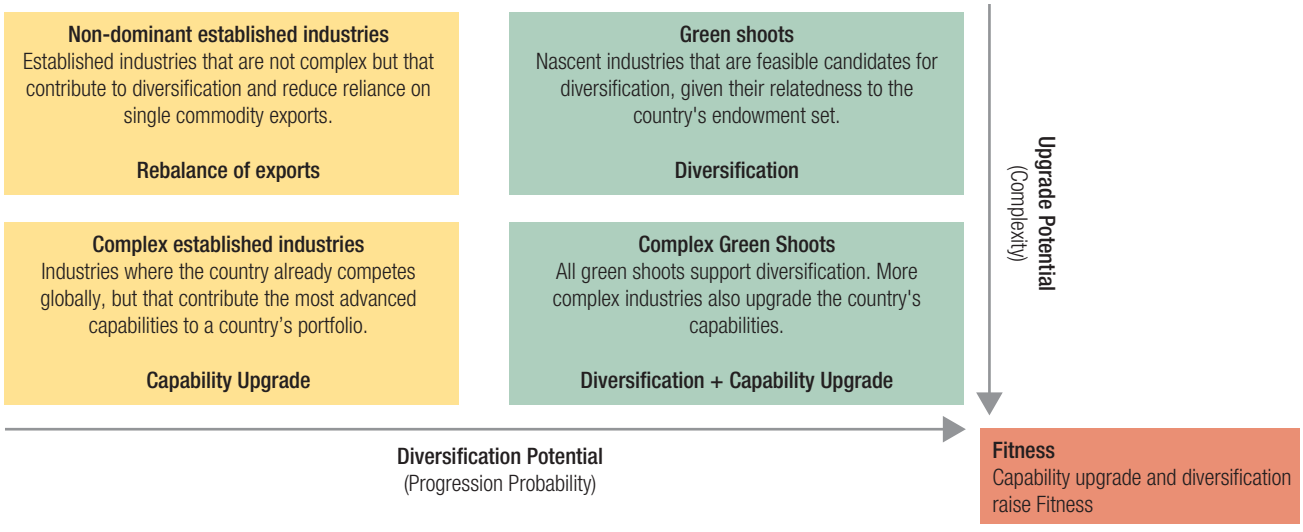
More broadly, targeted support to first-mover private sector investors would also help to 'open' new markets and mitigate higher start-up costs and risks. To illustrate this, World Bank (2017a) pointed to support from the Government of Ghana and development partners to address land and irrigation needs,

which triggered investment to develop new and promising high-value horticulture value chains for export markets. In a review of the lessons learned by successful private investors who have succeeded in overcoming key constraints in agriculture and agribusiness, World Bank (2017a) pointed to four specific issues: access to land, access to skills, access to irrigation, and access to finance. The study provides insights on how these specific issues for agribusiness have been tackled in the past, through direct efforts from Government and Development Partners. These historical activities described in World Bank (2017a) can be used to devise a forward-looking, direct agenda in the sector in the future (Box 3).

The concept of Economic Fitness can also be used to map potential opportunities through either upgrading or diversification possibilities in agribusiness and beyond. Upgrade and diversification potential corresponds to the two factors that drive Economic Fitness: diversity and complexity of production (Figure 39). In this sense, diversification potential refers to the likelihood that a country will become a competitive exporter in a new industry (or product group). "Green shoots," for instance, refer to industries that have high diversification potential, but not necessarily much upgrade potential, since they signify a move to a new industry (or product group) that may or may not require new, more complex capabilities. Upgrade potential refers to the likelihood to develop more sophisticated capabilities by moving into more complex industries (or product groups). Complex, established industries (or product groups) have high upgrade potential, since they strengthen more complex capabilities. But since they are already established industries, they do not contribute to diversification. One form of upgrading existing industries (or product groups) is to add production steps to an existing industry (or product group), thereby increasing the complexity. Since upgrading is the most feasible direct approach in the short-run, the remainder of this section aims to identify industries (or product groups) with immediate potential for upgrading.

The Economic Fitness (Capability) analysis shows that opportunities exist across a range of sectors and activities. Figure 40 presents potential sectoral opportunities for the economic diversification of Ghana. There are opportunities to upgrade in Agribusiness, Chemicals, Textiles, and Extractives and Processed resources. Given the importance of agribusiness for jobs creation, this should be an area

FIGURE 39: Framework for Mapping Opportunities



Source: Roster, Harrington and Cader (2018).

BOX 3: Successful Past Operational Models to Remove Constraints and Support Transformational Private Sector investment in Agriculture and Agribusiness

Access to land. The government, with support from the World Bank, is engaged in improving land markets through the Ghana Commercial Agriculture Development Project, which develops model land leases between local communities and private investors, and through the Land Administration Project. AgDevCo, with the support of the U.K. Department for International Development, has over a period of three years negotiated the provision of 10,000 ha of land with local communities and chiefs and this land is now available to private investors. AgDevCo pointed out that the challenges facing an incoming investor include dealing with Ghana's informal land tenure system; the lack of commercial farming expertise in the area; the environmental, social and governance risks; community acceptance; and raising of capital. The aim of its Babator Irrigated Farming Hub project is to develop the site to a stage where investors can take over a serviced plot for farming with the immediate risks of a new development reduced. AgDevCo has secured a 50-year lease with an option for renewal on the entire site, which is fully registered with the government's Land Commission. Of the total site, there is about 5,000 ha of irrigable land on which AgDevCo has completed soil studies, topography, hydrology, irrigation design, and environmental and social impact assessments. Some 1,500 ha is reserved for small-scale farmers who can profit from the services, including irrigation, as well as the cluster. The remaining 3,500 ha will be for commercial farming enterprises to be developed in blocks of 500–2,000 ha. As a proof of concept, a commercial farm, the Babator Farming Company (BFC) of 356 ha of irrigated land, was developed in 2016. This is used to confirm construction costs and to establish processes for managing and staffing the project, securing permits, and engaging with local stakeholders. In early 2017, 170 ha was planted with maize, sorghum and onions, and further plantings were planned for the second quarter.

Access to finance. There are currently several initiatives in Ghana that can be leveraged and scaled up to close the financing gap for rural enterprises. These included: (1) The Ghana Grains Council is running warehouse receipts financing in collaboration with a certification agency; (2) The USAID Financing Ghanaian Agriculture Project is a five-year project for improving financing and investment in agribusinesses operating in the maize, soy and rice value chains in northern Ghana. Since its inception in July 2013, the project has been offering technical assistance, either directly or indirectly through its network of business advisory service providers, which identify, prepare and package financing proposals for viable agribusiness opportunities. It has also been providing incentives and technical assistance to help financial intermediaries better understand agribusiness and develop products tailored to the specific financing needs of these businesses; (2) The Kreditanstalt für Wiederaufbau (KfW) and the Ministry of Agriculture have introduced the Outgrower Value Chain Fund, a refinancing vehicle for providing finance to medium- and long-term investment projects through the banking sector. The fund favors the concept of outgrower farming that is based on defined contractual relations between the outgrowers, based on a technical operator, such as processor or trader and a financial operator, such as a participating bank, which provides access to services, inputs and funding; and (4) The Ghana Incentive-Based Risk Sharing for Agri Lending is being developed by the MoFA and the Bank of Ghana to look into how to better spread and manage risk.

Access to irrigation. Integrated Water and Agricultural Development Ghana Limited (Iwad), a subsidiary of investment company African Tiger Holding Ltd (ATHL), is focusing on the introduction of large-scale modernized irrigation and mechanized farming in northern Ghana. The Sisili-Kulpawn flagship initiative began in 2013 with the formation of partnership between Iwad and the parent company, ATHL, with Wienco Ghana (a leading agribusiness group), the government's Savannah Accelerated Development Authority, Wageningen University, and the Rebel Group (an advisory group specializing in the development of large public-private investment projects). Operating in the Sisili-Kulpawn river basin, the initiative targets some 45,000 ha of under-used or abandoned land for developing commercial agricultural practices. Under the first phase of development, Iwad has established a 400-hectare irrigated commercial farm linked currently to 175 outgrowers at Yagaba. An irrigation system of four center pivots covering 260 ha has been set up with a sprinkler irrigation system covering a further 99 ha, plus drip irrigation for 15 ha and finally furrow irrigation on 39 ha. The nucleus farm of 250 ha is testing rice, onions, groundnut, maize, cowpeas and sugar. Ghanaian partners are involved by contributing local knowledge of irrigation, crops and soil, research, and hands-on farm training, such as the University of Development Studies in Tamale, the Savannah Agricultural Research Institute (SARI), and the Damongo training college. From 2016, Iwad signed a cooperative agreement with USAID to co-fund a Power Innovations in Commercial Agriculture (PICA) project to provide efficient alternative power systems to the outgrowers. PICA will construct a solar hybrid power generation system at Yagaba to provide low-cost power for irrigation. It is anticipated that with around 0.8 MW of solar energy, both the nucleus estate and the outgrowers will have access to clean energy at cost savings of about 50 percent.

Source: World Bank (2017a).

FIGURE 40: Potential Opportunities in Ghana by Upgrading and Diversifying Potential

	Upgrade potential	Diversification potential
Agribusiness	Cocoa shells, Ground nuts, dried and otherwise prepared, Prepared tomatoes, Seeds for sowing, Vegetable oil-cake, Tapioca	Fish products (flour, dried, smoked), Cassava starch, Ground-nuts in shell, Couscous
Extractives and processed resources	Iron/ steel products (bars, flat-rolled, wire), Cement clinkers and hydraulic cements Naphthalene, Hydraulic lime, Axes and other tools	Plated iron/steel coated with zinc, Diamonds, Liquefied natural gas
Chemicals	Personal use (vitamins and skin-care powders), Industrial acidic oils, Hydrogen peroxide, Paints, Lead monoxide, Photographic film	Matches
Plastics and rubber	Rubber (TSNR, latex, other natural rubber), Wigs and materials	Natural rubber in smoked sheets, Synthetic hair and human hair wigs
Textiles	Worn apparel, Fabrics (twine, woven cotton, synthetic weave), Tarpaulins/ sunblinds	Synthetic fiber tarpaulins/ sunblinds
Wood products	Logs and lumber, Processed wood (Wood poles, Ply sheet, Densified wood), Paper rolls	School books
Misc. manufacturing	Spectacle lenses, Percussion musical instruments, Billiards accessories	
Machinery and Transportation equipment	Shovels and construction equipment	Boring machinery, Cranes, Graders, levelers, road rollers, Floating platforms, Motorcycles

Source: Staff calculations based on data from CEPII and WDI.

of focus. Agribusiness is also an area with significant diversification potential in the medium to longer term. Chemicals and Textiles stand out in that they present primarily upgrade potential, and much less so diversification potential. Likewise, the plastic and rubber sector is primarily focused on one dimension, in this case diversification potential. Extractives and processed resources show a variety of opportunities in both dimensions, but caution is needed to maximize job opportunities; these may be fewer than in other sectors given the high capital intensity of production in this sector (see Appendix 11 for more details on this analysis).

In addition to the above-mentioned products, sectoral analyses suggest that Ghana could also develop its ICT sector. According to World Bank (2017a), the ICT sector is a new driver of growth, offering unprecedented opportunities for investment

and job creation. Growth of the ICT sector has been spectacular and far higher than that of the overall economy. The ICT sector contributed 10.6 percent of GDP in 2016, up from just 2.8 percent in 2006. Average annual growth of the ICT sector over 2009–2014 was 30 percent, led by the revolution in mobile voice telephony. But the ICT sector has yet to realize its potential in job creation. While not directly a large provider of jobs (1.2 percent of jobs in business establishments) it is estimated that for each ICT job, up to eight other related jobs may be created. The sector is also a positive force for inclusion and has provided opportunities for women and youth (World Bank 2017a).

The shift towards a digital economy has been slowed by many constraints, from the cost of access to data infrastructure, an underdeveloped regulatory framework, to gaps in some skills and lack of market opportunities to scale up. For digital transformation to take place, a number of relevant building blocks need to be in place, as shown in World Bank (2017a). With sectoral interventions to broaden the endowments in the ICT space, the sector is an embodiment of the power that the combination of the "direct" and the "indirect" approach to diversification can unfold. Some elements are already satisfactorily or partially in place in Ghana's ICT sector: for instance, there is a vibrant environment for start-ups and already decent infrastructure provision. However, other important elements are missing, such as the capacity to transform information technology (IT) innovations into viable market solutions, or the need for more competitive and market-efficient data infrastructure provision. By building the required infrastructure, skills, ecosystem and regulatory framework, the government can enable private actors in ICT to deliver transformative effects. Constraints requiring intervention include the following four key dimensions (World Bank 2017a):

- **While ICT *infrastructure* is broadly adequate, two key infrastructure challenges hamper the sector from achieving its huge potential**. First, addressing the remaining black spots, especially in the rural Northern Region, to ensure the ICT revolution is inclusive. Second, further developing the internet backbone, which currently constrains growth of data-intensive IT services and makes broadband access more expensive.
- **ICT *skills* levels in Ghana are satisfactory, but do not address all market needs.** Training was largely developed to meet the needs of the first ICT revolution in hardware, driven by the needs of telecom companies. Some skills needed for the second revolution, in software, are missing, such as cybersecurity, web-design and marketing, and software developers. Moreover, and importantly, in a world of start-ups Ghana misses the entrepreneurship and business skills that would allow Ghanaian start-ups to survive in the commercial phase.
- **While the ICT *ecosystem* in Ghana is vibrant, with a rising number of start-ups, survival rates are low**. The government needs to encourage the participation of the private sector in the acceleration phase of promising start-ups and by investing in large companies ready to adopt and sponsor locally-developed e-solutions to business problems—a space that Meltwater and Impact Hub are trying to move into already, but on a small scale.
- **Recent years have seen a surge in the development of the *regulatory* framework for the ICT sector and the digital economy, but it is facing two important challenges**. First, important regulatory gaps remain, as legislators try to adapt to new technology and market developments. The prevailing feeling in the private sector is one of unpredictability and insecurity. Gray areas and regulatory gaps concern, for instance, data storage, consumer protection and digital laws. Second, implementation of reforms has been weak (for instance, the allocation of licenses) due to a lack of resources and competence. The role of government as a market-maker in the regulation of competition and access, and as a provider of IT infrastructure and services, can be improved.

4.3 Medium- to Long-Term: Laying the Foundation for Economic Diversification

This report makes the case for higher productivity and investment to sustain growth as its current drivers are unlikely to maintain growth in the long-term. Growth has been driven by the service and natural resource sectors, and there is a need to broaden the base and its capacity to reduce poverty by supporting the development of other sectors. On the demand side, commodity exports dominate while the contribution of investment to growth substantially declined during the recent years. Moreover, the contribution of TFP has declined, and it signals a worrisome shift in the allocation of input factors. In Ghana, the TFP's negative trend is explained by an increasing concentration of jobs in low-productivity growth service sectors.

Reducing macroeconomic volatility by containing fiscal cycles would help provide a better and more predictable environment for economic activities to flourish. Macroeconomic volatility has been identified as a challenge for investors and can be worsened by volatile fiscal policy. While macroeconomic volatility can stem from shocks in the natural resource sector, reducing the adverse impact of the fiscal policy would be important. By containing the fiscal deficit, the country should also be able to reduce inflationary pressures that stem from the monetization of the deficits. Macroeconomic volatility could be further reduced by designing and implementing a targeted economic diversification strategy. This is the more urgent as Ghana's natural resource rents are timebound with oil production to start fading out by 2036 (World Bank 2016c). In addition, the country's gold deposits are maturing, new mineral finds have been of a marginal quality, and any further expansion in cocoa production acreage has important environmental considerations. Ghana's rate of adjusted net savings—a measure of an economy's long-term sustainability, by taking into account natural resource depletion—is starkly negative, suggesting that more needs to be done to invest in both managing the environment and investing in diversification efforts (World Bank 2018). This can and should be more actively pursued with Ghana's natural resource wealth funds.

According to World Bank (2018), continuing improvements in both the quantity and quality of education and skills are critical for driving productivity and increasing labor incomes in existing and emerging jobs. Since the 1990s, the labor force in Ghana is better educated, and the higher level of education has already translated into better job opportunities and poverty reduction. However, secondary school enrollment rates remain low among the poor, there are large regional and gender disparities in educational attainment, and education quality remains an issue. Ghana also lags its international structural and aspirational peers in the share of adults who completed tertiary education (World Bank 2018). At the same time, schooling is not equivalent to learning. The quality of preprimary education is still low. Even after several years of basic schooling, many students lack basic literacy and numeracy skills. Thirty-four percent of youth between the ages of 15 and 24 score below the minimum literacy proficiency in urban areas, according to the literature review in World Bank (2018). Ghana has also seen declining pass rates on West African Senior Secondary Certificate Examination (WASCE) science and math since 2012, with levels in 2016 under 50 percent (World Bank 2018).

To achieve this. the education and health sectors need to be adequately resourced to improve human capital. Improvement in human capital would be a core element of a productivity-enhancing strategy and the quest for more non-resource seeking FDI inflows. However, the Government is currently consolidating its public finance, and there are efficiencies issues in the education and health sectors that need to be addressed (World Bank 2017b). Furthermore, a reform of the technical and vocational education and training (TVET) system, to better align job skills to market demand, could help in achieving results in the short term. According to World Bank (2017a), the

Ministry of Education, Science and Technology has consistently allocated less than 2 percent of its budget to the TVET sector. Partnering with corporations in sectors that are large-scale employers of TVET graduates could help close the gap. This would be a mutually beneficial arrangement, because corporations would be able to contribute towards those skills that are most relevant to the TVET curriculum and become invested in the successful training of students. Moreover, the Government would benefit from the financial funding and other industry-relevant expertise that corporations would bring in. Given the growing demand for post-secondary education and the limited capacity to absorb students into the traditional higher education system, there is an opportunity to offer employability-linked short-term courses to students. There is also an opportunity for the private sector to invest in resource centers that provide training equipment and tools to help improve TVET quality and relevance.

Ghana needs to step up its infrastructure investment to improve the quality of logistic services to increase access to regional markets. The Ghanaian market is relatively small, in comparison to Nigeria, but its size can be increased by leveraging its ECOWAS membership. This factor will be particularly important for market-seeking investment. Reaping the benefits from the ECOWAS membership would require investing in transport infrastructure and enhancing the operational efficiency of the energy sector. However, infrastructure investment will only be effective and efficient if there is a regional strategy at the ECOWAS level or if there is effective coordination among neighboring countries. With the current budget constraint, Ghana may need to explore options to engage with the private sector, including having an adequate legal and regulatory framework to do so.

Efforts to improve the institutional framework could address, as priorities, issues related to taxation, contract enforcement, red tape, and access to land. Taxation remains an issue because firm executives flag it as a major constraint that can affect investment decisions. Red tape weighs on prospects to attract FDI inflow into the non-resource sectors. Ghana lags on contract enforcement procedures, which is critical to foster investment. Furthermore, access to land is a major issue that would limit the occurrence of large investment in productive land, for instance, for the development of agribusinesses. The land administration and its governance system are complex, and they contribute to an increase in perceived risks for potential investors.

Reducing nominal lending rates could be achieved by implementing specific macroeconomic policies, improving the institutional framework that supports access to loans, and encouraging the use of digital banking. High nominal lending rates could be reduced by implementing macroeconomic policies and reforms that aim to reduce the nominal inflation rate and reduce the fiscal deficit and public debt (sovereign risk). In addition to sovereign risk, financial sector reforms are required to reduce credit risks (NPLs) as they are substantial in Ghana (22.7 percent in December 2017). Improving contract enforcement procedures and enhancing the access to credit information could contribute to the reduction of lending rates as Ghana lags in those areas. The use of digital banking, and ICT could help reduce banks' overhead costs, and negatively weigh on lending rate dynamics.

APPENDIX 1: DISAGGREGATED PRODUCTIVITY DEVELOPMENT PATTERNS (1990–2010)

		Component due to:		
			Structural change	
Sector	Total	Within	Static	Dynamic
Agriculture		1.36	0.00	0.00
Industry		0.42	0.17	0.05
Mining		0.05	0.02	0.01
Manufacturing		0.22	0.00	0.00
Public utilities		0.06	0.00	0.00
Construction		0.09	0.16	0.04
Services		0.59	0.56	–0.20
Market services		0.37	0.47	–0.17
Trade services		0.14	–0.01	–0.12
Transport services		0.27	0.16	0.07
Business services		-0.04	0.31	–0.12
Non-market services		0.22	0.06	–0.03
Government services		0.19	0.03	0.01
Other services		0.03	0.03	–0.04
Total economy	2.93	2.38	0.70	–0.15

Source: Geiger et al. (2018).

APPENDIX 2: PERCEPTION SCORE ON THE PROVISION OF SELECTED PUBLIC SERVICES IN 2017–2018

Countries/Regions	Health	Education	Roads	Ports	Electricity
Cameroon	4.26	4.09	2.56	3.14	2.22
Chile	6.64	3.82	5.21	4.88	6.11
Ghana	3.98	3.91	3.90	3.64	3.12
Indonesia	4.65	4.53	4.10	3.99	4.43
Kenya	4.28	4.41	4.26	4.47	4.09
Malaysia	5.04	5.22	5.29	5.37	5.88
Vietnam	4.70	3.53	3.37	3.67	4.34
Lower-middle income	4.80	3.62	3.52	3.36	3.93
Sub-Saharan Africa	4.01	3.47	3.34	3.30	3.04

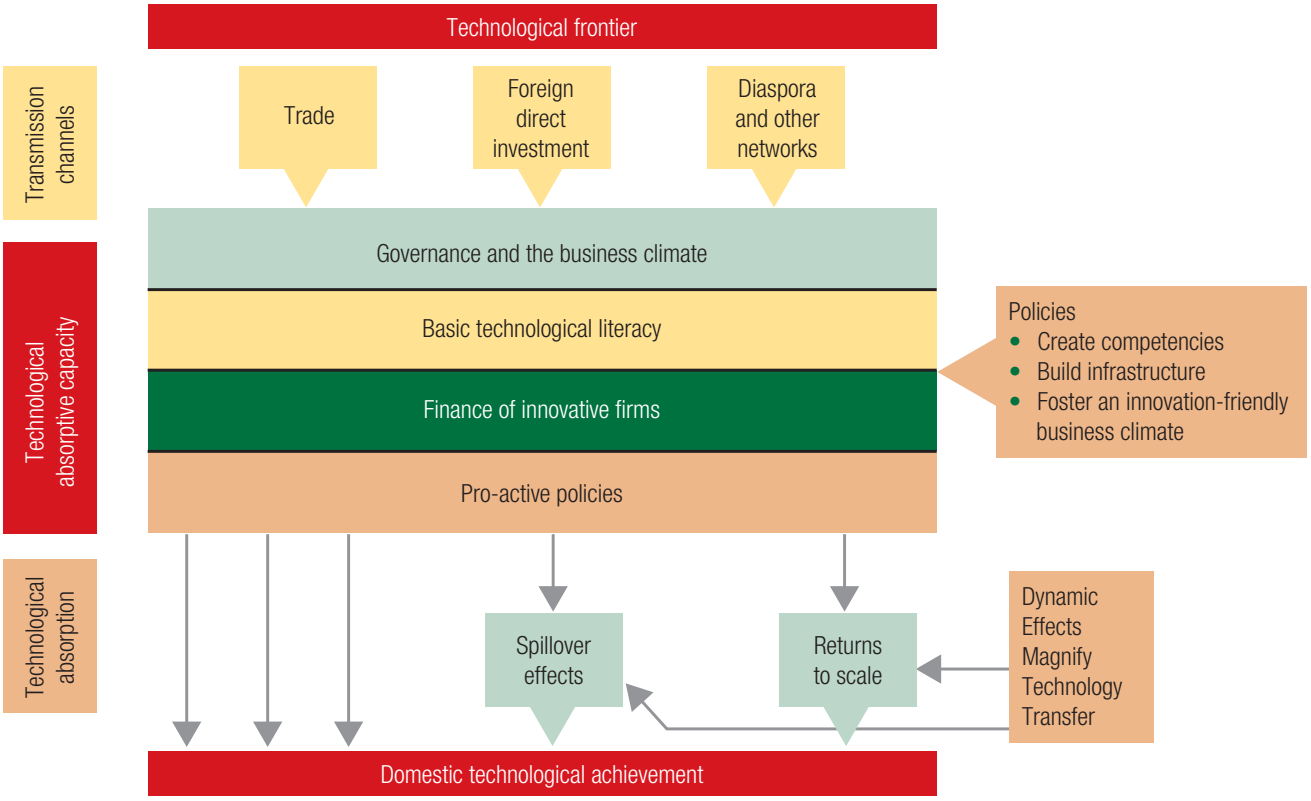
Source: Staff calculations based on World Economic Forum data (2017–2018).
Note: Score ranges between zero and seven. A higher score is associated with a better perception by executives. Roads, ports, and electricity refer to the questions on their quality (2.02/2.04/2.07). Education is the average of scores of questions related to the quality of primary education (4.09), education system (5.03), math and science education (5.04) and management schools (5.05). Health refers to the business impact of malaria (4.02), tuberculosis (4.04), and HIV/AIDS (4.06).

APPENDIX 3: FIRM PERFORMANCE MEASURES IN GHANA IN 2009 US$, UNLESS SPECIFIED

Region/Categories	Labor productivity	Labor cost per worker	Capital intensity	Sales per worker	TFP (%)	Labor cost per unit of value-added (unit)
Ghana	3,969	831	2,857	6,616	3.03	0.181
Small	3,234	714	2,000	4,763	2.95	0.190
Medium	6,704	794	4,167	9,623	3.88	0.151
Large	25,404	6,656	17,105	57,217	2.08	0.083
Accra	3,969	794	2,250	5,293	3.29	0.182
North	2,562	494	5,000	3,780	2.87	0.150
Takoradi	1,764	831	2,333	4,704	2.66	0.409
TEMA	6,704	1,323	4,167	13,231	2.34	0.145
Food	3,710	882	2,083	7,621	2.19	0.372
Garments	2,205	635	833	3,528	2.78	0.409
Wood Products	1,164	635	8,199	4,133	2.04	0.400
Publishing & Printing	2,945	847	4,518	5,976	6.84	0.157
Chemicals	6,127	1,732	10,000	9,623	3.83	0.181
Plastic & Rubber	8,132	1,114	3,750	17,642	2.36	0.106
Non-metallic mineral product	11,511	812	500	12,349	4.94	0.097
Basic metals	26,463	3,352	62,500	76,011	2.08	0.075
Fabricated metal	3,234	635	1,000	4,763	3.17	0.182
Electronics	7,057	1,905	730	13,231	3.68	0.282
Transport	249	171	1,025	503	2.44	0.096
Furniture	2,805	662	2,059	3,780	2.53	0.251
Exporters	10,125	1,210	30,000	13,231	1.85	0.327
Non-exporters	3,555	812	2,750	6,175	3.05	0.168
Foreign-owned	8,901	1,911	10,763	20,056	2.08	0.125
Domestic	3,308	662	2,000	5,293	3.18	0.189

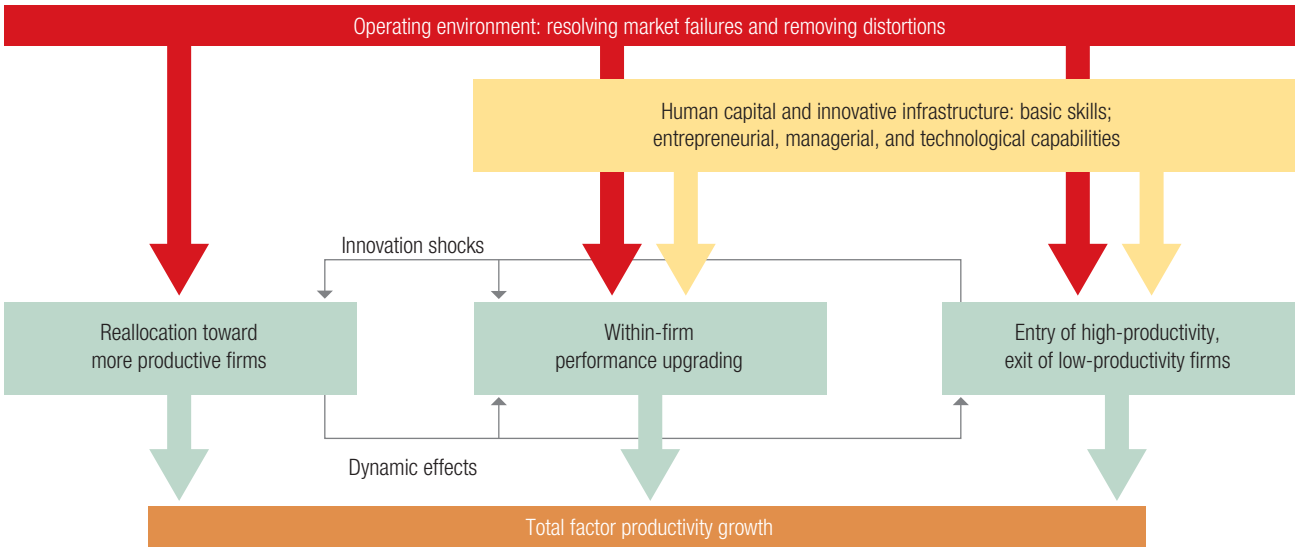
Source: Staff calculations based on data from Ghana Enterprise Survey (2013).

APPENDIX 4: DETERMINANTS OF TECHNOLOGY UPGRADING IN DEVELOPING COUNTRIES



Source: (World Bank 2010, 8).

APPENDIX 5:
DRIVERS OF PRODUCTIVITY GROWTH



Source: Cusolito and Maloney 2018, 119.

APPENDIX 6: COMPARISON OF FINANCIAL SOURCES FOR THE PURCHASE OF FIXED ASSETS, SELECTED COUNTRIES (IN PERCENTAGE OF TOTAL ASSET)

		Firm Size			Firm Age				Ownership		Main Market	
Country	Financial Source	Small	Medium	Large	Youngest	Low-medium	High-medium	Oldest	MNE	Domestic Firm	Major Exporters	Non-major Exporters
Ghana	Internal funds/Retained earnings	75.6	63.3	67.3	74.9	79.3	61.0	65.1	70.3	70.9	72.5	70.7
	Equity	4.4	7.8	3.3	1.4	2.8	6.3	10.2	2.3	6.1	0.0	5.6
	Banks and Non-bank finance	12.5	20.0	24.1	17.8	9.4	20.5	18.9	18.7	15.7	23.8	15.8
	Supplier credit/ Advances from customers	4.3	7.5	5.3	2.9	6.1	9.6	4.5	7.2	4.8	3.7	5.5
	Other	3.3	1.1	0.0	2.9	2.5	2.5	0.9	1.4	2.4	0.0	2.3
Cameroon	Internal funds/Retained earnings	30.0	71.7	57.6	53.3	88.7	33.4	57.0	35.4	48.0	67.3	43.8
	Equity	4.2	0.0	8.9	2.3	0.0	4.7	1.4	19.6	2.4	2.1	3.1
	Banks and Non-bank finance	45.6	21.3	26.3	18.5	11.0	51.1	25.8	45.0	32.9	28.0	34.3
	Supplier credit/ Advances from customers	6.6	0.0	5.6	11.7	0.4	0.0	15.7	0.0	8.6	2.7	9.5
	Other	13.6	7.0	0.6	14.2	0.0	10.6	0.2	0.0	8.1	0.0	9.4
Indonesia	Internal funds/Retained earnings	77.5	69.7	50.3	67.6	61.4	90.8	37.1	48.8	73.2	32.7	75.1
	Equity	0.1	3.8	26.8	5.0	0.1	3.0	13.3	21.0	3.8	25.2	3.0
	Banks and Non-bank finance	15.3	9.8	11.8	25.6	0.1	2.2	24.1	10.0	13.9	22.4	12.8
	Supplier credit/ Advances from customers	7.1	4.8	11.0	1.4	14.2	4.1	25.4	20.3	6.3	19.7	6.1
	Other	0.0	11.8	0.1	0.3	24.3	0.0	0.1	0.0	2.9	0.0	2.9

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(continued)

		Firm Size			Firm Age				Ownership		Main Market	
Country	Financial Source	Small	Medium	Large	Youngest	Low-medium	High-medium	Oldest	MNE	Domestic Firm	Major Exporters	Non-major Exporters
Malaysia	Internal funds/Retained earnings	35.5	48.0	71.6	53.6	39.3	83.0	40.5	47.5	60.7	74.9	39.8
	Equity	1.6	25.3	10.8	8.3	25.2	9.1	4.0	26.1	8.4	7.4	14.4
	Banks and Non-bank finance	61.4	18.8	8.9	14.3	21.7	5.2	53.4	13.3	25.1	7.8	42.8
	Supplier credit/ Advances from customers	1.5	6.3	5.9	21.2	8.7	1.6	1.4	8.1	4.4	7.0	2.3
	Other	0.0	1.6	2.8	2.5	5.2	1.0	0.8	4.9	1.5	3.0	0.6
Vietnam	Internal funds/Retained earnings	79.4	77.0	47.8	73.1	58.3	73.1	71.7	79.5	68.9	73.8	69.2
	Equity	1.9	3.6	14.3	7.9	7.1	2.8	6.0	8.7	5.6	2.6	6.6
	Banks and Non-bank finance	8.2	14.1	26.4	7.9	31.2	13.5	17.1	8.2	16.7	18.7	15.3
	Supplier credit/ Advances from customers	6.4	1.6	6.9	3.6	1.6	7.5	3.3	2.1	4.4	2.7	4.5
	Other	3.7	3.7	4.6	7.4	1.8	3.1	1.9	1.6	4.2	2.3	4.3

APPENDIX 7:
HUMAN CAPITAL INDEX VARIABLES

Countries	Expected Years of School	Harmonized Test Scores	Learning-Adjusted Years of School	Adult Survival Rate	HCI
Cameroon	9.1	378.9	5.5	0.7	0.4
Ghana	11.6	307.3	5.7	0.8	0.4
Indonesia	12.3	402.9	7.9	0.8	0.5
Malaysia	12.2	468.1	9.1	0.9	0.6
Vietnam	12.3	519.1	10.2	0.9	0.7

Source: World Bank Human Capital Project.

APPENDIX 8: HEATMAP ON THE PERCEPTION OF DIFFERENT FACTORS AS SEVERE OR MAJOR OBSTACLE TO BUSINESS IN GHANA

Constraints	Ghana	MNE	Domestic	Exporters	Non-exporting	Small	Medium	Large	Female-owned	Female in minority
Electricity	60.9	63.0	60.5	42.1	62.2	59.0	65.6	62.6	55.8	61.8
Telecommunication	14.9	16.2	14.7	24.2	14.3	14.4	15.5	17.7	11.8	15.4
Transport	21.8	15.2	23.1	16.7	22.1	23.8	20.9	32.5	27.5	20.9
Custom trade and regulations	23.8	43.1	20.1	35.1	23.0	18.4	32.2	42.3	17.6	24.8
Informal sector	29.3	18.9	31.3	27.5	29.4	32.0	23.7	24.9	28.6	29.4
Access to land	43.6	27.2	46.8	17.4	45.3	47.4	41.8	18.2	35.9	44.9
Crime	9.9	13.4	9.2	13.0	10.1	10.8	4.6	18.1	3.8	10.9
Access to finance	62.2	39.4	66.5	59.4	62.4	68.7	57.7	20.7	56.8	63.1
Tax rates	52.2	47.5	53.1	40.8	52.9	52.3	54.1	45.4	56.0	51.5
Tax administration	38.0	36.0	38.3	28.2	38.6	39.1	40.2	51.7	37.1	38.1
Business licensing and permits	16.4	17.8	16.1	15.8	16.4	15.5	19.1	37.3	23.0	15.3
Corruption	42.5	40.3	42.9	30.1	43.3	43.6	43.4	30.7	38.5	43.2
Courts	9.4	9.2	9.4	3.9	9.8	9.2	11.9	19.9	10.5	9.2

Source: Staff calculations based on data from Ghana Enterprise Survey (2013).
Note: Data represents the percentage of firms rating the constraints as "severe" or "major" for their operation. Yellow cells refer to percentage above 50 percent and red cells present percentage below 50 percent and above 32.7 percent.

APPENDIX 9: FIRMS' PERFORMANCE IMPACT OF ALLEVIATING OBSTACLES IN SERVICES SUPPLY

	Percentage points change in TFP given a 1 level reduction in obstacle		
Obstacle	All sample	Lower-middle income	Sub-Saharan Africa
Electricity	0.005	0.034*	–0.083
Telecommunications	0.037	0.092**	0.220*
Transport	0.037*	0.051**	–0.001
Access to finance	0.076***	0.094***	–0.022

Source: Staff calculations based on Enterprise Surveys, World Bank.

APPENDIX 10: REGRESSION RESULTS – DRIVERS OF NOMINAL LENDING RATES

Categories	Variables Dependent variables	(1) Nominal lending rates	(2) Nominal lending rates	(3) Nominal lending rates
Macro-financial conditions	External debt	0.024*** (2.878)	0.023*** (2.693)	0.020** (2.325)
	Outstanding loans to government and SOEs	0.042 (1.016)	0.045 (1.077)	0.041 (0.992)
	GDP per capita	–0.000 (–0.734)	–0.000 (–0.714)	–0.000 (–0.576)
	Savings	0.019 (0.831)	0.027 (1.079)	0.027 (1.067)
	Inflation	0.124*** (5.102)	0.113*** (4.339)	0.104*** (4.176)
	Standard deviation [end-year]		0.047 (1.205)	
	Standard deviation [average]			0.194*** (3.789)
Banking sector structure	Overhead cost	0.328*** (3.623)	0.345*** (3.727)	0.357*** (3.908)
	Bank asset concentration	0.021 (1.548)	0.020 (1.464)	0.020 (1.477)
	Non-performing loans	0.076* (1.946)	0.079** (1.983)	0.076* (1.922)
	Non-interest income	–0.022** (–2.437)	–0.023** (–2.558)	–0.024*** (–2.706)
Business environment	Credit bureau coverage	–0.017** (–2.373)	–0.017** (–2.312)	–0.017** (–2.343)
	Rule of law index			
Other variables	Private credit [Lag 1]	0.030* (1.853)	0.029* (1.765)	0.031* (1.882)
	Dummy variable – Global financial crisis	0.930*** (4.153)	0.897*** (3.928)	0.736*** (3.199)
	Constant	6.500*** (9.830)	6.399*** (9.429)	6.274*** (9.389)
	Observations	661	644	644
	Number of countries	76	74	74

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

APPENDIX 11: EMPIRICAL STRATEGY OF THE ECONOMETRIC ANALYSIS ON INVESTMENT

Scope of the analysis: The analysis of determinants of lending rates and lending-deposit spreads is based on a set of regressions with countries as primary observation units during the period 2003-2017. Due to data availability, the dataset used for the regression includes about 75 countries.

Dependent variable: Lending rates are measured as "*weighted average of the rates charged by banks on loans with fixed interest rates and with own funds to individuals and corporations. The rate is weighted by loan amounts*."[24]

Independent variables: For both variables, the basic model includes the following variables (organized by categories extracted from the above conceptual framework):

- Macro-financial conditions: inflation rate, external debt, domestic loans to government and state-owned enterprises, and savings.
- Banking sector structure: overhead cost, non-performing loans, non-interest income, and bank asset concentration of three major banks.
- Business environment: credit bureau coverage, and rule of law index.

Estimation method: For each dependent variable, a fixed effect model with correction of autocorrelation is estimated, and we use the method of Baltagi & Wu (1999) to estimate coefficients. This method uses feasible generalized least squares (FGLS).

Additional variables are as follows: (i) dummy variables to capture the global financial crisis; (ii) one lag of the total private credit (in percentage of GDP) is added as an instrument to control for the size of the banking system, and to proxy the size of operations; and (iii) GDP per capita is added to control the level of economic development of countries. For robustness purposes, we also test inflation volatility which is measured as the standard deviation of monthly inflation rates (computed by using rolling windows to move from monthly to annual data).

The calculation of determinants' contribution is performed at the regional or income group level. The impact of a variable on the dependent variable during the period 2003-2017 is equal to the product of the estimated coefficient, and the average of changes by sub-period.

Caveats: While results from the above presented empirical strategy are consistent with the ones presented in the literature, they are based on country-level data and aim at analyzing patterns and trends by major groupings. For deeper country analyses, using bank-level data could help having a better understanding of national challenges. Moreover, estimated contributions are only based on the explained component of interest rates.

[24] International Financial Statistics database – Metadata.

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