FY22

Unlocking Egypt's Potential for Poverty Reduction and Inclusive Growth

EGYPT SYSTEMATIC COUNTRY DIAGNOSTIC UPDATE
OCTOBER 2021

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Abbreviations and Acronyms

CAPMAS	Central Agency for Public Mobilization and Statistics
EA	Economic Authority
ELMPS	Egypt Labor Market Panel Survey
ERF	Economic Research Forum
FTE	full-time equivalent
GDP	Gross Domestic Product
HCI	Human Capital Index
HIECS	Household Income, Expenditure, and Consumption Survey
ICOR	incremental capital to output ratio
IMF	International Monetary Fund
LE	Egyptian pound
LFS	Labor Force Survey
MENA	Middle East and North Africa
MFN	most favored nation
NSDS	National Strategy for the Development of Statistics
OECD	Organisation for Economic Co-operation and Development
OP	Olley and Pakes
PM10	particular matter with diameter of 10 microns or less
PM2.5	particular matter with diameter of 2.5 microns or less
PMR	Product Market Regulation
PPP	purchasing power parity
SCD	Systematic Country Diagnostics
SOE	state-owned enterprise
SWF	sovereign wealth fund
TFP	total factor productivity
TKP	Takaful and Karama programs
VAT	value-added tax

Team Members and Acknowledgments

Executive Summary

Systematic Country Diagnostics (SCDs) analyze the most critical constraints and opportunities to ending extreme poverty and promoting shared prosperity in a sustainable manner. The first SCD for Egypt was published in 2015. A lot has happened since then, so this SCD Update takes advantage of a longer stretch of reforms and newer data up to 2019 to identify and again assess the set of priorities through which Egypt can most effectively and sustainably achieve the goals of poverty reduction and shared prosperity.

When the previous SCD was written, the surge in the youth population was an emerging opportunity—a boost to the working age population for a dynamic economy—and correspondingly also a source of rising aspirations and needs that the economy would have to meet. The SCD also took note of potentially major reforms, including on taxation and subsidies, that had been launched in 2015. These reforms have offered the beginning of a renewal of the social contract: universal subsidies would be replaced by a better-targeted, scalable system; the distortions from trying to maintain an unaffordable system would be corrected, and the savings would provide space to expand social spending and reduce debt, all with the ultimate goal of job-rich, sustainable growth.

Egypt successfully revitalized growth by adopting the first wave of ambitious economic reforms

Egypt entered the global pandemic with reserve buffers rebuilt and macroeconomic vulnerabilities reduced. Real Gross Domestic Product (GDP) grew by 5.6 percent in 2019, up from an average rate of 4.6 percent in the previous three years. Thanks to fiscal consolidation and energy subsidy reforms, the fiscal deficit was trending downward. External accounts were stabilizing at broadly favorable levels. Exchange rate liberalization eliminated distortions in the foreign exchange market, corrected the excessive real appreciation in the exchange rate, and led to a depreciation of the Egyptian pound (LE). Social mitigation measures, notably the poverty-targeted Takaful and Karama programs, helped cushion the most vulnerable groups from the impact of those reforms. Egypt also introduced education reforms focused on improving the quality of learning and took steps toward achieving universal health coverage.

The pandemic interrupted this progress, putting a significant strain on the health system and the economy. Real growth declined to 3.6 percent in 2020, although remaining higher than in many other economies. This economic slowdown has raised concerns about people's welfare. The poorest Egyptians, many of whom lost their jobs or faced reduced incomes, have been among the worst hit. Almost a third of the population was poor before COVID-19 pandemic hit and even as the economy grew, there was limited creation of jobs to productively employ the country's expanding working-age population.

To safeguard the success of the first wave of economic reforms and recover strongly from the health crisis, Egypt must prioritize policy actions that support job creation and productivity growth. This will be crucial to build pathways out of poverty, support shared prosperity, and create conditions for the economy to become green, resilient, inclusive, and sustainable.

Egypt has the potential to make significant gains in poverty reduction and inclusive growth

Official figures indicate an increase in poverty between 2015 (27.8 percent) and 2017 (32.5 percent). This worsening of poverty is associated with the sharp rise in inflation following the November 2016 currency depreciation. Recently published official poverty estimates for 2019 suggest some gains in people's welfare three years after the introduction of economic reforms. Nevertheless, the poverty rate remains elevated at 29.7 percent, higher than the share of the population assessed as poor in 2015. Based on the international poverty line of US$1.90 a day, Egypt's poverty rate rose from 1.6 percent in 2015 to 3.8 percent in 2017. The share of the population living on US$3.20 a day rose from 18.2 percent in 2015 to 28.9 percent in 2017—despite per capita GDP growth. As a result, the poverty-to-GDP growth elasticity is positive for this period: growth happened while poverty increased. While this is usually not the experience in peer

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countries,[1] it is consistent with a low labor share of income in national accounts as well as an increase in inequality.

Pursuing shared prosperity calls for promoting growth in consumption spending of the bottom 40 percent of the population. Per capita consumption growth between 2012 and 2017 was negative for all households. The bottom 40 percent of the distribution were disproportionately hit, however.

The previous SCD reported similar patterns in poverty reduction and shared prosperity for the 2005-2010 period.

Long-term trends also point to a weak impact of GDP growth on labor income and jobs which affects the poor and the non-poor. Between 2015 and 2017, all households experienced a contraction in real incomes as income growth was weak and did not keep pace with inflation. For the top 60 percent of the income distribution, this reduction in real income came mainly from lower labor earnings. For the poorest 40 percent it was a combination of lower labor earnings as well as a reduction in the share of employed working age adults. Increase in transfer incomes (likely supported by cash transfers program) helped mitigate some of the reduction in real income of the poorest 40 percent.

Spatial disparities in poverty endure. Rural poverty is higher than poverty in urban areas, reflecting the low productivity agriculture practiced by small-holder farmers and a weak process of transformation from farm to non-farm livelihoods. Upper Egypt governorates have among the highest poverty rates; they host about 40 percent of the population but 50 percent of the poor population. Poverty in Assiout and Sohag is twice as high as the national poverty rate.

Egypt's growth model has not delivered the level of productivity growth or the productive utilization of labor and capital needed to sustainably lift incomes

This pattern of limited progress on poverty reduction and income growth is a symptom of challenges related to the level and structure of growth—the way in which labor, capital, and productivity contribute to growth. Movement of workers and capital resources to high productivity activities can lift incomes of the poor and the middle class. And job creation in these productive sectors will enable a growing population of youth to find employment.

Studying how Egypt's growth model performs relative to peer countries is helpful for identifying pathways that can bridge the disconnect between GDP growth and household incomes growth. Egypt's growth differs from that of peer countries in several ways.

As in most peer countries, per capita GDP increased mainly as a result of increases in total factor productivity (TFP) rather than how productively the economy used labor and capital. What is unusual is that compared with peer countries, Egypt gets less output from labor and capital use. This inefficiency in labor and capital use occurred in a context of high population growth. As a result, Egypt's per capita GDP has not caught up with that of peers over the last 15 years (2004–19).

At 2.5 percent per year, growth in output per worker (labor productivity) is low compared with most peers. This low labor productivity growth likely reflects the fact that workers are moving to sectors such as private manufacturing, transport and logistics, and construction (sectors that had the largest gains in employment), where productivity is declining or barely growing.

Compared to peer economies, Egypt's employment rate is low; capital accumulation is low as well. The private sector's share of total investment is small. At the same time, the share of public investment in total investment is higher in Egypt than in peers, at almost 60 percent in 2018 before dropping to 50 percent in 2019, thanks to an increase in private investments in new energy projects.

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[1] The SCD update considers the following countries as Egypt's peers: Indonesia, Jordan, Malaysia, Mexico, Morocco, Pakistan, Peru, Poland, the Philippines, Sri Lanka, Tunisia, Turkey, Ukraine, and Vietnam.

Overall, returns to capital investment (reflected in a rising incremental capital to output ratio [ICOR]) have fallen over time, suggesting that investment has become less efficient. Given the importance of public sector investments in total investment, this decline in returns to capital investment indicates that it would be important to ensure that public investment goes to high growth sectors of the economy.

Egypt has strong human capital potential

Egypt has significantly expanded educational attainment since the 1980s. The share of illiterate adults fell sharply between 1988 and 2018. The number of students graduating with vocational education and university degrees grew significantly. The policy priority today is to improve the quality of learning and its labor market relevance.

How has the economy engaged the growing and educated workforce? Employment has grown, but it has not kept pace with the growth in the working-age population. As a result, the employment rate (share of working-age population employed) fell. While education quality could be a reason, it cannot fully account for the decline in the employment rate observed. Nearly 6 million additional jobs would have to be created between 2019 and 2030 just to keep the employment rate at the 2019 level. Between 2009 and 2019, the economy added only about 3 million jobs, most of them informal and in construction. In fact, informality in employment has increased significantly over time. The inability to fully engage the rapidly growing working-age population in the economy and enjoy a boost in growth ("demographic dividend") through a dynamic process of rising incomes and savings (which could in turn finance investment) was a major loss.

Unemployment has fallen recently. Since unemployment in Egypt is concentrated among youth it is linked to the challenge of finding first jobs rather than lay-offs. Periods when a large youth cohort has entered the labor market have tended to coincide with a rise in unemployment. Correspondingly, when the size of the youth cohort has declined, as it did in the late 2010s, unemployment has fallen as well.

Not only has the employment rate declined, earnings (assessed in real terms) have fallen as well (with some stabilizing recently). This combination of declining employment rates and earnings suggests weak job creation and demand for workers. The decline in earnings may have discouraged young men from staying engaged in the labor market. Men's labor force participation rates declined from 75 percent in 2010 to 67 percent in 2019, mainly as a result of lower participation by young men. Women's labor force participation rates have also fallen over the same time period from 23 percent to 16 percent.

More education does not necessarily translate into a large gain in earnings in Egypt. Because of the reduction in public sector hiring, the large informal sector, the concentration of employment in microenterprises, and limited formal job growth in small- and medium-size enterprises, more education—whether university or technical and vocational education—has translated into only meager gains in earnings. Issues related to quality of primary and secondary education and labor market relevance of university or technical and vocational education programs can explain these low returns only to some extent.

The type of occupations and sectors where employment has grown over time do not necessarily require high-skilled labor. As a result, skilled labor is not in high demand, and to the extent that demand is there, the tertiary education system is not generating a well-matched skills mix. The 2019 Global Competitiveness Index ranks the skills of Egypt's current workforce to be 99 out of 141 countries. The skills of Egypt's future workforce are assessed to rank at 133 out of 141 countries.

Indeed, demand for low- and middle-skilled jobs (such as in construction and transport) has been growing while the employment in the public sector, a source of high skilled jobs, has fallen. Since women are less likely to work in construction or transport it is not surprising that their work participation has fallen. For women, factors such as care responsibilities and gender norms pose additional obstacles to working.

As high-wage, high-skilled jobs are not growing and there are more workers with university education than demanded by the labor market, the wage gap between less educated and university-educated workers has narrowed.

Labor markets appears to function in a segmented way which can further reinforce the low demand for workers. The segmentation appears to be along the lines of firm type, public-private sector, geographic regions, and between formal-informal parts of the economy. Two workers with the same level of education will earn different wages depending on the type of firm or sector (public/private) they find employment in. Workers also do not make easy transitions from informal to formal employment, private to public sector job, or across governorates. Formal jobs remain concentrated in metropolitan areas, Lower Egypt governorates, and governorates that are near Cairo. This geographic segmentation of the labor market correlates with higher poverty rates in Upper Egypt governorates.

The poor cannot afford to be unemployed, and their employment levels are not significantly lower than those of other groups of the population. However, they are mainly engaged in agriculture or in non-agricultural informal work in construction, transport and wholesale and retail trade.

The private sector can be an important engine for jobs-rich growth

The Egyptian economy could be characterized as a large country with small and underdeveloped markets. Egyptian firms grow more slowly than firms in peer countries, at least partly because of limited market competition and segmented markets. In addition, if firm-level productivity is stagnant, wages will be as well. Private sector firms run into diminishing returns quickly when they expand.

A large share of jobs is in smaller, older establishments that do not grow and tend not to exit. The predominance and persistence of small establishments results in very few job opportunities, and those that do arise pay low wages.

Egypt has fewer larger firms than other economies. Larger firms are job creators, especially for the middle class. Large firms produce jobs that are increasingly more productive, pay higher wages, and provide the kind of job stability and benefits that is the foundation for a strong middle class.

Although some informal firms may be entrepreneurs (with more education) who will eventually cross the threshold to formality, the informal sector overall is not an incubator for what could be young, formal firms that will grow and produce jobs, and improve owner's education and firm productivity. Many informal micro and small firms are not linked to the formal economy. Formal and informal firms operate in different, segmented markets, stranding the majority of workers employed in the informal sector.

Firms are relatively undercapitalized, using more labor than comparators. Undercapitalization could be the result of low returns to capital, the lower relative cost of labor (given declining wages), and/or misallocation of credit.

Firm-level productivity growth is nearly stagnant, probably because the economy is not competitive and relatively closed.

To grow, firms need open markets, where they could exploit the country's comparative advantages and create firms that could be global leaders. This should be an easier transition for Egyptian firms that could use a large domestic market for scale. As markets integrate, economies specialize, become key links in global value chains, exploit new technologies, and host foreign direct investment.

A cross-cutting reason for low private sector investment and stagnant economy-wide productivity growth relates to the role of the state. The state borrows heavily from the domestic banking system, likely crowding out private sector lending. To alleviate the demand on the domestic financial sector, the state can borrow externally, but this brings vulnerabilities to a "sudden stop," a risk faced by many emerging markets. Moreover, the state is present in sectors as a shareholder and manager as well as a regulator. While the state might assess the presence or potential entry of a state-owned civilian or non-civilian enterprise in terms of

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a gap not being filled by the private sector, the prospect of entry can have a dampening effect on private sector investment (both foreign and domestic), creating uncertainty about an *ex post* change in the rules of the game. The state's regulatory regime can be bureaucratic and opaque, creating public sector discretion in the application of its rules and regulations and a benefit to being a "known" firm.

Resilience, efficiency and sustainability of the growth model are also a concern

Egypt's growth model is inseparable from its natural resources. The combination of vulnerabilities faced by Egypt – high dependence on a single water source, surrounded by desert, and a large population – is unique, and it is overlaid by climate change. Although Egypt is quite resilient to natural disasters, it faces risks from depletion of natural resources—mainly water and clean air. Climate change exposes Egypt to increased frequency of droughts and heatwaves, sea level rise and coastal erosion, increased water stress, land loss, and agricultural productivity. This will put additional burden on the poor who disproportionally rely and obtain income from nature-based sources and tend to live in high risk areas. Climate change therefore acts as a threat multiplier, exacerbating vulnerabilities and risks to economic, social, and political stability. Focusing on building resilience and improving resource use efficiency, as well as raising the ambition on climate change mitigation and adaptation provides an unprecedented opportunity to boost long-term economic competitiveness and sustainable development.

A greener growth model is critical to help tackle these challenges. Fuel subsidy reforms and investments in the Benban solar park, and the Gabel El Zeit wind farm have created the conditions for sustainable growth. Since 2019, the climate agenda has also increasingly become a focus for the government. In September 2020, Egypt became the first country in the Middle East and North Africa (MENA) region to issue green bonds.

Like in so many countries around the world, the recent COVID-19 pandemic has intensified many pre-existing economic challenges, while highlighting the key role of digital technologies in both response and recovery periods.

The pandemic has also tested households' resilience. But even before this crisis, in 2018, a quarter of the population reported being food insecure, as high inflation interacted with a need for revamping the food subsidy program. Since then, the expansion of Takaful and Karama programs have helped to protect the poorest segments of the population. Social protection programs do offer a recourse in the case of shocks, but they need to be comprehensive and adaptive and will need a larger tax base and expenditure reallocation within the social protection portfolio for a sustainable expansion. Financial inclusion plays an important role as well.

While any growth process is imperfect, feedback mechanisms provide essential information about what is not working, to which policymakers can react. Egypt underperforms on key indicators of social sustainability, including on voice and accountability, and citizens' engagement is limited by low data transparency. There is scope for Egypt to advance voice and accountability, transparency, and regulatory governance, and channels for citizen engagement to facilitate learning by doing and enhance the sustainability of growth.

Egypt can realize its full ambition and growth potential by making a shift to a new growth model

As Egypt builds on the gains from the first wave of reforms and tackles the pandemic, the growth model for the country to unlock its full potential has to be one that fully optimizes the country's resources, human and natural (see Box ES 1). For a country to transform its growth model is not a simple task but the good news is that the economic reform program set in motion in 2016 has created the necessary conditions for success. Realizing the new growth model which brings jobs and productivity growth will require staying the course set by the first wave of reforms and implementing additional, deeper reforms, including to

incentivize green growth. These deeper reforms and their implementation will enable the country to improve private sector growth, productivity, and create the conditions for firms to compete globally.

Box ES.1 Egypt's new growth model to unlock its full potential

The SCD recommends a new growth model for Egypt to tap its full potential where labor and capital accumulation and productivity growth come together to engender sustained high growth that is:

1.   led by private sector expansion which in turn is financed by a stable and development-oriented financial sector;

2.   based on inclusive and poverty-reducing growth linked to jobs created by the private sector and bringing more women into the labor force; and

3.   anchored in a level playing field and fair competition, with a complementary openness to regional and global markets.

Figure Box ES.1 Egypt's new growth model

This growth model furthers the recommendations of the previous SCD for an economic transformation that moves Egypt closer to its goals and ambitions including to create private sector generated jobs for Egypt's growing population. The diagnostic analysis in this SCD indicates that this transformation is crucial for Egypt to reach its full potential achieving growth with shared prosperity and poverty reduction. Egypt's first wave of reforms established a policy stance of movement away from regressive universal price subsidies and towards more effective social protection, particularly for the poor, and made investments in green initiatives such renewable energy. The new growth model will build on this progress to bring about poverty reduction and income growth via greater economic inclusion, particularly of women, and rooted in robust, resilient, and sustainable economic growth.

The diagnostic analysis in this SCD points to four pathways to arrive at this growth model: namely, (i) efficient and higher public spending on key social and physical infrastructure and pursuit of macroeconomic resilience; (ii) more effective economic role of state as well as greater openness to boost private sector investment, firm growth, and productivity; (iii) greater economic inclusion and strengthened household resilience; and (iv) resilient, efficient, and sustainable natural resource use and preparation for climate impacts. A cross-cutting pathway will ensure that policy making is informed by greater engagement of stakeholders (citizens and the private sector) and transparent use of data and evidence. This is crucial for fostering a shared vision of the economic transformation needed.

Together these pathways emphasize a growth model centered around the importance of human capital accumulation and protection—education, health and social safety nets where the government has already undertaken important reforms. Further improving the quality of educational investments would allow the full exploitation of technological inflows likely to result from more open markets. Higher quality

education pays off in the presence of rapid technological change. In addition, the primary effect of education is to facilitate the ability to deal with rapid change that results from more dynamic markets.

Underpinning this model is macroeconomic stability based on low fiscal deficits, a flexible exchange rate and transparent and prudent foreign borrowing. In this growth model macroeconomic stability is coupled with persistently high rates of investment in plant, equipment, and infrastructure. High investment rates must be accompanied by high savings rates to mitigate the balance of payments vulnerabilities that have derailed past growth episodes. Implicitly, this requires policies to increase the developmental focus of the banking system, and to make it more accessible to non-traditional savers, raising the levels of financial savings. To reach its full potential, Egypt must seize the opportunity, through policy reforms, for reaping the growth and inclusion dividends of the rise in the share of working age population expected to occur between 2025 and 2040. The prospect for higher per capita growth, stemming from private sector job creation and investment, would improve the economy's chances of achieving the poverty reduction and inclusive growth prioritized by this SCD.

Four pathways will expand opportunities for high productivity activities that will encourage firms to grow and where workers can find good jobs

The four pathways are the basis for a new growth model to boost investment, employment, and productivity growth with sustainability and resilience. In order of priority, these pathways are as follows (Figure ES.1):

- **Pathway 1**: Improve public sector spending efficiency and strengthen macroeconomic resilience.

- **Pathway 2**: Boost private sector investment, firm growth, and productivity.

- **Pathway 3**: Advance economic inclusion and strengthen household resilience.

- **Pathway 4**: Promote resilient, efficient, and sustainable natural resource use.

- **Cross-cutting** pathway relates to strengthening citizen and firm engagement with the state and data transparency to ensure social sustainability and to build the public's and investors' trust in the Government's economic program and reform efforts.

Figure ES.2 Pathways and constraints to poverty reduction and inclusive growth in Egypt

Pathway	Constraints
Pathway 1: Improve public sector spending efficiency and strengthen macroeconomic resilience	Constraint 1.1: Public investment (mostly in infrastructure) progressively yields lower returns and is inefficient.
	Constraint 1.2: Education spending is low and with limited link to learning/quality.
	Constraint 1.3: Public health spending is low relative to needs and population growth.
	Constraint 1.4: High public sector borrowing exposes the economy to macroeconomic shocks.
Pathway 2: Boost private sector investment, firm growth, and productivity	Constraint 2.1: State's footprint as investor creates uncertainty, stifling private investments.
	Constraint 2.2: State's role as regulator adds uncertainty, conflict of interest, and lowers productivity.
	Constraint 2.3: State's role as market participant introduces uncertainty and unfair competition, stifling private investment.
	Constraint 2.4: Domestic markets are relatively closed to international trade, thwarting competition and innovation.
	Constraint 2.5: Domestic markets are segmented, stifling competition and adding unnecessary costs to the economy.
Pathway 3: Advance economic inclusion and strengthen household resilience	Constraint 3.1: The labor market is segmented (spatially); labor demand is low and skewed toward low skills; informal sector productivity is low.
	Constraint 3.2: Care responsibilities and gender norms limit female employment, reducing the economy's potential.
	Constraint 3.3: Fragmented social protection leaves many poor households vulnerable to shocks.
Pathway 4: Promote resilient, efficient, and sustainable natural resource use	Constraint 4.1: Agricultural practices and water use reduce sectoral sustainability.
	Constraint 4.2: Air pollution exacerbates health problems.
	Constraint 4.3: Rapid territorial development affects sustainability.

What will it take to achieve poverty reduction and inclusive growth sustainably?

Cross-cutting constraints: Limited mechanisms for feedback provision and participation by citizens and the private sector, and limited data transparency

Source: World Bank, based on diagnostic analysis.

Pathway 1, the top priority area for action in the new growth model, addresses constraints to public spending allocation patterns. Its goal is to redirect public resources toward high returns and efficient investment, which will help private sector investment and productivity, support macroeconomic resilience, and address the resource misallocation that drives employment toward low-skilled employment. Egypt committed to increasing public spending as part of its pandemic response. This pathway calls for ensuring that capital spending, which is particularly needed in health and education sectors, is efficient and equitable. Increased health spending is needed to equip the public health system with the supply chains and resources needed to roll out the COVID-19 vaccine. Using a climate lens, through the budgeting and resource allocation process, in addressing these constraints will also be important.

Pathway 2 is the next priority area in the new growth model. It addresses constraints to competition and labor demand in the economy. Constraints in this area arise from markets that are relatively protected from external competition and that are not well integrated spatially. Among the constraints to private sector expansion and firm growth are the policy uncertainty, conflicts of interest, and an unlevel competitive field that arise from the state's activities.

Pathway 3 recognizes the need for greater economic inclusion and forms the third priority area of the new growth model. Since most employment growth will likely take place within the informal sector in the near

term, tackling constraints to productivity in this sector will be needed especially as the economy recovers from the pandemic. For women, additional constraints to employment, such as care responsibilities, will need to be addressed as well. This pathway also paves the way for a stronger and integrated system of social insurance and social protection in general to support informal workers as well as Egyptian households' economic resilience.

Pathway 4, the fourth priority area, addresses constraints to resilience, efficiency and sustainability of the growth model, consolidating and reinforcing progress on Pathways 1-3. Egypt's natural resource endowments are being used in unsustainable ways that particularly affect water resources, and specifically agriculture, an important source of employment and food security. The shift toward more efficient and sustainable use of water and less polluting fuels, along with drinking water management, can increase the sustainability of the development model—although it may necessitate measures that raise the user costs of fuels and natural resources, according to the user pays principle, with protection for the poor. Facilitating the development of a green economy can generate growth and improve lives in ways that are consistent with sustainable development.

Several of the elements of the new growth model can be addressed with the increased adoption and use of digital technologies. Digital technologies can provide opportunities to increase the productivity and improve market access of the private sector, increase the efficiency of public expenditures, enhance the cost-effectiveness of public services, and provide citizens and businesses a platform for voice and the means to hold government accountable.

Identifying reform areas is one element of the transformation that Egypt needs. The other is an ability to reach consensus on the meaning and ramifications (in terms of winners and losers) of reform among key national stakeholders. Given Egypt's track record on adopting and implementing reforms, an assessment of feasibility of the proposed package of reforms is important.

Most of the private sector—represented by micro, small- and medium-size enterprises, and members of civil society, especially workers and grassroots organizations—is not well-organized in the debate over Egypt's economic reform strategy. Egypt has a history of landmark reforms aimed at inclusive growth: land reform in the 1950s, openness to foreign investment in the 1970s, and private sector development and privatization in the late 1990s to mid-2000s. Each of these three waves over the last 70 years were intended to create more empowered citizens and lessen reliance on an overstretched, indebted state. Yet in retrospect they are perceived as having petered out too quickly and been captured by crony capitalism, rather than raising Egypt as a whole.

The potential now exists for another set of landmark reforms. Developing a robust system of engagement by citizens and firms will be crucial to this process to boost inclusion and empowerment. A strong system of using data and evidence to guide reform implementation and adjustments is important as is the active engagement of stakeholders to build consensus and ownership around prospective reforms.

The actions taken by policymakers today will shape the future of Egypt's children and youth. Half of the country's population is younger than 24 years old. A child born in Egypt today will be 49 percent as productive when she grows up as she could have been had she benefited from complete education and full health. Clean air and sustainable access to water—achieved through better stewardship of the environment—will also be critical for a productive future.

Given the positive impact of the 2016 reforms, Egypt's leadership has a reservoir of credibility which it can use to implement bold actions for more prosperous social outcomes, by focusing on inclusion, greater job creation and productivity, fostering resilience and preservation of natural assets for future generations, and emphasizing sustainability. Its citizens—and future citizens—deserve that leadership.

1 Poverty and Shared Prosperity

Key findings on Egypt's development experience:

- Between 2004 and 2019, the Egyptian economy expanded at a pace in line with that of many middle-income peers.

- Egypt entered the pandemic with reserve buffers. Real growth declined to 3.6 percent in 2020, although remaining higher than in many other economies.

- Growth in Egypt has not been inclusive. Progress on reducing poverty and boosting shared prosperity has not been commensurate with the economy's growth performance.

1.1   Egypt's Development Experience

1.   Prior to the COVID-19 crisis, the Egyptian economy grew in line with that of many middle-income countries. The Gross Domestic Product (GDP) averaged 4.5 percent per year over a 15-year period (2004-2019). This average growth rate covers periods of accelerated growth of 7.0 percent (2005-08) and 5.4 percent (2017-19), well above that of middle-income peers. These growth spurts occurred in a context of bold economic reforms, covering macroeconomic stabilization, fuel subsidy reduction, and privatization of state owned enterprises (2004-05).

2.   The impressive ability of the Egyptian economy to achieve strong overall growth has been accompanied by little progress on per capita income growth or socioeconomic conditions of Egyptian houseohlds. This pattern of limited progress on poverty reduction and income growth is a symptom of fundamental challenges related to the level and structure of growth. As a result of a number of factors related to productivity and structure of growth, Egypt's poverty rates have not fallen even during periods of high growth:

3.   First, accounting for population growth, Egypt's GDP per capita growth averaged 2.4 percent (2004-18), 2 percentage points below that of middle-income country peers.

4.   Second, a growing share of the working age population was not absorbed into employment. The share of employed in the working-age population has been low and declined, even during the episodes of accelerating growth. As a result, Egypt may not have obtained the full growth-boosting effects of a large working age population during 2000-2010 ("demographic dividend"). Women and youth's employment rates also remain particularly low.

5.   Third, growth has been based on employment opportunities created either in low value-added sectors or in sectors that have experienced a productivity decline. The share of informal employment has also grown. The construction sector, a labor-intensive sector employing informal workers, saw a boom in employment but low productivity growth. The economy has had little success in creating well-paying productive jobs in the private sector.

6.   The pandemic has adversely affected growth and the economy is forecasted to grow by 2.3 percent during fiscal year 2020-21. Tourism, manufacturing, the Suez Canal, and oil and gas extractives continue to be impacted by travel restrictions, the slump in demand, and disruptions to domestic and global supply chains and trade. The lower growth will make it difficult for the economy to generate significant poverty reduction or raise shared prosperity. In light of Egypt's population dynamics and a forecasted sharp rise in the working age population in 2025-30, action now is urgent and can generate significant payoffs.

7.   As the country builds on the benefits of the first wave of economic reforms and recovers from the pandemic, unlocking the economy's potential to reduce poverty and promote shared prosperity will require

faster productivity and employment growth led by the private sector. The World Bank's Systematic Country Diagnostics (SCD) are conducted to identify the set of priorities through which countries can most effectively and sustainably achieve the goals of poverty reduction and shared prosperity. The previous Egypt Systematic Country Diagnostic (SCD 2015) (World Bank Group 2015) studied the country's development experience prior to 2014, including the 2004-2008 high-growth period, and found little progress in poverty reduction and shared prosperity even during the period of rapid growth. Based on this analysis and reflecting the urgent need for restoring growth and macroeconomic stability in the post-2011 period, the 2015 SCD recommended policies that addressed both the underlying sectoral constraints to inclusive and environmentally sustainable growth, as well as the urgent need to restore macroeconomic stability via sustainable macroeconomic management, energy subsidy reform, and public governance reform.

8.   Much has been accomplished by the Government of Egypt (GoE) since the 2015 SCD was published. Fiscal consolidation measures boosted government revenues and reined in public expenditures through sustained energy subsidy reform and control of the public sector wage bill. On the revenue side, a new value-added tax (VAT) regime was introduced, and a gradual decline in the fiscal deficit was achieved, (although the reported budget sector public debt ratio remained elevated). The reforms paved the way for reduced public spending on regressive energy subsidies, creating fiscal space for increased social spending and an incentive to reduce the economy's reliance on fuel use. The introduction of a modern and comprehensive investment law, a new industrial licensing law, and a progressive insolvency law laid the groundwork for a dynamic private sector participation in the economy as macroeconomic conditions improved. However, progress was more limited on reforms related to governance (such as on data transparency) and sectoral constraints to inclusive and sustainable growth.

9.   This SCD Update analyzes the Egyptian economy's development experience with a focus on the period since the first SCD. It extends the years studied by the previous SCD which was published in 2015 and used data up to 2012. This report analyzes the period between 2004 and 2019 to best leverage data availability and cover important reform efforts undertaken since the 2015 SCD was published. Data from 2020 were partially available when the analysis was being carried out and were included where possible such as the 2020 World Bank Enterprise survey.

10.   The report identifies pathways to achieving growth anchored in improved productivity and employment outcomes. Overall, the report's analysis reiterates the need for a new growth model that expands market opportunities for the private sector to invest, grow, and create productive jobs.

11.   This chapter describes progress on poverty, inequality, and shared prosperity. It also introduces the diagnostic framework used by the SCD Update.

1.2   Poverty, Inequality, and Shared Prosperity

12.   The share of the population living in extreme poverty (US$1.90 a day in 2011 purchasing power parity [PPP] dollars) rose from 1.5 percent in 2012 to 3.8 percent in 2017, and the share living on US$3.20 a day rose from 19 percent to 28.9 percent (Figure 1.1). The official estimates of poverty for the same period were 30.4 percent in 2012, 27.8 percent in 2015, and 32.5 percent in 2017. Both international and official poverty estimates show some gains between 2012-15 which were reversed by 2017. Reduction in poverty between 2012 and 2015 can be attributed to increases in social spending after the 2011 revolution (World Bank 2019). The increase in poverty between 2015 and 2017 is linked to the double-digit inflation which occurred following the November 2016 currency depreciation and greatly eroded purchasing power (Alazzawi and Hlasny 2020; World Bank 2019). Recently published official estimates of poverty of 29.7

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percent suggest that there was some improvement in people's purchasing power prior to COVID-19. Nevertheless, the estimated poverty rate in 2019 remains above that in 2015.[2]

13.   This pattern of limited progress on poverty reduction was observed in the 2000s as well. The previous SCD found that the share of the population living below the 2005 poverty line increased from 19.6 percent in 2005 to 24.3 percent in 2010.

Figure 1.1 Share of population living on US$1.90 and US$3.20 a day in Egypt and regional peers, 2010–17

a. Share of population living on US$1.90 a day (Sustainable Development [SDG] Goal 1)
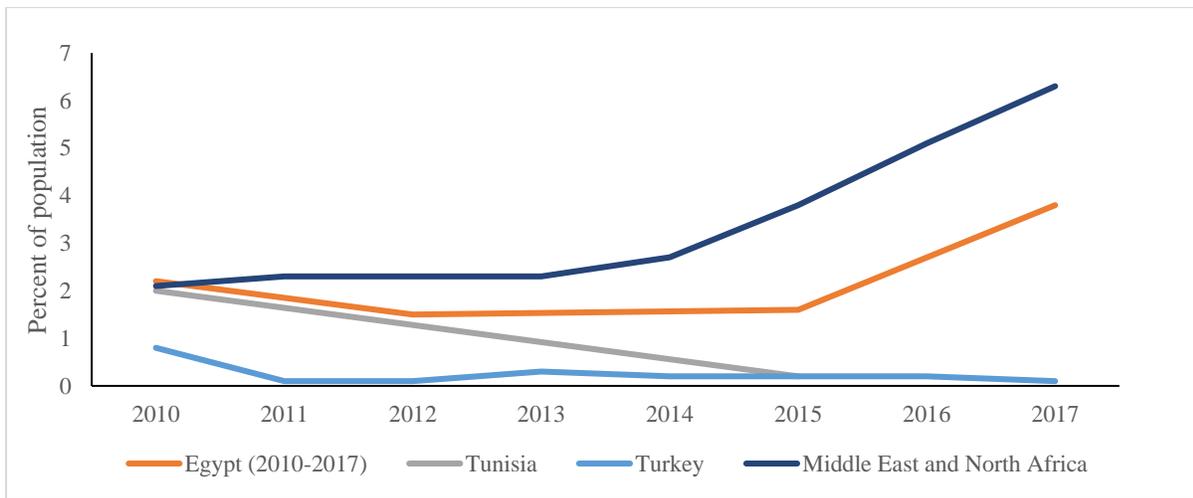
b. Share of population living on US$3.20 a day
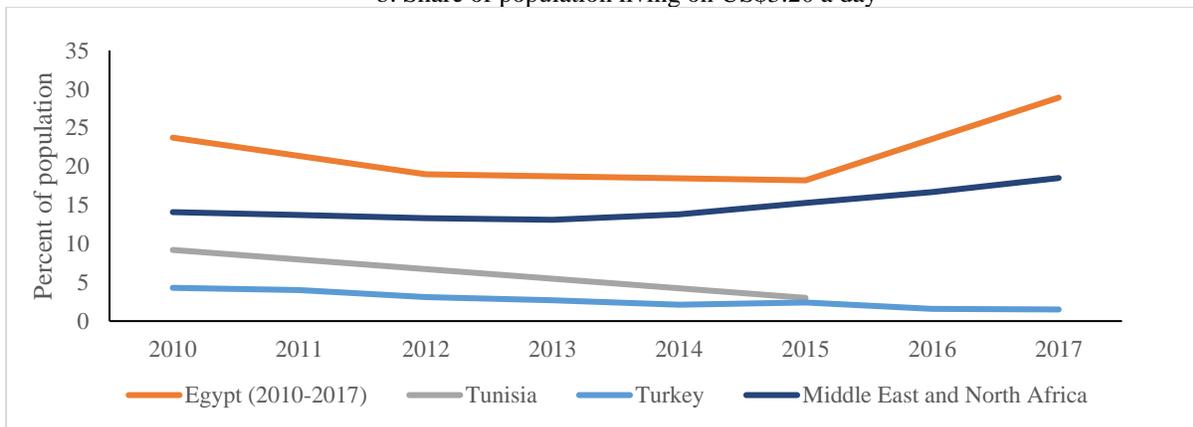
Source: World Development Indicators (WDI).

Note: Poverty rates reported are for survey years. Poverty is measured using consumption.

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[2] The official poverty estimates are based on poverty lines that can be considered to be relative poverty lines, with the real value of the lines changing over time and reflecting the most recent consumption patterns of the population (see annex A for methodological details). The poverty rates are therefore not strictly comparable over time as they are not estimated against a fixed poverty line like the international poverty rates are. Thus, although the published national poverty rate in 2019 (29.7 percent) is lower than in 2017 (32.5 percent), it is not directly comparable because it is based on a different poverty line. Further analysis and construction of a comparable poverty series will be possible when the 2019 Household Income, Expenditure, and Consumption Surveys (HIECS) microdata are published.

14.   Between 2012 and 2017, poverty increased even as the economy grew and new social mitigation measures were introduced. At the US$3.20 line, the change in poverty between 2012 and 2017 translates into a positive poverty-to-GDP growth elasticity of 7.5. For most countries, the poverty-to-GDP growth elasticity is negative, ranging from –3.5 to –0.5 (Haughton and Khandker 2009). Between 2010 and 2017, all of Egypt's peer countries except Ukraine experienced negative poverty-to-GDP growth elasticities, ranging from –1.0 in Sri Lanka to –4.0 in Malaysia and Mexico.

15.   Inequality increased in the recent period, which can help explain the lack of progress in poverty reduction despite growth. Inequality in consumption, measured by the Gini index, fell from 30.2 to 28.3 between 2010 and 2012 before rising to 31.5 in 2017. The inequality in income also rose between 1998 and 2018 (Said, Galal, and Sami 2019). Globally, a Gini index of 30.0–31.5 is low (Figure 1.2). But in Egypt, the figure may reflect the national household survey's limited coverage of rich households—a problem common to most surveys. Studies that have sought to correct for the missing consumption information of rich households find that the Gini index in Egypt is much higher. Using housing prices to adjust for the top incomes, for example, van der Weide, Lakner, and Ianchovichina (2016) estimate that the Gini index for consumption for urban areas of Egypt may have been as high as 47 in 2008. In addition to the possible under-coverage of rich households in surveys, inequality measured using consumption might be low because of the declining marginal propensity to consume from income. When measured using income rather than consumption, Gini index for Egypt is found to 50 which is closer to that of Brazil. Van der Weide, Lakner, and Ianchovichina (2018) estimate a Gini index for income of 52 for urban areas in 2008. Alvaredo, Assouad, and Piketty's (2019) correction for top incomes shows the MENA region to have high inequality. Their adjustments result in a higher Gini index of 54 for Egypt in 2015, indicating a high level of inequality.

Figure 1.2 Gini index for Egypt and peer economies
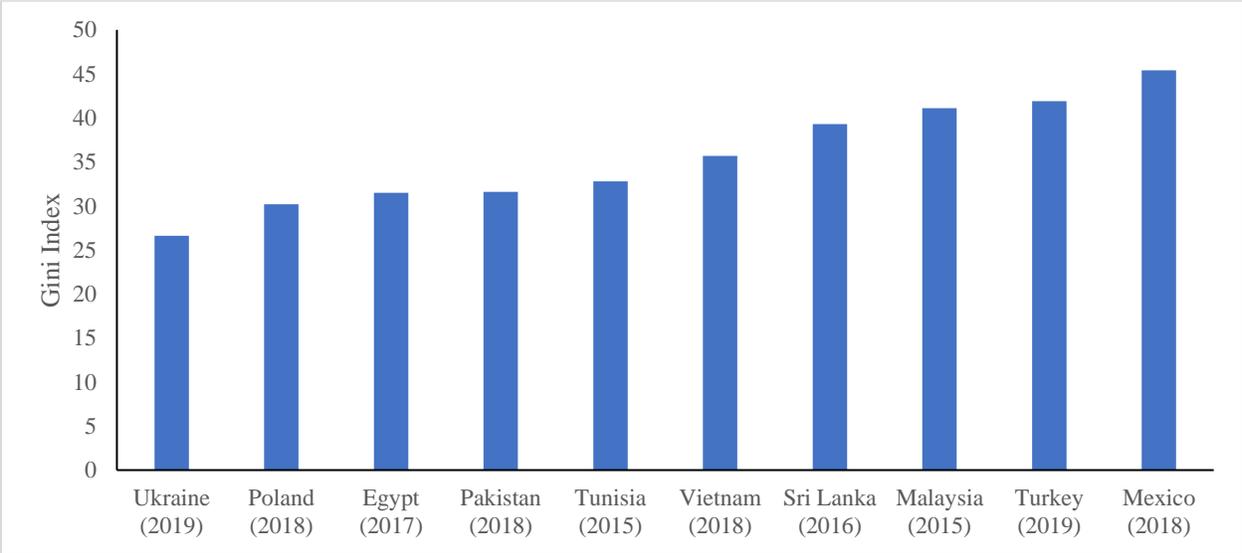
Source: World Development Indicators (WDI) accessed June 15, 2021.

Note: Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

16.   Household consumption growth, as measured by the household survey, shows a reduction in consumption over time when adjusted for inflation. The median monthly per capita consumption dropped between 2010 and 2017, with some gains in the intervening years (Figure 1.3). Shared prosperity, as measured by growth in households' per capita consumption, also did not show any gains (Figure 1.4). Just

as in the 2005–10 period, households' consumption growth was negative between 2012 and 2017. Over this seven-year period, the poorest 40 percent of the population (the "bottom 40 percent") experienced a contraction in consumption of 0.97 percent a year. The sharpest contraction in the consumption of the bottom 40 percent occurred in 2015–17, when the economy experienced a resumption in GDP growth and a sharp rise in inflation following the 2016 currency depreciation.

Figure 1.3 Median consumption, 2010–17
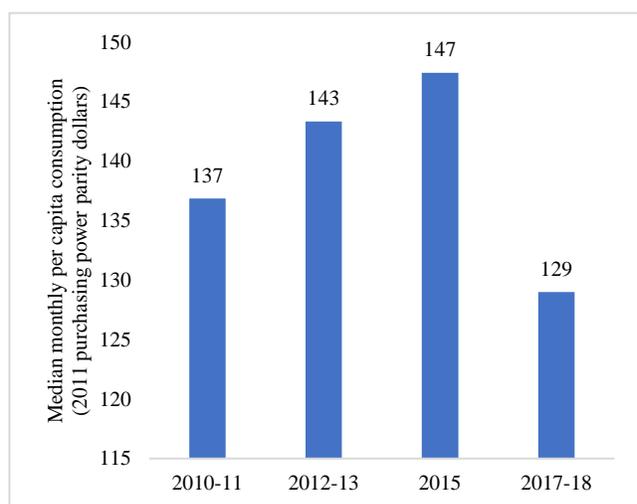
Source: World Bank calculations using HIECS data.

Figure 1.4 Consumption growth and shared prosperity, 2010–17
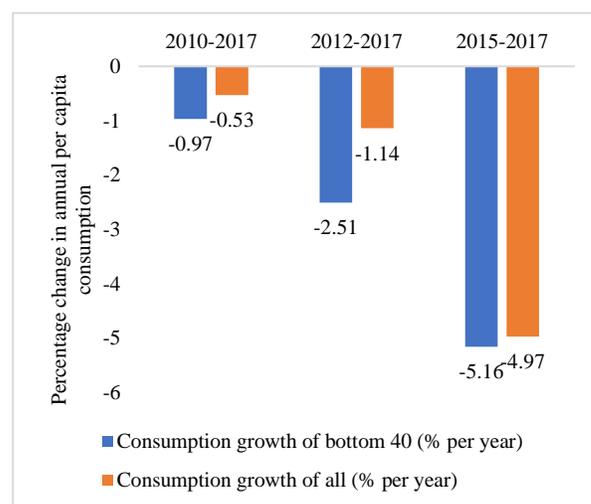
Source: World Bank calculations using HIECS data.

17.   Egypt data has long shown limited transmission of aggregate growth to household consumption growth (see Verme 2014; World Bank Group 2015). The low labor share of income in national accounts can partially explain the lack of poverty reduction during periods of growth. The capital remuneration (gross operating surplus and mixed income of companies) has been close to 70 percent of GDP or higher since 2006. The labor share, or compensation of employees, has remained close to 30 percent of GDP over 2006-2016. Morsy, Antoine, and Sanchez (2014) report a declining trend in labor income share for the 2000-2010 period. A persistently low labor share of income reflects the performance of labor productivity. Chapter 2 shows that Egypt's labor productivity growth has been below that of peer economies. In his study of the 2000-09 period when household consumption contracted during a high growth period, Verme (2014) points to another factor that could play role. National accounts data for this period shows that most of the growth went to nonfinancial institutions (private enterprises). The observed contraction in household incomes and consumption in this period suggests that private enterprises did not distribute this growth through wages or dividends.

18.   The deterioration in living standards between 2015 and 2017–18 was linked to worsening labor incomes (Table 1.1). A micro-decomposition of household income change shows that almost all of the contraction in per capita income experienced by the top 60 percent of the distribution came from declining labor income. For the poorest 40 percent, declining labor income accounted for 80 percent of the contraction in per capita income; the smaller share of employed adults in the household accounted for the remaining 20 percent. The increase in the share of adults in the household offset the decline in incomes. Social protection income (non-labor income)—including transfers which grew over this period, particularly for the poor—helped offset the decline in incomes of the bottom 40 percent but not for the top 60 percent of the population.

Table 1.1 Factors contributing to percentage change in per capita household income, 2015–2017/18

	Part of the income distribution (by per capita income)	
Factor	Bottom 40 percent	Top 60 percent
Change in share of adults in the household	0.1	13.9
Change in share of working adults	−22.0	−4.2
Labor income	−79.4	−94.5
Nonlabor income	1.2	−15.2

Source: World Bank, based on data from the 2015 and 2017 Household Income, Expenditure, and Consumption Surveys (HIECS).

Note: The results are based on Shapley decomposition of components of per capita income change (Azevedo, Sanfelice, and Nguyen 2019).

19.   The disparities across Egypt's regions found in poverty assessment reports dating back almost two decades (World Bank 2002, 2007, 2010) are still present today (Figure 1.5). Spatial disparities were marked in 2017, especially between rural and urban areas in Upper Egypt. The poverty rate was 37.7 percent in rural areas and 24.8 percent in urban areas. Upper Egypt governorates have among the highest poverty rates, with some, such as Assiout and Sohag, experiencing a rate that is twice the national rate. The poor are concentrated in Upper Egypt, which is home to about 40 percent of the population but about 50 percent of the poor population (Lower Egypt, with a similar population share, accounts for a little over 30 percent of the poor). Metropolitan areas' share of the poor is in line with their population shares. These spatial patterns have persisted, with some differences, such as the near doubling of Cairo's poverty rate, from 18 percent in 2015 to 30 percent in 2017.

Figure 1.5 Poverty rates by governorates, 2017–18
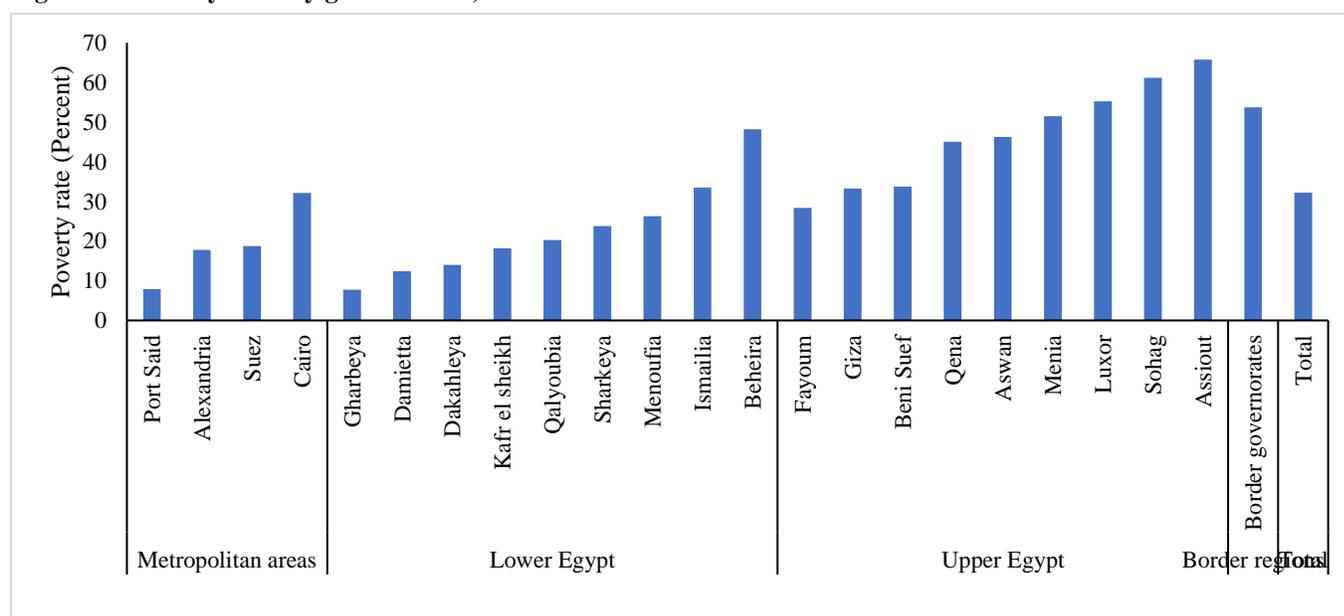
Source: World Bank, based on data from the 2017 Household Income, Expenditure, and Consumption Survey (HIECS).

Note: Estimates are based on the national poverty measurement methodology.

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20.   Monetary poverty in Egypt is highly correlated with other indicators of poverty. The poor are more likely to live in households with more members, have higher dependency rates (share of children under 14 and people 65 and older), live in smaller dwellings, and have higher rates of overcrowding. They also tend to live in dwellings of lower quality: 83 percent live in a dwelling with cement walls, and 18 percent have dirt floors (compared with 95 and 2.5 percent among non-poor households, respectively). Poor households generally have both lower access to and lower quality of services. Not surprisingly, they also have limited resources with which to acquire durable goods. Only 12.0 percent have a personal computer, 8.7 percent own a smartphone, 3.6 percent have an air conditioning unit at home, and a mere 0.7 percent own a car. Ownership rates among the nonpoor are 43.0, 28.7, 13.7, and 10.9 percent, respectively.

1.3   Poverty, Human Capital, and Employment

21.   The 2015 SCD identified progress on human development indicators that had occurred since the 2000s. Indicators of child mortality, life expectancy, and educational attainment had improved dramatically; gender gaps in education were closing in urban areas; and regional gaps were narrowing in education and health outcomes.

1.3.1   Education

22.   With concerted efforts to expand education, Egypt substantially reduced illiteracy rates. The share of illiterate adults fell from 57 percent in 1988 to 30 percent in 2018. The increase in educational attainment largely reflected the expansion in vocational education and, to some extent, in university education (Krafft, 2018).

23.   A generation ago, 80 percent of Egyptians had less than a primary education, and only about 4.0 percent had at least a university degree (World Bank 2019). By 2015, the share of individuals 25 years old and older without a primary level diploma had plummeted to 41.5 percent, and the share with a university degree had reached 14.5 percent. The changes among the poor were positive, albeit less impressive than those of the general population. Among the poor, more than 90 percent of the father's generation lacked a primary diploma; among the current generation, the share is 60 percent. Across all groups, the educational level that observed the largest increases was a secondary level technical certificate. The intergenerational gains in education experienced by the population as a whole were weaker among the poor and residents of Upper Egypt. Nationwide, 50 percent of people 25 and older attained more education than their parents did; for the poor and people living in rural Upper Egypt, this rate was only 36.4 and 38.9 percent, respectively.

24.   Poor women are one of the groups with the lowest human capital accumulation in Egypt. The low level of human capital puts them at disadvantage in the labor market, making it hard for them to find a sustainable path out of poverty (World Bank 2019). About 70 percent of women 25 and older lack a primary level diploma, and less than 3 percent have a university degree or more. Poor women also show even lower educational mobility than the poor population as a whole, with only about 28 percent of them reaching an educational level that was higher than that of their fathers. About 75 percent of women whose father did not complete primary also did not attain this level, and only 3 percent were able to complete postsecondary education. Only a quarter of women whose father had a university degree also attained this level of education. The corresponding rate among the poor population as a whole was about 46 percent.

1.3.2   Health and nutrition

25.   The share of the population reporting a chronic disease is high (23 percent on average) and increasing with age (64 percent among individuals 50 and older), according to data from the 2017–18 Household Income, Expenditure, and Consumption Survey (HIECS). At every age, women are more likely than men to report having a chronic disease. The incidence of chronic disease is higher among the better-off than the less well-off, and in urban and metro areas than in rural areas, possibly because people with limited access to health care (because of poverty or location) are less likely to be diagnosed with a chronic

disease even if they have one. Another reason for the finding could be that members of poor households are younger than the rest of the population and, therefore, also less likely to suffer from a chronic disease.

26.   Children in poor households tend to have worse health and nutrition outcomes than other children (Figure 1.6). Using data from the 2014 Demographic and Health Survey and the 2015 HIECS, World Bank (2019c) finds that children under the age of five living in poor households have higher rates of stunting, wasting, and underweight than children from non-poor households.

Figure 1.6 Percentage of poor and non-poor children under the age of five year who are stunted, wasted, or underweight
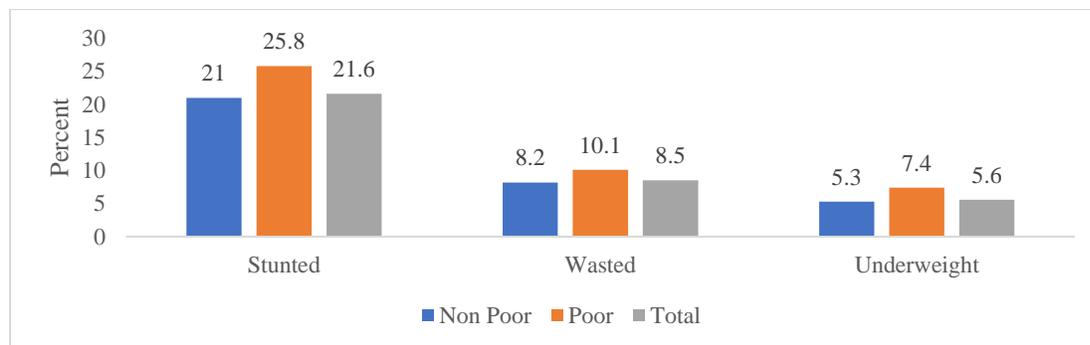
Source: World Bank 2019a.

1.3.3   Human Capital Index

27.   The productive returns to these human capital investments are low (Box 1.1). The 2020 Human Capital Index (HCI) shows that a child born in Egypt today will be 49 percent as productive when she grows up as she could have been had she enjoyed complete education and full health. Egypt's HCI remained unchanged between 2018 and 2020 (at 0.49), after rising slightly over the past decade.

Box 1.1 Egypt's performance on the Human Capital Index
Egypt's HCI is lower than the average for the region but slightly higher than the average for lower-middle-income countries. Its 2020 HCI falls substantially below the benchmark HCI average of 0.56 for peer economies. 3 Egypt performs about as well as peer countries on health indicators (although the burden of noncommunicable diseases has increased, and the rate of stunting fell by only 1 percentage point over the past decade, leaving it much higher than the rates observed in peer economies). It is significantly behind on education, however. The number of years of schooling increased between 2010 and 2020, but test scores dropped, suggesting a decline in the quality of learning. Children in Egypt can expect to complete 11.5 years of school, but on a learning-adjusted basis, they receive just 6.5 years of school. The Ministry of Education and Technical Education (MOETE) introduced substantial reforms starting in 20184 which are expected to gradually improve the quality of basic education.

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[3] Indonesia, Jordan, Malaysia, Mexico, Morocco, Pakistan, Peru, Poland, the Philippines, Sri Lanka, Tunisia, Turkey, Ukraine, and Vietnam.

[4] The reforms aim to improve learning outcomes, change critical behaviors, and improve the efficiency of education infrastructure. Progress on these reforms and introduction of digital learning resources and a digital platform (virtual classes) enabled a quick response to the COVID-19 driven school closures in March 2020 and again in January 2021.

1.3.4 Employment and poverty

28.   Men are mainly engaged in services and industry while women are concentrated in services and agriculture (Table 1.2). Other than agriculture, women are mostly engaged in education, wholesale and retail trade, health, and public administration. Men are mainly employed in construction, wholesale and retail trade, manufacturing, and transportation and storage. Informal employment is pervasive, accounting for more than 30 percent of employment in all sectors other than utilities, public administration, education, health, and financial and insurance services. In construction, the sector that has added the greatest number of jobs over time, 91 percent of employment is informal. The highest shares of working poor are found in agriculture, construction, transportation and storage, manufacturing, and wholesale and retail trade. Sectors like mining and accommodation and food services, and administrative and support services have about a third of workers who are poor but these sectors each employ a small share of workers.

Table 1.2 Employment by sector and share of informal and poor workers, 2017

	Share in total male employment (15-64) (%) (1)	Share in total female employment (15-64) (%) (2)	Share in total employment (15-64) (%) (3)	Share of informal employment within each sector (% informal) (4)	Share of poor workers within each sector (% poor) (5)
Agriculture, forestry	16.8	22.4	18.0	98.1	42.0
Industry					
Mining and quarrying	0.4	0.1	0.3	66.0	31.4
Manufacturing	13.4	7.0	12.0	64.2	29.7
Electricity, gas and water (utilities)	0.9	0.3	0.8	12.3	11.3
Water supply; sewerage	0.7	0.3	0.6	34.5	38.2
Construction	15.4	0.5	12.2	90.7	41.8
Services					
Wholesale and retail	14.9	17.0	15.4	86.9	29.5
Education	5.4	24.1	9.4	16.6	15.2
Public administration	8.3	9.0	8.5	8.9	21.4
Transportation and storage	9.4	0.5	7.5	60.2	33.0
Human health and social services	1.7	10.0	3.5	29.0	19.5
Accommodation and food services	3.9	1.1	3.3	84.1	34.6
Professional, scientists	1.7	1.2	1.6	47.5	15.7
Administrative and support services	1.5	0.6	1.3	62.2	30.1
Information and communication	0.8	0.8	0.8	44.6	13.4
Financial and insurance	0.5	0.9	0.6	13.3	10.9
Arts, entertainment a	0.5	0.5	0.5	56.0	22.1
Real estate activities	0.3	0.1	0.2	87.7	10.0

Source: World Bank estimates based on HIECS 2017-18 data.
Note: Within Columns 1,2, and 3, shares add up to 100. Informal wage workers, employers, and self-employed are those that do not participate in social security. For informal wage workers, no participation in social security overlaps to a large extent with a lack of contract. Column 5 reports share of workers who live below the 2017 official poverty line. This Table is based on the HIECS because it allows the study of working poor. The sectoral employment statistics could differ from those reported by Labor Force Surveys discussed in Chapter 3.

1.4   Poverty and Gender

29.   An estimated 3.7 percent of Egypt's population lives in a household in which only women work (World Bank 2019). Households with female breadwinners or main income earners tend to have higher consumption levels and lower poverty rates than other households. According to HIECS 2015 data, almost half of Egypt's population live in households in which there is only one employed male member. Another 14 percent live in households with more than one male earner but no employed women.

30.   Households in which only women work are less likely to be poor than households in which only men work, even though households with one or more female main income earners tend to have lower salaries, lower incomes from agricultural activities, and lower incomes from non-agricultural businesses than households with one or more male breadwinners. Part of the explanation is demographic: These households are smaller and their dependency rates lower. The main reason for their higher consumption levels and total income is that monetary transfers to households with female breadwinners are four times higher on average than monetary transfers to households with male breadwinners. These transfers include social protection (pensions) income, as well as other private transfers, such as remittances.

1.5   Impact of COVID-19

31.   The first wave of measures introduced to contain COVID-19 reduced people's income and hit informal wage workers harder than the rest of the labor force. Following the declaration of a national public health emergency on March 17, 2020, the government restricted travel and established a curfew, required restaurants and cafés to remain closed, and limited opening hours for other businesses. The results of a phone survey conducted at the end of April, just before restrictions started to be relaxed, provide evidence that COVID-19 prevention measures led to a large drop in the proportion of working adults still active. Nationally, the share of individuals identified as the main income earner in their household that were working fell from 79 percent in February/March to 47 percent in April 19–25, 2020 (Figure 1.7).

32.   Informal wage workers (defined as workers lacking a contract or workers who do not make social security contributions) were more likely to be inactive or to work less than usual under the lockdown. Only 44 percent of them were working in April 19–25, a much lower figure than the 69 percent of formal wage workers (formal private sector) who were still employed) (Figure 1.8) And among informal wage workers who were still working, 80 percent declared working less than usual.

Figure 1.7 Percentage of main income earners working before and after first COVID–related lockdown
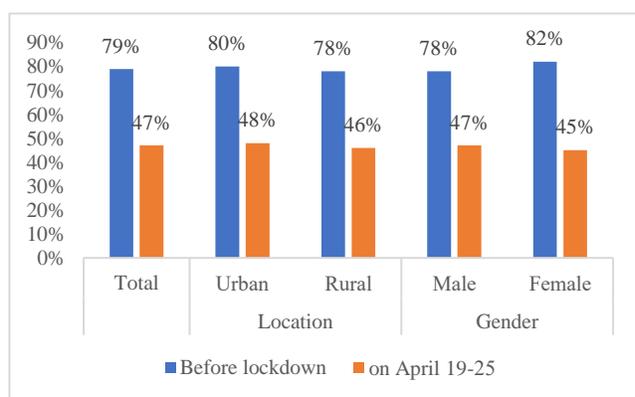
Figure 1.8 Percentage of main income earners (MIE) working in April 2020, by type of employment before the lockdown
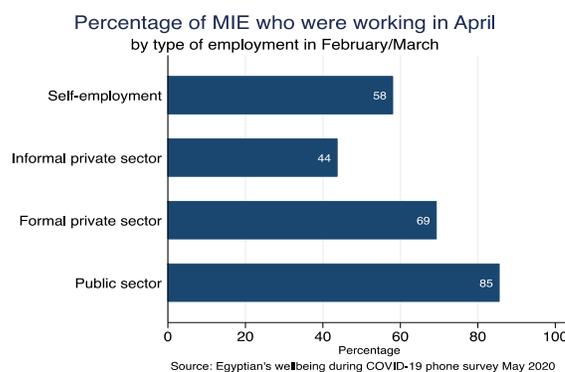
Source: Phone survey conducted in April 2020 by Baseera.

Note: Respondents are main income earners in the household.

Source: Phone survey conducted in April 2020 by Baseera.

Note: Respondents are main income earners (MIE) in the household.

33.   Poverty is likely to increase as a result of the pandemic and lower GDP growth—particularly if the slowdown also reduces employment or incomes (assuming consumption and employment changes are sensitive to changes in aggregate growth). A World Bank microsimulation based on sectoral GDP projections and using HIECS 2017 data suggests that the headcount poverty rate (at the US$3.20 line) could increase by 0.32–0.54 percentage points as a result of the pandemic.[5] If the slowdown mainly affects the formal sector, the increase in poverty will likely be 0.32 percentage points. If the slowdown mainly reduces informal sector incomes (as it appears to have done), the poverty rate is expected to increase by 0.54 percentage points. In both scenarios, the increase is simulated to be slightly larger in urban than in rural areas.

1.6   Diagnostic Framework

34.   This SCD Update uses a diagnostic framework that is based on the two immediate (or proximate) determinants of growth: (i) the accumulation of and returns to labor/human and physical capital and the extent to which these inputs are allocated to productive uses; and (ii) the productivity of labor and capital use within and across sectors (allocative efficiency or structural change). Constraints to inclusive growth could lie in accumulation (of labor and capital) or in productivity or both (Figure 1.9).

Figure 1.9 Diagnostic framework based on proximate determinants of growth
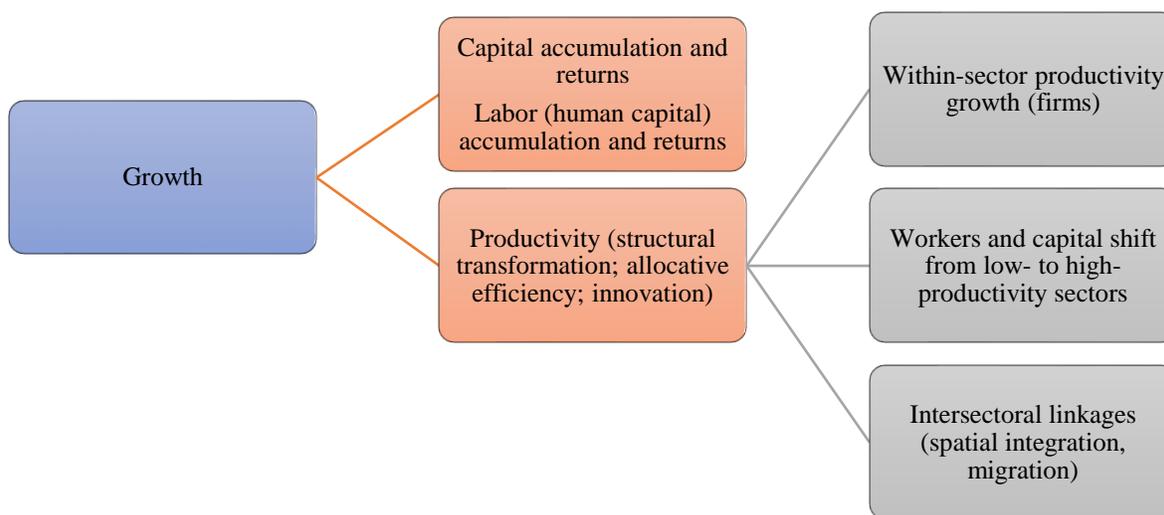
35.   The framework is helpful for understanding the association between poverty reduction and growth in Egypt since the proximate determinants that affect growth also affect prospects for poverty reduction. Empirical evidence from cross-country and within-country studies confirms that as labor and capital resources move out of low-productivity sectors into high-productivity sectors, the productivity of both sectors increases and the rising incomes that come with this transition reduce poverty (Ravallion and Datt

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[5] Several limitations of this microsimulation exercise should be noted. First, as the microsimulation is based on annual growth projections and workers' reallocations between sectors, it does not capture the short-term dynamics of the crisis on employment, such as furloughs or temporary income losses. Second, the microsimulation assumes that there is no population growth and that workers are either unemployed or employed in one of five sectors: agriculture, formal services, informal services, formal industry, or informal industry. Therefore, according to the model structure, new workers in a specific sector need to move either from other sectors or from unemployed (that is, no workers retire or enter the labor market). Third, the results of the simulation are only as accurate as the data on the effects of COVID-19 on the economy. In the case of Egypt, the estimated elasticities of sector GDP and sector employment are low, suggesting that overall, the labor market does not respond significantly to changes in economic activity at the sector level.

1996; Loayza and Raddatz 2006; Datt and Ravallion 2011). However, this only occurs if strong intersectoral linkages exist, through migration, trade, or both.

36.   Sustainable use of natural resources can also be analyzed within this diagnostic framework. The framework rests on the assumption that prices guide scare resources to their most productive use. For natural resources such as water and clean air, this assumption breaks down—a classic case of the tragedy of the commons. Nile River water may not appear to be a binding constraint to individual farmers as they decide which crops to plant, because the price they pay does not reflect its scarcity. Overuse of these resources and inefficiencies are inevitable if the state does not intervene to guide resources to their most efficient uses.

37.   Chapter 2 reviews Egypt's recent growth and macroeconomic performance. It benchmarks Egypt's growth against that of peer economies to identify the constraints that affect each of the proximate determinants of growth. This identification of constraints at the economy-wide level is based on a growth decomposition analysis combined with an analysis of labor productivity growth, following the methodology described in McMillan and Rodrik (2011).

38.   The chapters that follow deepen the analysis of proximate determinants of growth and identify constraints. Chapter 3 focuses on constraints in the labor market via an analysis of employment and earnings trends. This chapter also reviews constraints specific to women's employment and the agriculture sector. Chapter 4 analyzes constraints that affect firm performance since firm growth matters not only for employment (via job creation) but also for capital accumulation and productivity. Chapter 5 looks at how public sector spending and the state's economic activities affect the private sector and hence firm growth. Chapter 6 analyzes resilience to shocks and efficiency and sustainability of natural resource use. This chapter also reviews social sustainability and sustainability of territorial development.

39.   The constraints identified by each chapter and actions to address them can be grouped into four pathways for a new growth model that unlocks poverty reduction and inclusive growth: improve public sector spending efficiency and strengthen macroeconomic resilience (Pathway 1); boost private sector investment, firm growth, and productivity (Pathway 2); advance economic inclusion and strengthen household resilience (Pathway 3); and promote sustainability of natural resource use (Pathway 4). Across these pathways, stronger citizen engagement and data transparency are needed as well. Chapter 7 concludes by reviewing priorities for policy action across these pathways and discussing policy recommendations for the constraints identified.

2   Growth, Investment, Employment, and Productivity

Key findings on the current growth model:

- Growth did not translate into improved livelihoods and living standards for three reasons: low labor productivity growth (value-added per worker); low contribution of labor and capital factors to growth; and low employment rate and investment.

- Egypt's limited success to transform its economy structurally—by reallocating labor toward more productive sectors—has kept productivity growth (and consequently incomes) low.

- The productivity of investment has fallen over time. Since the state is actively investing in the economy while the private sector is not, this decline in productivity raises concerns about the productivity of public investments.

- Positive sectoral shifts include declining agricultural employment accompanied by a rise in this sector's productivity. The construction sector, an employer of unskilled and low-skilled workers, experienced a surge in employment, but with low productivity growth—likely weakening the sectors' potential to reduce poverty.

- The combination of low returns to labor and capital accumulation suggests that a binding constraint to growth is limited avenues for high-productivity activities, rather than the inadequate supply of capital and labor.

2.1   Benchmarking Egypt's Growth and Macroeconomic Resilience

40.   To analyze Egypt's growth model, the SCD Update compares Egypt's performance with that of a set of countries chosen because they are similar to Egypt in terms of structural characteristics (population, geographic size, and stage of development). The countries chosen for benchmarking are (a) the countries selected in the previous SCD (Indonesia, Malaysia, Mexico, Pakistan, Poland, Turkey, and Ukraine); (b) countries identified in Alnashar, Elashmawy, and Youssef (2020) (Morocco, Peru, the Philippines, Sri Lanka, and Vietnam); and (c) two Middle East and North Africa (MENA) region countries that share similarities with Egypt (Jordan and Tunisia). The SCD Update also considers how Egypt fared compared with middle-income countries and other developing countries in MENA.

2.2   Growth and Macroeconomic Resilience

41.   Egypt's GDP grew in spurts at an average rate of 4.5 percent during 2004–19, just below that of many middle-income peers (Figure 2.1, Table 2.1). During 2006–08, growth peaked at an average annual rate of 7.0 percent, well above middle-income peers. The analysis in the previous SCD showed that this growth spurt occurred at a time of reforms that took place between 2004 and 2008 including corporate tax cuts, simplification of tax regime,

Figure 2.1 GDP growth and per capita GDP growth in Egypt, 2004-2019
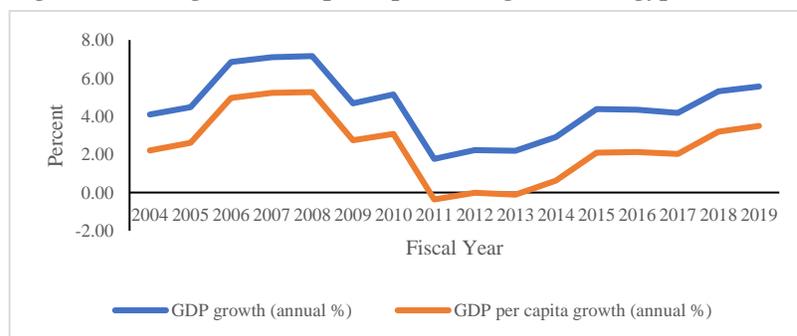
Source: World Development Indicators.

reduced tariffs, strengthening of the business environment, privatization, and exchange rate liberalization. After a slowdown in early 2010s, growth rebounded following the initiation of recent wave of economic

reforms and reached 5.6 percent in 2019. Growth is expected to fall to 3.6 percent in 2020 due to the COVID-19 pandemic.[6]

42. GDP per capita growth has been substantially lower, averaging just 2.4 percent, which was 1.8 percentage points lower than the average in middle-income countries (during 2004-19). GDP per worker or labor productivity growth is similarly low, averaging 2.5 percent per year. This growth rate is higher than the average for MENA region peer economies (1.1 percent) but lower than the average for middle-income peers (4.4 percent).

Table 2.1 Growth (GDP, per capita GDP, and Labor Productivity) and Employment rates, Egypt and peer economies, 2004–19

Country or country group	Annual average growth (percent)			Percent of working-age population employed	
	GDP	GDP per capita	GDP per worker (Labor Productivity)	2004-2009	2014–19
Egypt	4.5	2.4	2.5	45.5	44.1
Indonesia	5.5	4.1	3.2	62.4	66.3
Jordan	4	0	-0.1	37.5	35.5
Malaysia	4.9	3.3	2.2	61.0	65.8
Mexico	2.1	0.7	-0.1	61.2	61.8
Morocco	3.9	2.6	2.8	47.7	44.8
Pakistan	4.1	1.9	1.4	52.6	52.7
Peru	5.1	4	2.9	75.5	77.4
Philippines	5.8	4.1	3.4	61.1	61.4
Poland	4	4	2.4	55.8	65.5
Sri Lanka	5.5	4.7	4.7	56.1	56.3
Tunisia	2.8	1.7	1.5	43.1	43.7
Turkey	5	3.4	2.3	44.2	50.5
Ukraine	0.5	0.9	1.1	61.7	60.3
Vietnam	6.4	5.3	4.8	79.3	81.3
Country group					
Middle East and North Africa	2.9	1.1	1.3	42.7	41.7
Middle-income	5.4	4.2	4.4	63.7	61.4

Source: World Bank, based on data from World Development Indicators.

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[6] In the fourth quarter of fiscal year 2020, due to the lockdown, growth contracted to 1.7 percent but subsequently recovered after easing of COVID-19-related restrictions.

43. Employment growth in Egypt has not kept pace with GDP per capita growth, particularly since 2014. Employment growth and growth in the employment rate (employment as a share of the working-age population) closely tracked GDP per capita growth in early 2000s (Figure 2.2) (Assaad, Alsharawi, and Salemi 2019). Since 2011, there has been a downward trend in employment rate, despite resumption of growth in 2014. Egypt's employment-to-GDP growth elasticity is 0.88, which is higher than that of its peers (Table 2.2). However, when adjustments for population growth are made, this elasticity falls to zero. In contrast, this elasticity is above zero in every other peer country except Morocco. This difference is driven by the relatively rapid growth of Egypt's working-age population.

Figure 2.2 Growth in GDP per capita, employment, and employment rate, 2004-19
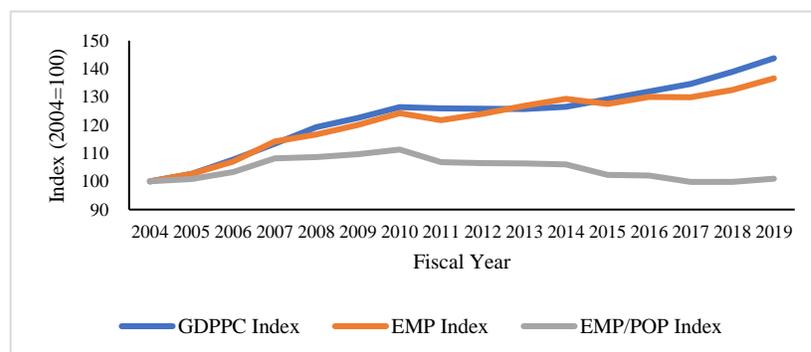
Source: World Bank, based on data from World Development Indicators.

Table 2.2 Employment to growth elasticities in Egypt and peers, 2004-19

Country	Elasticity of employment to GDP growth	Elasticity of employment rate to GDP per capita growth
Egypt	0.88	0.00
Indonesia	0.54	0.10
Jordan	−1.84	0.07
Malaysia	0.86	0.17
Mexico	1.79	0.25
Morocco	0.4	−0.03
Pakistan	1.44	0.08
Peru	0.46	0.12
Philippines	0.54	0.06
Poland	0.37	0.16
Sri Lanka	0.17	0.01
Turkey	0.82	0.13
Ukraine	−0.07	0.02
Vietnam	0.32	0.07

Source: World Bank, based on data from World Development Indicators.

44. Egypt joins Jordan and Tunisia in having the lowest share of working-age population that is employed. Youthful countries face steeper challenges than others in creating jobs and undertaking structural change that comes with per capita income growth (Merotto, Weber, and Aterido 2020). Egypt has both a younger population and a higher annual population growth rate than its peers (2.0 percent, compared with less than 1.2 percent on average in middle-income countries in 2004–18). Vietnam and Sri Lanka had average annual population growth well below 1 percent during this period. They also employ a large share of their working age population. By 2030, Egypt would have to add about 6 million jobs just to keep the

employment rate at its 2019 level. Achieving better per capita growth outcomes in Egypt will therefore be helped by slower population growth (strong family planning programs and support provided via the Takaful and Karama programs can be helpful). The young dependents (children 0-14) today can become a potential source of growth in the future if as working-age adults they can engage in productive jobs (Box 2.1). Investment in children's human capital would be key to realizing this growth dividend.

Box 2.1 Egypt's forthcoming demographic window of opportunity

A rise in the size of the working age population (15-64) relative to the nonworking age population (children and elderly) can boost growth – an effect referred to as the demographic dividend. Studies have attributed a significant share of the rapid growth in East Asian economies during 1965-1990 to this rise in the ratio of working age population to population of children (0-14 years) and elderly (65 years and older). A relatively larger working age population translates into higher output per capita mainly via the jobs channel. A large share of the working age population can also boost growth via higher aggregate savings and investment per capita since this age group is more likely to save than children or elderly dependents (World Bank 2006).

Assaad (2020) projects an increase in Egypt's total population from 102 million in 2020 to about 160 million by 2050 (based on medium variant of the United Nation's population projections). By 2025-2030, the growth of working age population is expected to accelerate when the echo generation (born between 2006 and 2014), reaches working age. Assaad (2020) estimates that the annualized growth in the youth population (15-24) entering the labor force will increase from 1.1 percent in 2020-25 to 3.1 percent in 2025-30 and 3.8 percent over 2030-35.

The demographic "window of opportunity" for accelerated growth is expected to be last from 2025 until 2040. During this period, the dependency ratio, or the ratio of children and elderly dependents to the working age population, is projected to decline, creating favorable conditions for growth if job creation can absorb the large cohorts of workers. After 2040, the rise in dependents (particularly the elderly dependents), will start to outweigh the projected growth in working age population.

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45. Periodic macroeconomic instability may suppress the country's per capita growth. Egypt's macroeconomic resilience is affected by the following factors: high deficit-to-GDP and government debt-to-GDP ratios (averaging 9.7 percent and 94.6 percent, respectively, during 2004–19); high and volatile inflation; and price distortions in the form of administered rather than market-determined prices. Egypt's exchange rate repeatedly needs to be realigned because of loss of competitiveness and at times acute real appreciation and heightened foreign currency shortages, which lead to the intermittent emergence of parallel market rates (Alnashar, Elashmawy and Youssef 2020). As a result, the economy has needed periodic structural adjustments to restore macroeconomic stability (see Chapter 5 for further discussion).

46. Abdelraouf, El-Abbadi, and Noureldin (2019) analyzed Egypt's inflation between 2000-2018 and concluded that structural factors (price variability and excess money growth) rather than transitory factors (exchange rate devaluations and other supply-side shocks) account for the upward inflation trend since 2003 (Figure 2.3). This upward trend in inflation has also hurt purchasing power and affected poverty (AlAzzawi and Hlasny 2020).

Figure 2.3 Year-on-year inflation, January 2000-November 2018
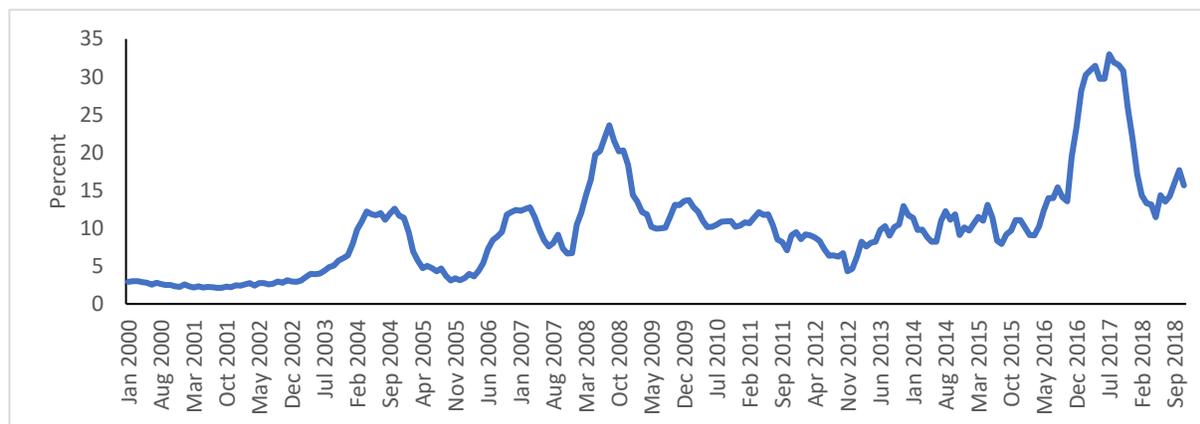
Source: Based on Abdelraouf, El-Abbadi, and Noureldin (2019).

Note: Data from International Financial Statistics.

47.   Compared to its peers, Egypt performs poorly on inflation (higher than average), fiscal balance (more frequent deficits than average), and saving rates (lower than average). For each indicator, the bars in Figure 2.4 show the difference between Egypt and the simple average of its peers for three periods: 2004–10, 2011–15, and 2016–19.[7] During the 2004-10 period, inflation in Egypt was in the 85th percentile but export growth and employment growth were also in the 85th percentile. Reforms in that period thus helped the economy export and employ workers, but fiscal deficits remained a problem (World Bank Group 2015).

Figure 2.4 Egypt's economic performance relative to peer economies, 2004–19
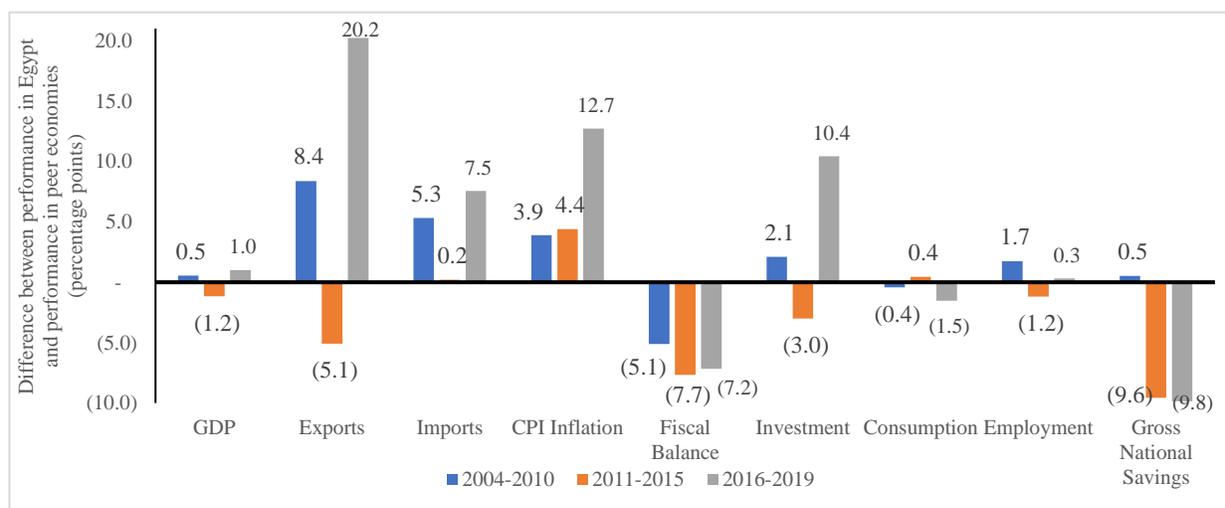
Source: Alnashar, Elashmawy and Youssef (2020) and World Economic Outlook.

Note: All indicators are percentage point deviations of yearly growth rates, except fiscal balance and gross national savings, which are percentage point deviations of nominal GDP. Figures are simple averages across years and comparator countries.

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[7] This section updates the analysis in Box 3.1 in the 2015 SCD.

17

48.   Chronic fiscal weakness and high dependence on external flows to maintain macroeconomic stability have been a constant in Egypt. Concerns about the pervasively high fiscal deficit were pointed out in the previous SCD, which showed that countries that maintained fiscal deficits the size of Egypt's (Cape Verde, Guyana, Jamaica, the Kyrgyz Republic, and Lebanon) tend to have chronic fiscal weakness and high dependence on external flows. After 2011, Egypt's fiscal deficit increased. The macroeconomic stabilization and structural reforms program launched in 2016 improved the fiscal deficit, but it is still larger than that of its peer economies. In constant 2010 dollars, the export of goods and services skyrocketed from US$36 billion in 2016 to US$90 billion in 2018, an increase of 245 percent. This period also saw revitalized investment, especially from the public sector. However, the adjustment program reduced consumption and savings, with the national savings rate plummeting from 20 percent in 2009–10 to 9 percent in 2016–17, before partially recovering to 14 percent in 2019. While growth in employment has not been significantly different than the comparators, the employment to population ratio in Egypt is one of the lowest in the world.

2.3   Growth Decomposition

49.   Why is GDP per capita growth so low in Egypt? The chapter answers this question using three types of decompositions following the diagnostic framework of Figure 1.9. The first decomposition follows a commonly used approach to decompose GDP per capita growth into the three key factors of production: labor, capital, and total factor productivity (TFP) to see how much each contributed to growth (see Annex B). This facilitates understanding of how much of the changes in the economy's total output can be attributed to changes in these factors (Figure 2.5, panel a).[8] The labor factor indicates how much output is generated from each additional unit of labor and human capital employed. The capital factor indicates how much output is obtained from each additional unit in capital stock. TFP is a measure of efficiency, estimated by dividing economywide total output by the weighted average of inputs (labor and capital). TFP thus represents growth in real output that exceeds the growth in inputs.

50.   The second decomposition breaks down GDP per capita growth into contribution of growth in labor productivity, the employment and participation rate, and working age population (Figure 2.5, panel b).[9] This decomposition is informative because of the importance of the labor factor in poverty reduction and inclusive growth.

51.   The third decomposition splits labor productivity growth into two constituent parts—within-sector productivity growth (how much of overall labor productivity growth can be attributed to changes within sectors) and the "structural change" component (how much of overall labor productivity growth can be attributed to movements of workers across sectors) (Figure 2.5, panel c) (see McMillan and Rodrik 2011). The structural change component is further broken down into between-sector productivity changes (static reallocation) and cross-sector productivity changes (dynamic reallocation).[10] When changes in employment shares are positively correlated with productivity levels the dynamic reallocation term will be positive, and structural change will increase economywide productivity growth.

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[8] Land is also a factor of production, but it is assumed to be fixed for the economy. For that reason, it is not included in the decomposition.

[9] This GDP per capita decomposition uses Shapley decomposition of the following equation: $\frac{Y}{N} = \frac{Y}{E} * \frac{E}{L} * \frac{L}{N}$; where Y = GDP; N = total population; E= number of employed individuals; L= working-age population.

[10] $\Delta w = \sum_{i=1}^{n}(w_{t1}^{i} - w_{t0}^{i}) * \theta_{t0}^{i} + \sum_{i=1}^{n}(\theta_{t1}^{i} - \theta_{t0}^{i}) * w_{t0}^{i} + \sum_{i=1}^{n}(w_{t1}^{i} - w_{t0}^{i}) * (\theta_{t1}^{i} - \theta_{t0}^{i})$ where

Δw =Change in value added per worker; wit0 =Value added per worker in sector i in year t0; wit1 =Value added per worker in sector i in year t1; θit0 =Share of employment in sector i in total employment in year t0; θit1 =Share of employment in sector i in total employment in year t1. Within sector productivity growth is the first term on the right- hand side. Static reallocation is the second term and dynamic reallocation is the third term on the right-hand side. See discussion in Rodrik, McMillan, and Sepúlveda (2016).

Figure 2.5: Schematic of factors that contribute to average annual GDP per capita growth: Egypt 2004-19

a.

| Average per capita GDP growth=2.4 percent |
| Labor factor (0.7 percent) |
| Capital factor (0.6 percent) |
| Total Factor Productivity (1.1 percent) |

b.

| Average per capita GDP growth=2.4 percent |
| Contribution of labor productivity (2.5 percent) |
| Employment and labor particpation rate rate (-0.1 percent) |
| Working age population (0.0 percent) |

c.

| Average labor productivity growth=2.5 percent |
| Contribution of within-sector productivity (2.1 percent) |
| Contribution of dynamic reallocation (-0.2 percent) |
| Contribution of static reallocation (0.6 percent) |

2.3.1 Contribution of total factor productivity, labor and capital factors to per capita GDP growth – Little growth from labor and capital factors

52.   The first decomposition of Egypt's GDP per capita growth shows that of the 2.4 percent of average per capita GDP growth, 1.1 percent stems from changes in efficiency (or TFP), 0.7 percent from capital inputs, and just 0.6 percent from labor inputs (see, panel a). The most surprising finding is how little Egypt's labor inputs contribute to per capita growth relative to some peer economies (Figure 2.6). By comparison, Vietnam had average per capita GDP growth of 5.2 percent between 2004 and 2018, to which TFP (efficiency gains) contributed 1.3 percent, capital 2.4 percent, and labor 1.4 percent. The contribution of TFP to per capita GDP growth was thus roughly similar in Egypt and Vietnam, but labor and capital contributed much more in Vietnam. Only in Morocco (0.5 percent) and Pakistan (0.6 percent) was the contribution of labor smaller.

Figure 2.6 Decomposition of GDP per capita in Egypt and peers, 2004–19

Vietnam growth = 5.2%	1.3 / 2.4 / 1.4
Sri Lanka growth = 4.6%	(0.1) / 2.8 / 1.9
Indonesia growth = 4.1%	0.7 / 1.1 / 2.2
Philippines growth = 4%	2.3 / 0.8 / 0.9
Poland growth = 4%	0.6 / 1.3 / 2.1
Peru growth = 3.9%	2.3 / 1.3 / 0.3
Turkey growth = 3.4%	0.3 / 1.3 / 1.8
Malaysia growth = 3.2%	0.6 / 0.7 / 1.9
Morocco growth = 2.6%	0.6 / 1.4 / 0.5
Pakistan growth = 1.8%	1.2 / 0.1 / 0.6
Tunisia growth = 1.7%	(0.3) / 1.1 / 1.0
Ukraine growth = 1.3%	(0.4) / 1.7 / 0.0
Mexico growth = 0.7%	(0.9) / 0.5 / 1.2
Jordan growth = 0%	(0.9) / 0.0 / 0.9
Egypt growth = 2.4%	1.1 / 0.6 / 0.7

Contributions to Annual GDP Per Capita Growth
(in PPT)

■ Total Factor Productivity (TFP)   ■ Capital   ■ Labor

Source: World Bank estimates, based on data from World Development Indicators.

Note: The elasticity of capital is estimated to be 1/3. Annex B describes the methodology

53. Moreover, the contribution of the labor input to per capita GDP growth declined significantly over time—from a high of 2.4 percent in 2004-2010 to -1.1 percent in 2011-2015, before inching back up to 0.2 percent in 2016-219 (Figure 2.7). In contrast, the contribution of capital rose from 0.1 percent in 2004-2010 to 1.0 percent in 2011-2015 and held about there (0.9 percent) in 2016-2019.

Figure 2.7 Decomposition of GDP per capita in Egypt 2004-19, by subperiod
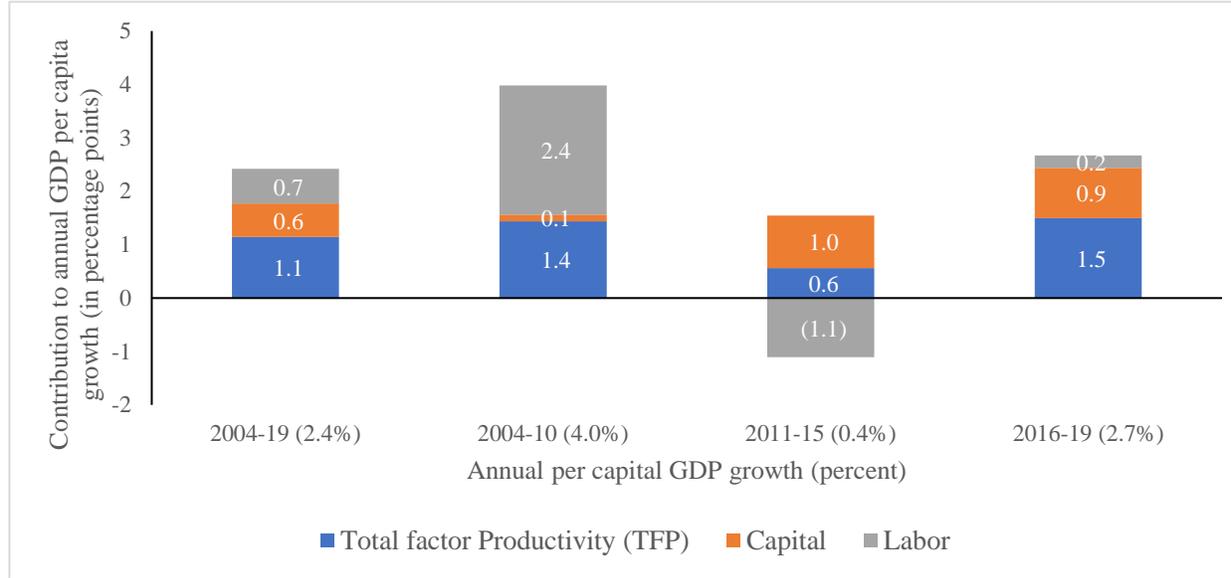
Source: World Bank estimates, based on data from World Development Indicators.

Note: Elasticity of capital is estimated to be 1/3. Annex B describes the methodology.

2.3.2 *Labor factor– low labor productivity growth explains low per capita GDP growth*

54.   Given that Egypt got so little growth from labor (as shown by the first growth decomposition), it is helpful to look at the second decomposition which focuses entirely on the labor factor (Figure 2.5, panel b). This decomposition suggests that almost all of growth in GDP per capita is due to labor productivity growth (Figure 2.8). Thus, the low pace of 2.5 percent per year at which labor productivity has grown in Egypt (see Table 2.1), explains most of Egypt's slow GDP per capita growth. What is striking is that employment, labor force participation or the growth in working age population did not contribute at all to per capita GDP growth and acted as a drag on overall growth. The fact that the boom in the working age population experienced by Egypt did not translate into a boost in per capita GDP growth reflects a missed opportunity. Chapter 3 studies constraints that could explain the observed patterns in labor market outcomes. The low contribution of labor market outcomes or demographic factors is not unusual amongst Egypt's peer economies. For Sri Lanka, Poland and Ukraine, population aging can explain the drag on growth due to demographic changes. Like Egypt, Morocco's per capita GDP growth did not benefit from employment or labor participation. Jordan and Mexico experienced significantly lower per capita GDP growth than Egypt and employment and labor participation and demographic factors helped their growth to a limited extent.

Figure 2.8 Contribution of labor productivity, employment and labor participation, and demographics to GDP per capita growth in Egypt and peers, 2004-2019
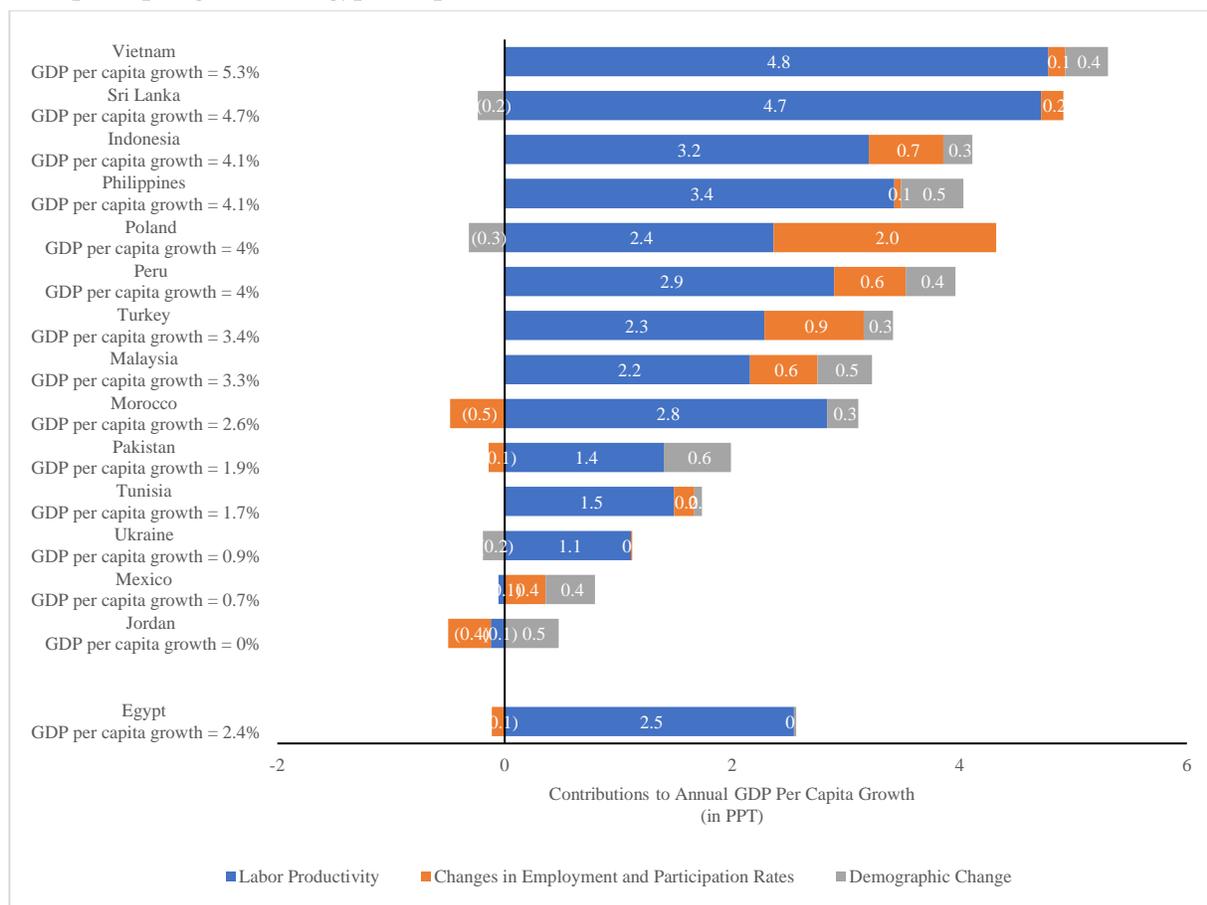
Source: World Bank estimates, based on data from World Development Indicators.

2.3.3 *Labor productivity–structural change contributed little to labor productivity*

55.   As the schematic at the beginning of the chapter indicated (Figure 2.5, panel c), labor productivity can be decomposed into its two components: (i) within-sector productivity growth; and (ii) productivity growth associated with structural changes in employment. The first refers to how much labor productivity grows within a sector, such as agriculture, industry, or services. The second refers to how much labor productivity grows as workers shift to more-productive sectors—for example, away from agriculture to industry and/or services as a country moves to a higher economic development stage. Further, within the structural change component, there can be static (always positive) or dynamic (positive or negative) reallocation. Static means that workers move to sectors with higher productivity growth. When the dynamic component is positive, this means that workers move to sectors that continue to have positive productivity growth despite this movement (that is, their increasing the labor supply). Negative dynamic reallocation occurs when this movement of labor reduces the average productivity.

56.   Within-sector productivity growth explains most of the growth in labor productivity for Egypt as well as its peers (except for Jordan and Mexico) (Figure 2.9). The structural change component plays a small role in explaining labor productivity growth in Egypt, Malaysia, Pakistan, Peru, Tunisia, and Turkey. Importantly, peer economies that experienced high labor productivity growth, such as Vietnam, Sri Lanka and Indonesia, did so with positive contribution of structural change. In the case of Egypt, negative dynamic reallocation of labor drags down the effect of structural change. Ukraine is the only peer economy to

experience a similar negative dynamic reallocation. Thus, while workers in Egypt moved into sectors with initially higher (albeit declining) levels of productivity, the opposite occurred in other middle-income countries (with the exception of Jordan, Malaysia, and Ukraine,), where productivity growth increased partly as a result of reallocating workers to sectors with higher and growing levels of productivity (Figure 2.9).

Figure 2.9 Decomposition of growth in labor productivity (GDP per worker) in Egypt and peers, 2004-2019
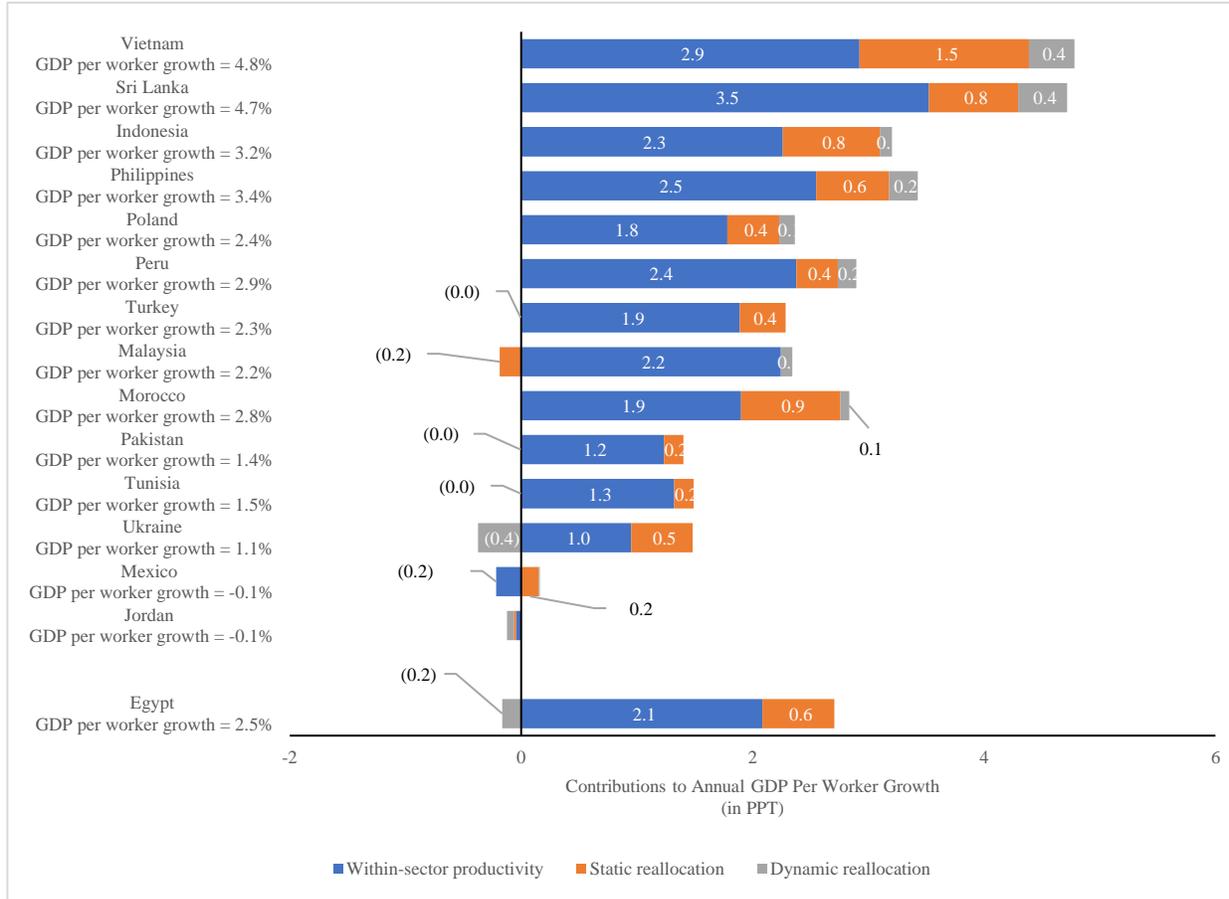
Source: World Bank estimates based on data from World Development Indicators.

57.   A correlation between productivity growth by sector and changes in employment shows that structural change in Egypt has proceed in some beneficial ways (Figure 2.10). Agricultural productivity has grown as its employment share has fallen. Chapter 3 discusses these patterns in more detail. The employment contraction in public sector social services has also been accompanied by growth in productivity. However, labor's contribution to GDP per capita is hampered by changes in employment shares in sectors where productivity growth is low.

58.   An economy performs best when employment shares increase in sectors in which productivity is growing most—as shown in the upper-right-hand quadrant of Figure 2.10, which illustrates the correlation between productivity growth and changes in employment shares. In Egypt, the private sector is featured mainly in the lower-right-hand quadrant, where employment shares increased but productivity declined. Sectors in this quadrant include private sector manufacturing, social services, transport, utilities, finance, and restaurants and hotels. The sectors that experienced the largest increases in employment shares (private sector construction, and wholesale and retail trade) witnessed only limited productivity growth and consequently low income growth for the large share of low-skilled and unskilled workers, including the

poor, employed in these sectors. High value-added sectors have failed to raise their productivity, constraining their ability to expand and create more employment opportunities. These patterns show why Egypt reaped weak gains from structural change.

Figure 2.10 Correlation between sectoral productivity growth and changes in employment shares in Egypt
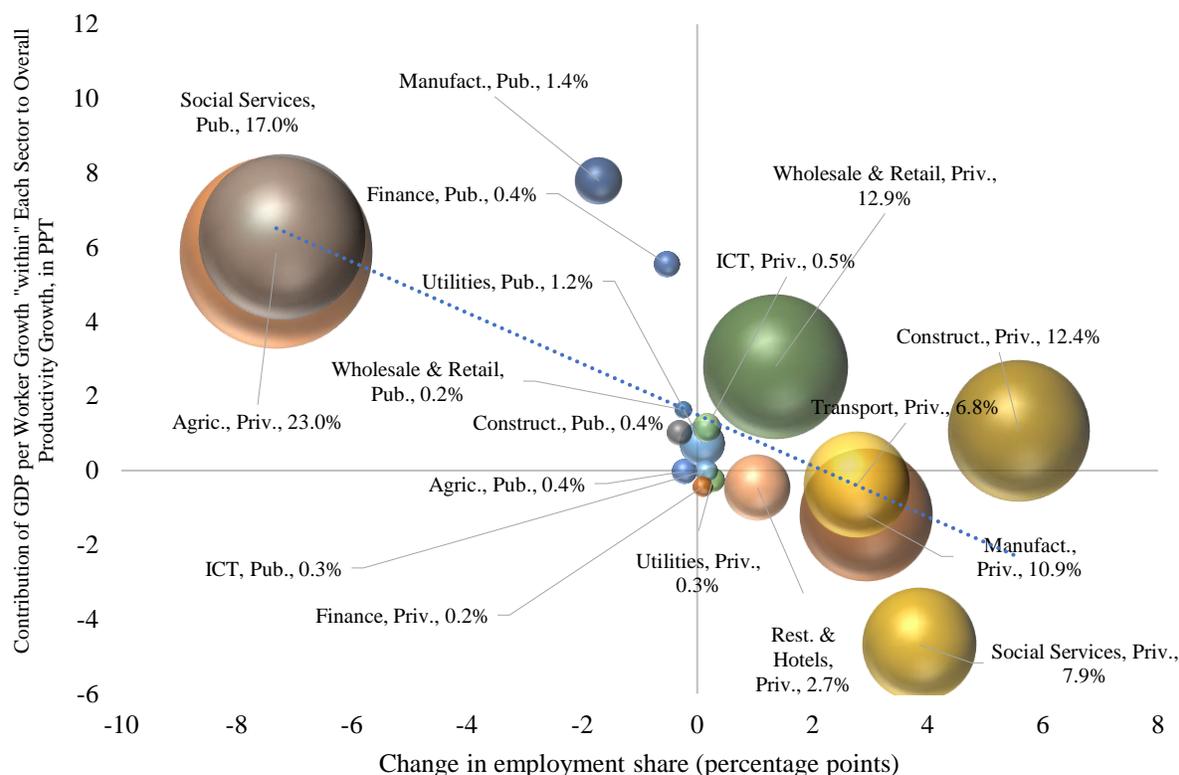
Source: Alnashar, Elashmawy and Youssef (2020).

Note: Figure shows the cumulative change in sectoral productivity and employment shares between 2004 and 2018. The size of each bubble represents the employment share in 2018 (as indicated beside each bubble).

2.3.4   *Capital and efficiency –growth returns to capital accumulation are declining*

59.   What is happening to capital in Egypt and how does it relate to labor productivity growth? As Table 2.3 shows, between 2004 and 2019, there was modest growth in capital per worker: averaging 2.1 percent in 2004–19, 0.3 percent 2004–10, but rising to 3.5 percent in 2016–19. At the same time, the capital stock increased noticeably throughout this time period, growing at 4.0 percent in 2004–19, 4.0 percent in 2004–10, and 4.7 percent in 2016–19. One would expect a higher contribution to labor productivity growth from this growth in capital, as adding capital is likely to make workers more efficient. But the decomposition analysis discussed previously does not show this to be the case. It is therefore likely that capital investment was not as efficient, yielding lower returns than expected.

Table 2.3 Growth in capital stock, employment, and capital per worker, 2004–19

Period	Average Annual Growth (percent)		
	Capital Stock	Total Employment	Capital per worker
2004–19	4.0	1.9	2.1
2004–10	4.0	3.7	0.3
2011–15	3.5	0.5	3.0
2016–19	4.7	1.1	3.5

Source: World Bank, based on data from World Development indicators.

Notes: Employed includes self-employed. Average annual growth of total factor productivity: 2004–18: 1.1 percent; 2004–10: 1.1 percent; 2011–18: 1.0 percent.

60.   Analyzing trends in gross fixed investments between 2004 and 2019 shows how Egypt compares with peer economies. Egypt's gross fixed capital accumulation as a share of GDP is low relative to that of peers, even with the uptick between 2014 and 2019 (Figure 2.11). From an average of 18.5 percent of GDP in 2004–10, public and private investment dipped below 13 percent in 2014—well below regional peers Morocco (28.4 percent) and Tunisia (19.9 percent). Employment growth is not helped by the relative low levels of investment.

Figure 2.11 Gross fixed investment as share of GDP in Egypt and peers, 2004–19
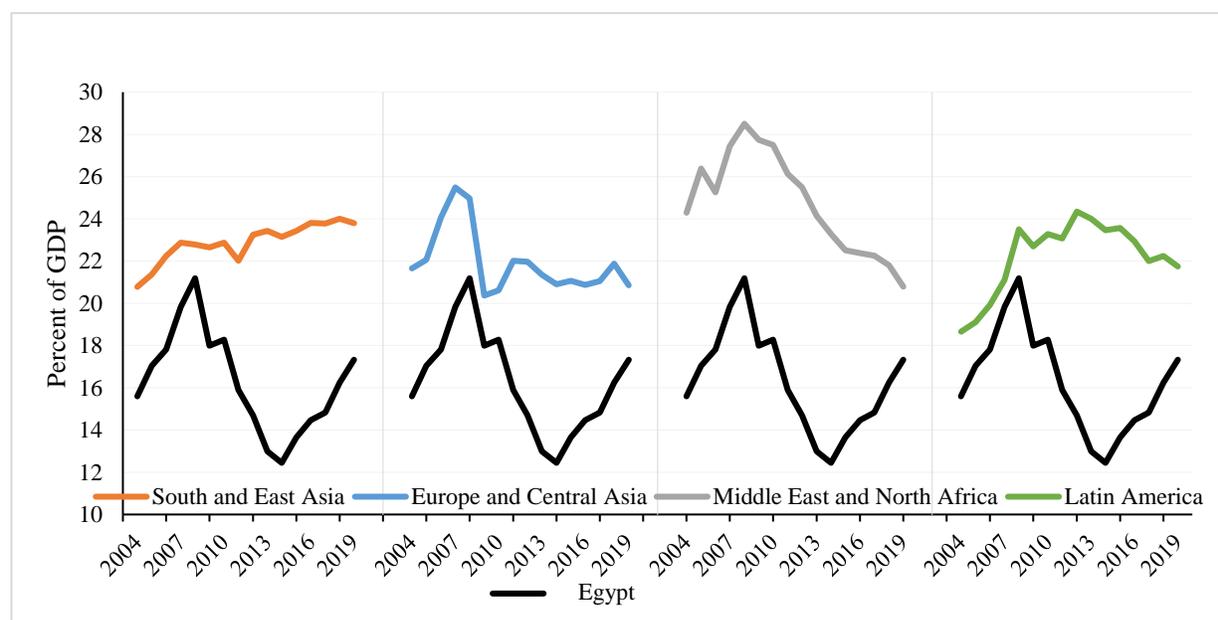
Source: © The Economist Intelligence Unit Limited 120. All rights reserved. © Technology by Alacra, Inc.

Note: Figures are averages of peers in each region. South and East Asia: Indonesia, Malaysia, the Philippines, Pakistan, Sri Lanka, and Vietnam. Europe and Central Asia: Poland, Turkey, and Ukraine. Middle East and North Africa: Jordan, Morocco. and Tunisia. Latin America: Mexico and Peru.

61.   Moreover, public sector investments dominate capital accumulation in Egypt (Figure 2.12). As a proportion of total gross fixed investment between 2004 and 2019, investment by the Egyptian public sector peaked at almost 59 percent. In comparison, in Malaysia, the share peaked in 2009, at 48 percent, as the government tried to pull the economy out of 2008 financial crisis, and Poland peaked at 39 percent, in 2011. In Egypt, private investments rebounded strongly in 2019 following an upturn in private sector participation in energy sector projects in electricity and gas extractives, that were traditionally in the public sector's

domain (Alnashar, Elashmawy and Youssef 2020). This recent spike mainly reflected the private sector's investments in renewable energy, including the Benban Solar plant, other wind projects, investments in the newly discovered gas fields (such as ElZohr), as well as investments in oil extractives.[11]

62.   As for net foreign direct investment (FDI) inflows, these have slipped from a strong period in 2004–10 (almost 9 percent of GDP in some years) to a negative in 2011, although they climbed back up to almost 4 percent of GDP until 2017, according to data from the Economist Intelligent Unit.[12] Even so, investment is chronically low in Egypt compared with peers in every region.

Figure 2.12 Share of public investment in total gross fixed investments in Egypt and selected peers, 2004–19
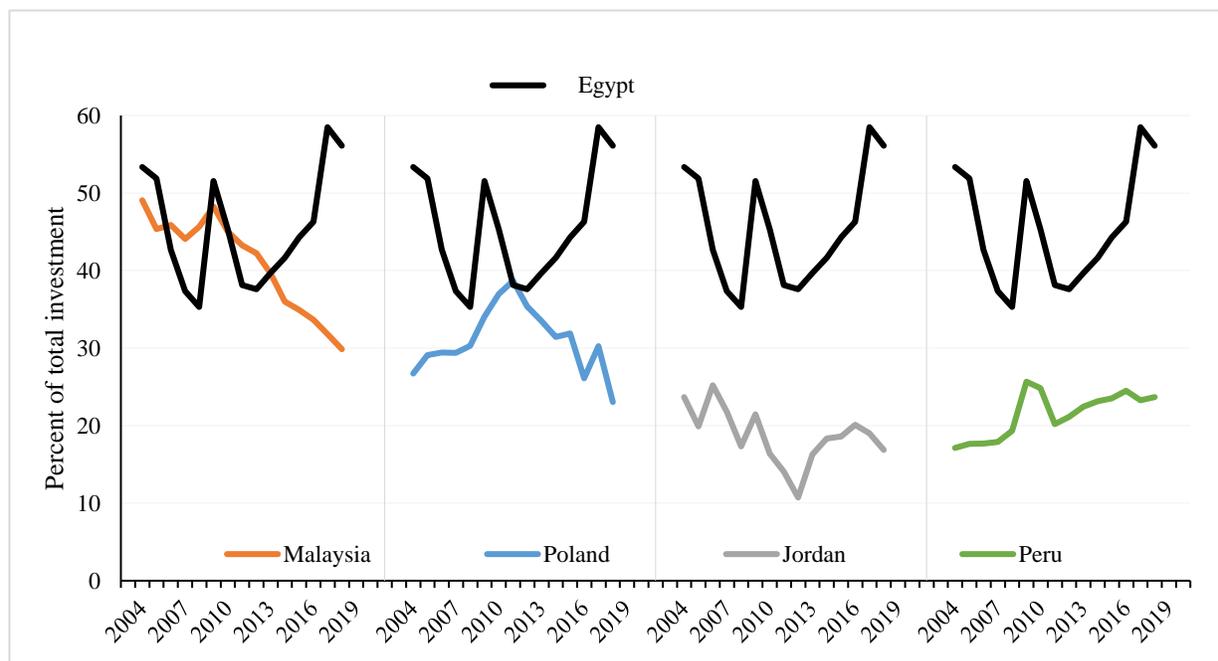
63.   Egypt's chronically low level of capital accumulation matters greatly, especially for improving the efficiency of production—the third component of GDP besides labor factor and capital. Bridges that reduce transport costs, ICT infrastructure that reduces the cost of information, and better schools that make for healthier and more productive workers all help to increase productivity.

64.   Measures of how changes in capital are related to changes in output indicate that Egypt's investments are effective in raising output but that the returns to capital accumulation declined over time. The incremental capital to output ratio (ICOR) provides an indication of the additional capital required to generate additional economic output.[13] Economies that produce a relatively large amount of additional output have lower ICORs. An ICOR of 1 means that for each Egyptian pound invested, the additional output was also 1 Egyptian pound: 1 pound in yields 1 pound out. Egypt's ICOR was about 0.9 in 2007. An ICOR near 1 indicates a relatively high level of efficiency and returns to investment. Such high levels of efficiency

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[11] Key legislative amendments introduced in 2014-2017 period opened up the renewable energy, electricity and gas sectors, respectively, for the private sector.

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[13] For example, if 10 percent additional capital is required to push the overall output by 1 percent, the ICOR will be 10. The lower the ICOR, the better.

and marginal rate of return are not uncommon for developing countries (Banerjee and Duflo 2005). However, after 2007, Egypt's ICOR has been rising (Figure 2.13). It rose from 0.9 in 2007 to 2.7 in 2011 and 2.5 in 2015 declining modestly to 1.9 in 2019. This trend indicates a decline in the average marginal product of investment. Egypt is not alone among its peers to experience rising ICOR. However, a rising and high ICOR for Egypt is observed at relatively low levels of overall investment which suggests that diminishing returns may be settling in or that investments are becoming increasingly less efficient even at these low rates of investment (shored up by the public sector). Chapter 5 discusses this further.

Figure 2.13 Incremental capital output ratio (ICOR) in Egypt and peer countries, 2007-19
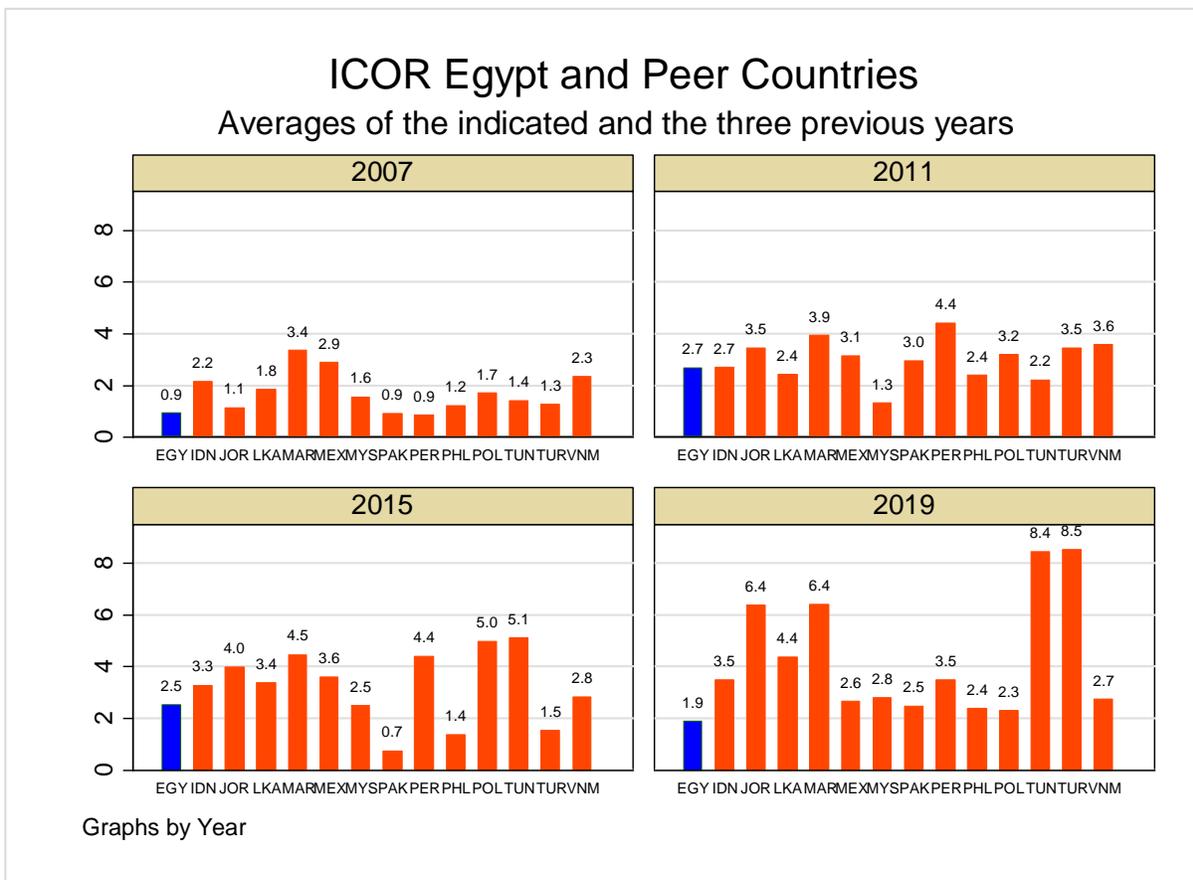
Source: World Bank, based on data from © The Economist Intelligence Unit Limited 120. All rights reserved. © Technology by Alacra, Inc.

Note: Figures show three-year average ending in year shown. EGY = Egypt, IDN = Indonesia, JOR = Jordan, LKA = Sri Lanka, MAR = Morocco, MEX = Mexico, MYS = Malaysia, PAK = Pakistan, PER = Peru, PHL = Philippines, POL = Poland, TUN = Tunisia, TUR = Turkey, and VNM = Vietnam.

3   Labor Market Performance

Key findings on constraints to advancing economic inclusion (Pathway 3):

- Employment growth and labor market returns to education have been affected by four characteristics of the labor market: weak demand for labor; growth in low- or medium-skilled occupations while high-skilled occupations experience limited growth; employment concentrated in small-scale firms; and segmented labor markets so that workers are constrained in moving across sectors, region, or firm type, which also curtail job opportunities.

- Informal employment, as share of total employment, has grown over time.

- Female employment remains low, partly because the demand for labor in the economy has shifted toward more manual and physical tasks. Gender norms about working outside the home and care responsibilities as well as concerns about harassment also constrain women's employment.

- Agriculture, which is dominated by small family holdings, is an important employer of the poor, and has strong potential to improve productivity and expand jobs in higher value-added off-farm activities.

3.1   Employment, Earnings, and Returns to Education[14]

65.   Good jobs and incomes are essential elements of economic inclusion that help people escape poverty and create conditions for prosperity that is shared widely. They also help the economy reap the benefits of investments in educational attainment and learning quality. Declining employment rates, earnings, and returns to education, characterize Egypt's labor market outcomes and this chapter analyzes potential reasons.

66.   Egypt's labor force participation rate—the sum of the number of employed and unemployed people as a share of the working-age population—has been declining since about 2014. It fell from 47 percent in 2006 to 42 percent in 2019, with a peak in between of 50 percent in 2010 (Figure 3.1).[15] The decline in participation in the labor market is due to falling participation rates among men, especially young men. Men reduced their participation rates from 72 percent in 2006 to 67 percent in 2019. Women's participation rates, already very low, fell from 23 percent during 2007-16 to 16 percent in 2019.

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[14] The first SCD was based on labor market outcomes through 2012. This SCD covers the years through 2018 for most indicators and through the second half of 2020 for some. The Central Agency for Public Mobilization and Statistics (CAPMAS) collects Quarterly Labor Force Surveys (QLFS). The microdata of the QLFS are harmonized, converted into annual samples, and published by the Economic Research Forum (ERF). CAPMAS publishes summary results of the QLFS within a few months of survey completion, but the harmonized microdata disseminated by ERF are published with a lag. The latest QLFS summary published by CAPMAS covers April–June 2020. The most recent harmonized annual Labor Force Survey (LFS) published by ERF is for 2018. The LFS is complemented with data from the Egypt Labor Market Panel Survey (ELMPS), a nationally representative panel survey carried out by the ERF and CAPMAS and published by ERF. The ELMPS now has four rounds of data spanning 20 years; data were collected in 1998, 2006, 2012, and 2018. Although there are differences in the levels and trends of some labor market outcomes, the LFS and ELMPS data provide broadly consistent patterns (Krafft, Assaad, and Rahman 2019).

[15] The participation rate dropped sharply to 39 percent in the second half of 2020 as a result of the lockdown introduced in response to the pandemic.

Figure 3.1 Labor force participation rates for men and women, 2006–19
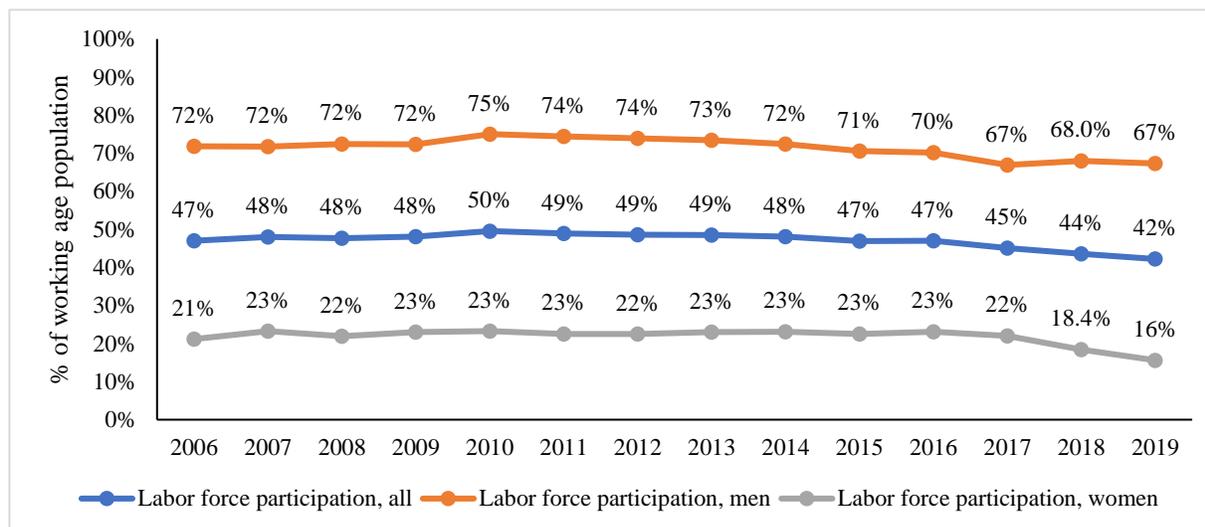
Source: Open Access Micro Data Initiative (OAMDI) for 2006–18. CAPMAS, Bulletin of Labor Force Survey, for 2019.

Note: Labor force participation rates are computed using annual labor force survey data from Harmonized Labor Force Surveys for people 15 and older, using the CAPMAS definition. Years correspond to the years of the labor force survey which are calendar year.

67.   Changes in labor force participation among men vary with education and age. The decline in participation occurred for both men 15–24 and prime-age men (25–50); among men 25-50 participation rate fell from 97 percent in 2014 to 94.8 percent in 2018. The decline also occurred across all education levels. The increase in tertiary education enrollment is likely a reason for the decline in young men's participation, but it cannot explain the decline in participation rates among older men. Between 2012 and 2018, the share of young men (15–29) not in education, employment, or training increased, with more than half of them unemployed and actively seeking jobs (Amer and Atallah 2019).[16]

68.   Young women's participation fell in 2011, recovered and then fell again after 2017. Women 25–50, who participate in the labor market at a higher rate than younger women do, experienced a decline in participation, from 30 percent in 2014 to 24 percent in 2018. The decline occurred among women with all levels of education. University-educated women, who are most likely to be employed in the public sector, experienced a decline in participation from 65 percent in 2016 to 55 percent in 2018.

69.   Figure 3.2 breaks down labor force participation into trends in unemployment and employment. The number of unemployed (people 15–64 actively searching for jobs) rose from 2.4 million in 2004 to a peak of 3.6 million in 2016 before declining. This period of rising unemployment coincided with disruptions in the economy in 2011, recovery of GDP growth, and the entry of the baby boom generation into working-age years (Assaad, Alsharawi, and Salemi 2019). Unemployment in Egypt is concentrated among youth; the problem is one of labor market insertion (finding first jobs) rather than lay-offs. It is thus more structural than cyclical.

70.   Employment increased from 20.0 million in 2006 to 26.1 million in 2019, according to estimates by the Central Agency for Public Mobilization and Statistics (CAPMAS) (Figure 3.2). This translates into

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[16] Amer and Attallah (2019) exclude from their analysis men who report being out of the labor force due to "other" reasons.

an average annual growth rate of 1.9 percent. The working age population grew at average annual rate of 2.5 percent. As a result, the employment rate (share of working age that are employed) fell, from a peak of 47 percent in 2008 and to 39 percent in 2019.

Figure 3.2 Total number of employed and unemployed people and employment rate, 2006–19
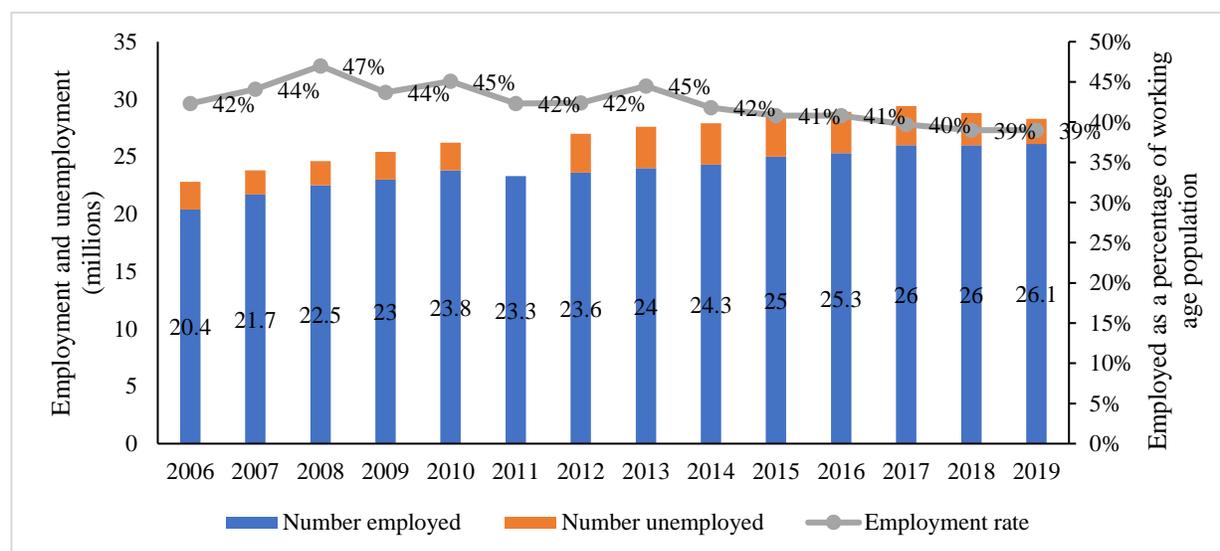
Source: Open Access Micro Data Initiative (OAMDI) for 2006–18. CAPMAS, Bulletin of Labor Force Survey, for 2019.

Note: Working-age population includes people 15 and older. CAPMAS did not published the number unemployed in 2011. Years correspond to the years of the labor force survey which are calendar year.

71.   What happened to workers' earnings? Among workers in Egypt, 70 percent are employed in paid work, more than 50 percent are informally employed, and almost 30 percent are employees of the public sector or SOEs, whose wages are set by the government. Multiple data sources indicate that real monthly earnings declined recently for all categories of workers (Figure 3.3). This trend is consistent with the finding that lower labor income was the key contributor to the poverty increase that occurred between 2015 and 2017. Real monthly earnings data from the Egypt labor market panel surveys of households (conducted by the Economic Research Forum [ERF] and CAPMAS) show a decline in real earnings of 9 percent between 2012 and 2018 (Said, Galal, and Sami 2019). The quarterly labor force survey data of households collected by CAPMAS indicate that median earnings increased between 2010 and 2014 and fell thereafter. Said, Galal, and Sami (2019) find that earnings fell 4 percent between 2006 and 2018. They also find that men and women at all educational levels experienced declining total and hourly real earnings. Gross weekly earnings data collected by CAPMAS from both the public sector and private establishments also show a declining trend. Earnings recovered only partially, in 2019, when the monthly minimum earning was raised from LE 1,200 to LE 2,000. Declining real earnings along with declining employment rates indicate a weakening demand for labor.

Figure 3.3 Real median and average earnings, 2010–19
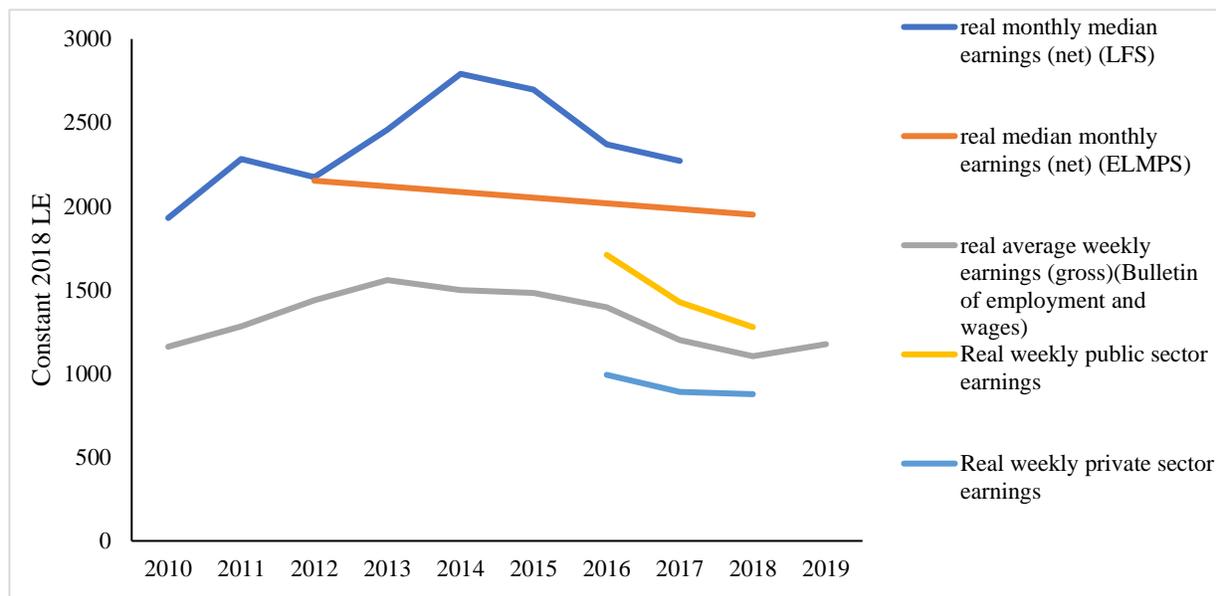
Source: Open Access Micro Data Initiative (OAMDI), various years. Harmonized Labor Force Surveys (HLFS), Licensed Data Files; LFS, 2010-2017, Central Agency for Public Mobilization and Statistics (CAPMAS). Egypt: Economic Research Forum (ERF). Said, Galal, and Sami (2019) for earnings from ELMPS. CAPMAS, Annual Bulletin of Employment, Wages, and Working Hours Statistics.

Note: The consumer price index with the new base reference period (July 2018–June 2019) is used to construct real earnings. Earnings based on data from the Labor Force Survey (LFS) and Egypt Labor Market Panel Survey (ELMPS) are assumed to be net monthly earnings, as they are reported by employees. Weekly earnings reported in the Annual Bulletin of Employment, Wages and Working Hours are gross earnings reported by public sector and private employers; they cover "cash wages for payment period before any deductions, including basic wage, additional, bonuses, allowances, grants, in kind benefits and other periodical benefits such as commissions and periodical production bonuses." In 2019, the minimum monthly earning was increased from LE 1,200 to LE 2,000.

72.   Labor market returns to education—defined as the percentage increase in wages from each additional year or level of schooling completed—is an important indicator of how well the economy is benefiting from investments in this sector. Like most MENA countries, these returns are relatively low in Egypt. Krafft (2018) estimates that each additional year of education results in a 4.1 percent increase in the hourly wage (with much lower returns for younger graduates). This estimate is lower than the 10 percent returns to education estimated globally (Psacharopoulos and Patrinos, 2004).

73.   The returns have also declined for workers of successive birth cohorts as educational attainment increased in Egypt. Figure 3.4 displays returns to education for Egyptian men by year of their birth (estimates are shown for male workers because very few females are employed). For men in the private sector, the wage benefits of university education (over no education) are positive but have declined in magnitude across successive birth cohorts. Men with university and vocational education have higher returns to their education in the public sector than in the private sector (except for those born in 1968-72). In the private sector vocational education brings very little wage gain relative to no education. In their analysis of men 15–64, Krafft (2018) find that skills acquired on the job pay higher returns than a vocational education degree. While learning quality and labor market relevance of education play a role (see Box 3.1) the next section shows that factors on the demand side of the labor market play a role as well.

Figure 3.4 Returns to educational attainment among men 25–50, 2018
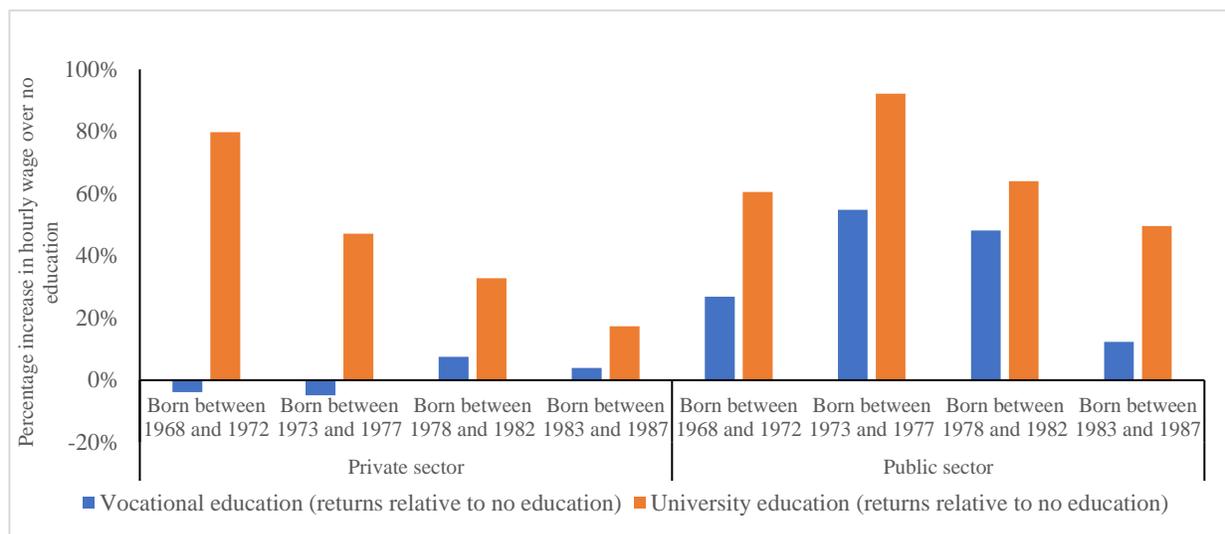
Source: Egypt Labor Market Panel Survey 2018.

Note: Estimates are from a Mincerian regression using ordinary least squares for men 25–50 employed in the public and private sectors. Returns to education are estimated by regressing the log of hourly wages on each level of education attained, where no formal education (illiterate) is the omitted category. Regression controls for years of work experience.

Box 3.1: Education quality and returns to education in Egypt

In addition to labor market conditions and demographic pressures, the quality of educational outcomes plays a role in the low returns to education in Egypt. Egypt's learning poverty rate—the share of children who cannot read and understand a short age-appropriate text by age 10—is 70 percent. About 69 percent of fourth-graders do not achieve the international benchmark score on the Progress in International Reading Literacy Study 2016. As in most countries, learning poverty is higher for boys (73.6 percent) than for girls (64.6 percent). Children in Egypt can expect to complete 11.5 years of school, but because of below-average international test scores, they receive just 6.5 learning-adjusted years of school.

The 2019 Global Competitiveness Index (GCI) underscores the urgency of boosting skills now and in the future. Egypt's current workforce skills rank 99 out of 141 countries, and the skills of the future workforce rank even lower, at only 133 out of 141 countries.1 Except for digital skills among the economically active population (rank 44), Egypt is behind in all other skills-related sub-indices, for example, the quality of vocational training (rank 129) and critical thinking in teaching (rank 123). In addition, Egypt's score on digital skills is 4.7 out of 7, below the MENA average, indicating that there is substantial room for improvement.

Source: World Bank 2021.

3.2   Constraints to Employment and Earnings Growth

74.   Two broad sets of constraints can explain these trends in the labor market. One set relates to the workers' side of the labor market (the supply side), which is determined by population growth and expansion in education as well as factors that affect individuals' decisions to work. Role of gendered factors, such as care responsibilities, are important to examine in this context. A second set relates to the employers' side of the labor market (the demand side), which is affected by the decisions of private sector firms

(analyzed in detail in this SCD), state-owned enterprises (SOEs), and the public sector in Egypt. The bulk of the evidence suggests that the constraints lie on the demand side. Complementing the falling labor demand indicated by the decline in employment rate, earnings and returns to education discussed above, the Chapter discusses three features of the labor market related to the demand side: skills demanded; distribution of employment by firm size; and how integrated or segmented the labor market is.

3.2.1 Skills demanded in the labor market

75.   The relative wage gap narrowed in favor of low-skilled workers which explains the declining returns to education. The ratio of formal private to informal private wages declined, from 1.41 in 1998 to 1.16 in 2018 (Table 3.1). The ratio of private formal to public sector wage also fell over this 20-year period. The hourly wage gap between workers with university degrees and no education narrowed, falling from 1.79 to 1.45. And there is a similar narrowing of in the hourly wage gap between university educated workers and those who completed vocational education.

Table 3.1 Relative hourly wages, by sector and education level, 1998–2018 (LE, except where indicated otherwise)

Item	1998	2006	2012	2018
Sector				
Public	8.6	11.3	13.1	11.8
Private formal	9.7	10.5	10.9	9.6
Informal	6.9	7.8	9.2	8.3
Ratio of private formal to public	1.13	0.93	0.83	0.81
Ratio of private formal to informal	1.41	1.35	1.18	1.16
Education				
Illiterate	6.7	7.9	9	8.3
Can read and write	7.3	8.2	9	8.8
Completed grade 1-9	7.8	8.7	9.3	8.3
Completed vocational or general secondary	7.5	9.4	10.5	9.6
Completed Post-secondary	9	11.3	11.8	10.7
University	12	13.7	14.8	12
Ratio of university to illiterate	1.79	1.73	1.64	1.45
Ratio of university to vocational or general secondary	1.60	1.46	1.41	1.25

Source: Based on Table A5 in Said, Galal, and Sami 2019. Data are from ELMPS.

76.   There is further evidence of a shift in skills demanded from high-skilled to low- and middle-skilled jobs. Between 1988-1998 high-skilled occupations were growing at a faster pace than low- or middle-skilled occupations (Figure 3.5, panel a). During the 1990s, when Egypt undertook reforms to liberalize the economy, reform trade, and privatize some SOEs, growth in middle- and high-skilled jobs dominated the labor market—a trend consistent with the rise in manufacturing documented in previous studies (World Bank 2014). Still, almost half of the growth in high-skilled occupations over this period was from the public sector, the main source of high-skilled work in Egypt. As the government continued to curtail the growth of public sector employment and privatize SOEs, growth in the number of high-skilled jobs slowed and the number of middle-skilled jobs contracted. Since 1998, however, there has been a shift toward low- and middle-skilled occupations, with little growth in high-skilled occupations, and agriculture continuing to

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shed jobs (Figure 3.5, panel b). During this period (1998–2016), most workers outside of the public sector worked in low- or middle-skilled occupations. Most of the middle-skilled private sector jobs that were created were in construction and transportation sectors, which are not a sustainable source of good-quality jobs.

Figure 3.5 Occupational structure, 1988–98 and 1998–2016
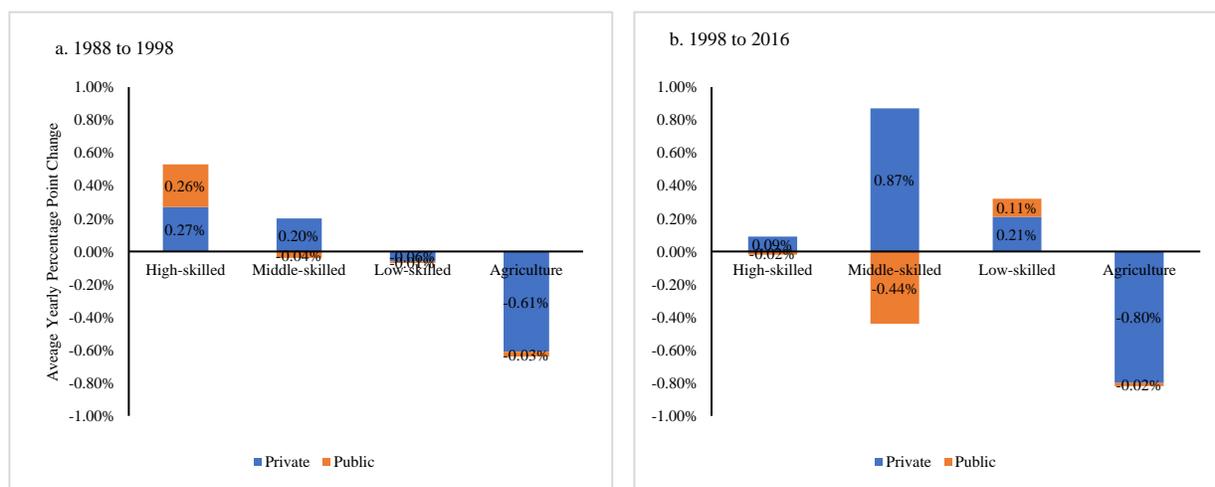
Source: World Bank 2019, based on data from Egypt Labor Market Panel Survey and Labor Force Surveys.

Note: High-skilled = managerial, professional, and technical and associate professionals; middle-skilled = clerks, craft-related trade workers, plant and machine operators and assemblers, and service workers; low-skilled = elementary occupations. Agriculture = all workers in the agriculture industry, independent of occupation level.

77.   Looking at the task content of jobs, the structure of occupations in Egypt is skewed toward manual and physical jobs in the private sector, which additionally explains low female labor force participation and employment. Employment in manual and physical jobs has been increasing over time relative to nonmanual jobs, in part because the transportation and construction sectors have been growing more rapidly than other sectors. Women are much more likely than men to be employed in occupations that are less manual and physical and more interpersonal. They tend to account for a large share of employment in only a few occupations, namely, business administration associates (79 percent), health associates (66 percent), teachers (51 percent), agriculture laborers (47 percent), and legal associates (40 percent). Employment of women in customer service and sales jobs—which have been primary drivers of increases in female employment in some countries—is limited in Egypt (Chun 2019).

78.   The demand for workers with primary and secondary education (assessed based on occupations of workers) exceeds supply. At the same time, demand for workers with post-secondary education lags supply. As a result of these mismatches between demand and supply, 38 percent of workers can be considered underqualified for the jobs they hold (the figure is higher among administrative managers and elementary occupations), and 21 percent are overqualified. Among people with vocational and technical certification, the rates of overqualification and unemployment are high, and many people with technical degrees are employed in occupations unrelated to these degrees, raising questions about the quality of learning. The high level of underqualification implies significant losses to productivity and constrains growth. Overqualification indicates overinvestment in education compared with labor market demand or an education system that is failing to produce skills that are demanded by the labor market.

3.2.2 Employment by firm size

79.   Data from firms that capture about 30 percent of employment[17] in the country show that jobs in Egypt are concentrated in smaller-scale (particularly micro firms with less than 5 workers), less formal, and less-productive economic activities (Figure 3.6, panel a) (see also Adly 2020; Assaad, Krafft, Rahman, and Selwaness 2019). Assaad, Krafft, Rahman, and Selwaness (2019) estimate that over the 2006-17 period, the contribution of micro establishments to net job growth fell but these firms continued to account for more than half of total employment in 2017. They also find that the contribution of small and medium enterprises to net job growth increased, a positive trend, while large firms did not contribute much to job growth (see Chapter 4). The continued concentration of job creation in smaller firms is consistent with movement toward more informal employment and less productive activities.

80.   Employment within firms is concentrated in the wholesale and retail trade sector. Wholesale and retail trade also account for most informal employment (counting all employment within informal firms as informal) (Figure 3.6, panel b). Within sectors, more than 50 percent of employment in transportation and storage, wholesale and retail trade, construction, agriculture is informal.

Figure 3.6 Employment by establishment size and industry

a.   Share of employment by establishment size, 1996-2017

b.   Percent of employment that is in informal establishments, by sector, 2017
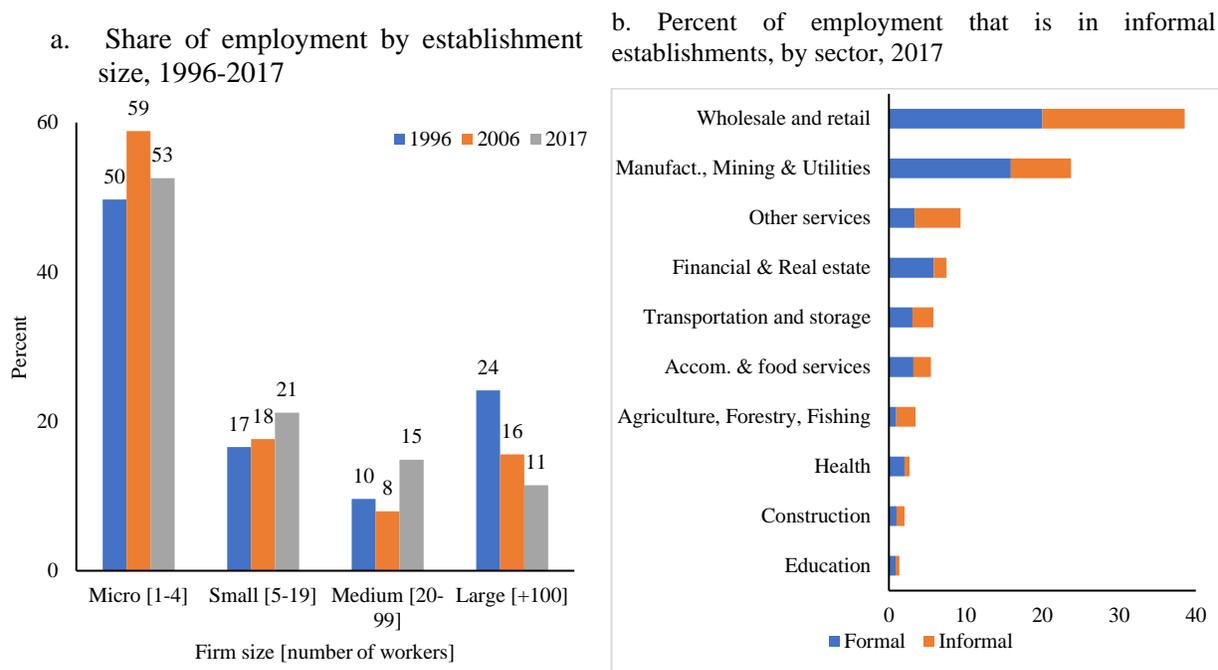
Source: World Bank calculations using General Census for Population, Housing and Establishments 1996, 2006, and 2017.
Note: An establishment is a fixed place where economic activity is carried out. An employee is informal if the establishment lacks industrial or commercial registry.

81.   How does education fit into this picture? The concentration of workers in micro and small enterprises explains the low and declining returns to education in Egypt. Figure 3.7 shows the increase in the hourly wage that workers earn given one additional year of education. For workers engaged in activities outside fixed establishments (including most construction and transportation work), the returns to education

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[17] Although agriculture, construction, and transportation are large employers of workers in Egypt, most workers in these sectors are engaged in economic activities outside fixed establishments (fixed locations). This factor is responsible for the low share of employment accounted for by these sectors when looking at firm-level data.

are close to zero for those in microbusinesses and small enterprises (5-9 employees). Those returns increase to almost 1 percent for workers in engaged in activities outside fixed establishments with 10 workers or more. A similar pattern can be observed for workers employed within fixed establishments (such as shops), with virtually no returns to education for people employed in micro and small firms, the type of firms employing the largest share of workers. The returns to education exceed 5 percent for people in establishments with 10-99 workers, while returns to education of workers in establishments with over 100 workers are 3.6 percent. The fact that returns to education differ across firms of similar size but different types (outside fixed establishments and within) suggests that the labor market may also be segmented by firm type.

Figure 3.7 Returns to education for men in private sector employment, by firm size and type, 2018
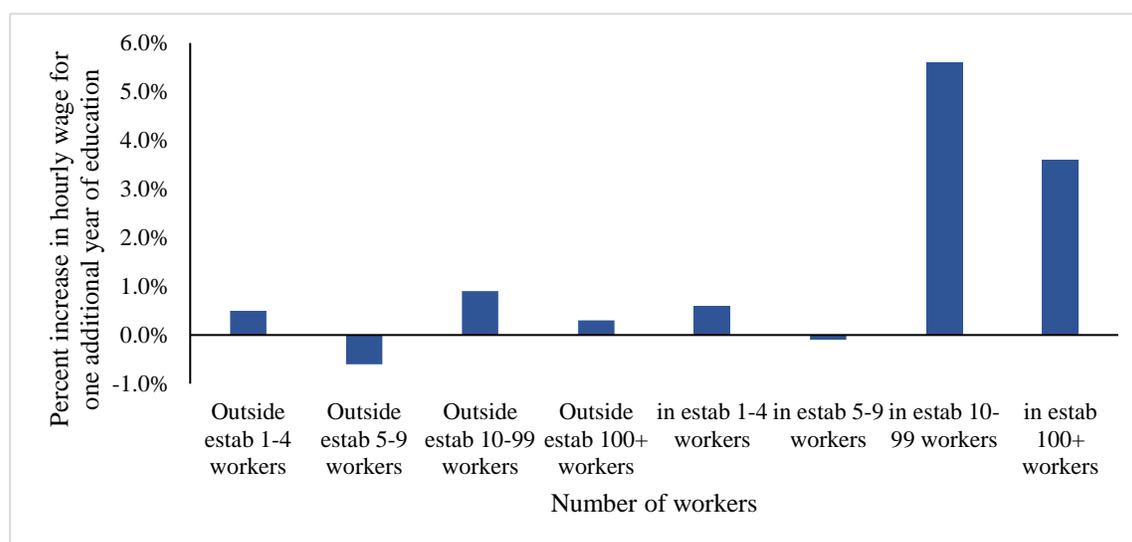
Source: Egypt Labor Market Panel Survey 2018.

Note: The survey contains data on the status of workers' firms. Those engaged in firms that do not have a fixed location are defined as being employed outside establishments. Figures are based on a regression of log wage on years of education by firm size. Controls include actual work experience.

3.2.3   Labor market segmentation and informality

82.   The composition of employment shifted toward informal employment, as labor market entrants increasingly found it easier to find jobs in that sector. The share of workers in all sectors (agriculture and non-agriculture) without social security coverage or contracts increased from 55 percent in 2007 to 63 percent in 2018 (Figure 3.8). The share of agricultural workers within total informal employment has fallen sharply from 54 percent in 2007 to 33 percent in 2018 which mirrors the rise of construction sector employment. This increase, most of which occurred since 2011, was for both men and women, although it was slightly lower for women. Elsayed and Wahba (2019) find that the probability of being informally employed rose between 1998 and 2012, particularly after the Arab Spring. When Egypt introduced lockdown measures during COVID-19, informal workers were more likely than formal (particularly public sector) workers to be out of work, according to phone interviews conducted during April–May 2020.

83.   Women's informality rate (53 percent in 2018) is lower than men's (65 percent in 2018). This is because women are more likely than men to be employed in government jobs (public administration, education, and health and social services). The reduction in women's labor force participation rate between 2017 and 2018 was accompanied by a decline in female informality rate due to a fall in the share of women employed in agriculture (resulting in an increase in the share of women engaged in the public sector).

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Figure 3.8 Share of employment that is informal, 2007–17
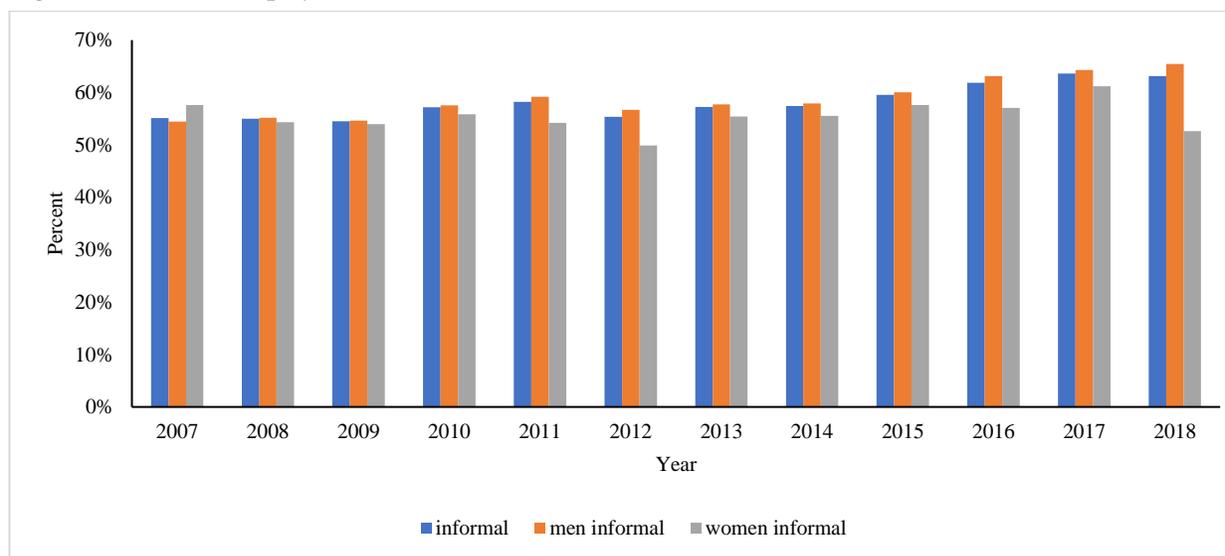
Source: OAMDI, various years. Harmonized Labor Force Surveys (HLFS), Licensed Data Files; LFS, 2007-2017, Central Agency for Public Mobilization and Statistics (CAPMAS). Egypt: Economic Research Forum (ERF).

Note: Figures show percentage of employed workers 15 and over engaged in agriculture or non-agricultural work and without social security coverage. Years correspond to the years of the labor force survey which are calendar year.

84.   The probability of exiting informality is very low, which suggests that the labor market may be segmented along formal-informal jobs. Panel data on individuals' employment between 2012 and 2018, shows evidence of a limited transition between informal and formal jobs. Among men, new entrants to the labor market join informal low-tier employment and remain in those jobs for years. Men in low-tier informal wage or self-employment are more likely to stay in those jobs and have a low probability of moving to upper-tier jobs (skilled jobs with professional training). Thus, informal, easy-entry jobs are not likely to be a steppingstone to better-quality employment. Indeed, the opposite may be true: Men who were in upper-tier informal jobs in 2012 had a high probability of staying in informal jobs or to have moved to lower-tier wage jobs in 2018. This downward mobility is involuntary. As for women, there appears to be little transition across employment type. Those who entered the labor market tended to find jobs in the public sector, which employed an important share of all working women in Egypt in 2018, but those who were in informal employment remained there.

85.   The labor market is also segmented geographically. The metropolitan areas of Cairo and Alexandria, together with the Lower Egypt governorates of Sharkeya, Qalyoubia, and Menoufia—where large firms are concentrated—account for 56 percent of employment in large firms. The share of employment in microenterprises and firms outside establishments is less spatially concentrated than employment in large firms. The share of formal employment is also larger in metropolitan areas and Lower Egypt governorates than in Upper Egypt governorates that are not near Cairo. This type of geographic segmentation of the labor market correlates with higher poverty rates in Upper Egypt governorates.

86.   Other than in Port Said (one of Egypt's three metropolitan areas), hourly wages are significantly lower in almost all governorates than in Cairo. Returns to education follow a similar geographic pattern. The persistence of these spatial differences in wages and returns to education suggests that there are obstacles to workers commuting or migrating to better-quality jobs in the Cairo area. In 2018, slightly more than 40 percent of workers commuted to their jobs. World Bank (2014) finds that although commuters to metropolitan areas improved their wages relative to those who did not commute, they still earned less than residents of metropolitan areas (controlling for worker characteristics). This result could occur if commuters

have less information about employment opportunities than residents. The same report also finds that workers who live farthest away from Cairo are more likely to migrate internationally than to move within the country.

87.   Researchers have sought to explain the rise of informal employment as an outcome of the high cost to firms of covering labor costs, such as providing employer-linked social insurance. The 2003 labor laws that brought more protection to workers may have helped individuals with existing jobs in formal firms to transition into better employment within the formal sector (Wahba and Assaad 2017), but they may also have suppressed the creation of formal jobs (Langot and Yassin 2015).

88.   Although the social insurance law includes provisions for covering agriculture sector and irregular workers, they have proven difficult to implement. The current social insurance policy (as reflected in the 2019 Law on Social Insurance and Pensions) is to broaden the scope of insurance to include all casual workers. However, to date, only 417,000 have registered with the National Organization for Social Insurance (NOSI). In response to the pandemic's impact on informal workers, the government transferred LE 500 to all casual workers who register with the Ministry of Manpower (through the self-administered application via portal of the Ministry of Labor and Manpower). Disbursement outlets include 4,000 post offices, 1,100 branches of the Agriculture Bank of Egypt, and 600 schools.

3.2.4   Constraints to women's employment

89.   Several channels and factors could motivate women to leave the labor force or work in certain sectors (although marriage plays a significant role [Assaad, Krafft, and Selwaness 2017]). Demand- and supply-side factors could play a role in making marriage and family care responsibilities incompatible with private sector work. Women may prefer public sector work for its non-wage attributes as well as leave policies, which better enable them to balance work and care responsibilities.

90.   According to the 2017 population census, there were 15.4 million children (0- 6 years old) which corresponds to almost one child below age of 6 per household. Results from the 2015 Time-Use Survey in Egypt indicate that women are nearly fully responsible for housework duties and for taking care of children even if they are employed. This "double-burden" can discourage women from looking for a job or can disrupt their career (World Bank 2018a). World Bank (2018a) reports that in 2017, the gross enrollment rate in pre-primary education in Egypt was only 31 percent in 2017 (for the 4 to 6 year old age group) while 8 percent of children (0-4 years) attended nurseries.

91.   Increasing enrollment in nurseries and pre-primary education would not only provide the children the substantial benefits of early childhood education[18] but also expand employment opportunities for women in the care economy (social care, human health, education), which is already a large employer of women. World Bank (2018a) identifies the 12 industries that hire the largest percentages of women, based on data from the 2013 economic census, Labor Force Surveys for 2008–14, and Enterprise Surveys for 2013 and 2016. Outside of agriculture, these industries include social care (elderly and childcare), education, human health, garments, computers and electronics, pharmaceuticals, financial services, travel agencies, business services, real estate, ICT, and retail trade. Together they employ 78 percent of all female wage workers in non-agricultural private establishments, and women make up just under a third of their workforce. A third of female wage employment is in just three of these industries: social care, education, and human health. Social care ranks first, with a nearly 70 percent share of female employees. Education and human health follow, with shares of 59 percent and 51 percent, respectively. Another third of female employment in private establishments is in retail trade and garment manufacturing.

92.   Women continue to face longstanding challenges from gender stereotypes (World Bank 2018a). Many stereotypes defining men and women's economic and social roles exist globally. Nurturing, for

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[18] See Heckman and Masterov (2007); El-Kogali and Krafft (2015).

example, is considered a stereotypically feminine trait, and assertiveness is a stereotypically male trait. These stereotypes inform gendered social norms that affect women's labor force participation. Gender norms may also discourage women from working in manual jobs—precisely the type of jobs that have been growing in Egypt (Chun 2019). World Bank (2018a) report provides qualitative insights into gendered social norms and stereotypes constraining labor force participation in Egypt.

93.   Beliefs about gender roles and unconscious bias can also discourage women's employment. Many Egyptian women believe that as men are the main breadwinners, priority should be given to them in the labor market, according to the results of two rounds of the Survey of Young People in Egypt (SYPE) conducted in 2010 and 2014. Egyptian men can be subjected to unconscious bias in positions traditionally held by women, at both the application stage and as employees.[19] However, unconscious bias does not threaten men's likability in the same way it affects women. Indeed, across cultures, men are assumed to be more competent than women. It is, therefore, no surprise that female managers are perceived negatively by both men and women (as discussed in the World Bank 2018a).

94.   Another factor that could discourage women from working outside the home is sexual harassment. In 2014, Egypt amended its penal code, criminalizing sexual harassment. Despite this legislation, concerns about verbal and physical abuse could continue to limit women's participation in activities outside the home. In 2015, 10 percent of women between the ages of 18 and 64 reported having experienced harassment within the past year in public streets; 7 percent reported experiencing harassment in public transport (CAPMAS, UNFPA, and NCW, 2015). The high levels of concern about harassment reduces women's willingness to be involved in public activity or participate in the labor market. Better-off households may prevent their female members from working in order to protect them from harassment. Harassment also constrains women's mobility, forcing some to rely on a male chaperone for night commutes or travel between cities.

95.   Greater legal equality in areas that affect women's ability to work and engage in economic activities has been found to be associated with higher female labor force participation (Gonzales, Jain-Chandra, Kochhar, and Newiak 2015). Results from the Women, Busines and the Law 2021 suggest several areas where Egypt could achieve legal equality. Egypt's labor laws mandate maternity leave, rather than parental leave. The provision of leave for mothers but not fathers could inadvertently discourage the hiring of women, because of the potential costs to employers. The costs of hiring women can tilt employers' preferences toward hiring men, which in turn perpetrates inequalities and diminishes productivity in jobs where women may be better equipped and have better skills. The Nordic countries mandate equal maternity and paternity leave, so that cost considerations do not create preferences for hiring men.

3.2.5   *Constraints affecting employment in agriculture*

96.   Understanding the relationship between productivity and employment in the agriculture sector is important for poverty reduction and central to realizing income gains from structural transformation. Rising agricultural income growth tends to be associated with lower poverty in rural and urban areas. Egypt's agricultural productivity has increased as the sector shed workers over the last 15 years (see Figure 2.10). Yet 55 percent of rural Upper Egypt residents employed in the sector are poor (the share of the poor in agriculture is 43 percent for all of rural Egypt). Farming, although still important, has declined moderately, both in terms of the absolute numbers of jobs and as a share of jobs in the labor force. The share of jobs in farming declined from 29 percent of all full-time equivalent (FTE) jobs in 2007 to 22 percent in 2017—a decrease of about 1 million FTE jobs in the farming sector (Table 3.2).

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[19] World Bank (2018a) states: "Unconscious bias manifests itself in the workplace in the criteria put for performance appraisals, deep beliefs about differences in success standards for males and females, resistance to female leadership, women-to-women bias, and the trend for females to adopt 'masculine traits' in order to advance professionally."

97.   Agri-food system is particularly important as a source of livelihoods for Egyptian women and youth. Youth (ages 15–24) are engaged in farming at a higher rate than young adults (ages 25–34) or adults (ages 35–64). Farming also appears to be a more important source of jobs for women than for men.[20] The only exception to the declining trend of farming employment is observed among women 15–24, among whom employment in farming rose by 11.9 percentage points over the 2007-2017 period; however, data from 2018 suggests that women's engagement in this sector might have declined sharply since 2017 (as discussed in the previous section).

98.   Employment in primary agriculture farming activities is expected to continue to decline, but there is scope for workers to move downstream of the farm-gate to higher productivity off-farm work. However, farming in Egypt still accounts for more than twice as many jobs as the off-farm segment of the agri-food system, and the pace of job growth in the agri-food system is likely to be highly dependent on farm-level productivity growth. There is, therefore, a need to both increase productivity in the sector and facilitate a movement away from farm work for smallholder family farms, possibly to off-farm work.

99.   A large proportion of the employment in off-farm segment of the agri-food system is concentrated in downstream marketing and food services. According to the 2017 Labor Force Survey (LFS), agro-processing accounts for about 5 percent of all FTE jobs, and food marketing and services represents account for about 7 percent. According to the LFS, between 2007 and 2017, employment shares in the downstream marketing and food services grew six times faster than agro-processing and generated twice as many new FTE jobs. Over the next decade, the share of jobs in the downstream food marketing and services is expected to rise rapidly, reaching about 10 percent of total FTE jobs by 2030; agro-processing's share of total FTE jobs will remain at 5 percent. Egypt's rising reliance on food imports may further diminish the potential for job expansion in the agro-processing sector. Potential growth of the agro-processing sector will depend on the availability of agricultural raw materials in consistent quality and quantity, which also depend on on-farm productivity growth.

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[20] In all age categories, more women are engaged in farming than males. For instance, in 2016/17, women were about twice as likely as men to be engaged in farming among youth (15–24) and young adults (25–34).

Table 3.2 Proportion of working-age population whose primary employment was in farming, off-farming agri-food system, or the non-farm sector, 2007–17

Survey year		Off-farm within agri-food system				Food preparation		Non-farm outside the agri-food system	
	Farming		Agroprocessing		Downstream					
	% of jobs	% of FTE jobs	Number of jobs (million)	# of FTE jobs	Number of jobs (million)	# of FTE jobs	Number of jobs (million)	# of FTE jobs	% of jobs	% of FTE jobs
2007	32.7	29.3	4.3	4.6	2.7	3.1	1.2	1.4	59.1	61.6
2008	31.0	28.2	4.6	4.8	2.6	2.9	1.3	1.6	60.5	62.5
2009	29.3	26.6	4.2	4.4	2.8	3.1	1.4	1.6	62.3	64.2
2010	27.7	25.0	4.4	4.6	3.2	3.5	1.6	1.8	63.2	65.0
2011	28.7	26.3	3.8	3.9	3.0	3.4	1.4	1.6	63.1	64.7
2012	26.4	24.3	4.0	4.3	3.1	3.5	1.6	1.8	64.9	66.1
2013	27.3	24.8	3.8	4.1	3.4	3.8	1.6	1.9	63.9	65.4
2014	26.8	24.3	4.1	4.4	3.3	3.8	1.7	2.0	64.0	65.5
2015	25.2	23.2	4.3	4.6	3.7	4.1	2.0	2.3	64.8	65.8
2016	24.8	22.2	4.4	4.8	3.6	4.1	2.1	2.5	65.1	66.4
2017	24.4	22.4	4.8	5.2	3.9	4.3	2.0	2.3	64.9	65.8

Source: Yeboah and Jayne 2020.

Note: Working-age population is people 15–64. Farming comprises all activities related to crop and livestock production. Off-farm agri-food system represents all pre- and post-farm value-addition activities within the agricultural value chains. Non-farm sectors encompassing all other activities outside the agri-food system such as construction, finance, utilities. Agro-processing involves the processing of agricultural products; Downstream commerce and distribution represent wholesale and retail of food and agricultural products; Food away from home entails food services including street food vendors, restaurants. FTE = full-time equivalent.

100.   People relying to a large extent on agricultural income (wage work or self-employment) are more likely to be poor. A quarter of households in the bottom 20 consumption quintile relies, at least partly, on labor income from agriculture (Figure 3.11). The share of households relying on agricultural income is higher in rural Upper Egypt than in rural Lower Egypt (Figure 3.12)). Exclusive reliance on agricultural income is significantly higher in the poorest quintile (18 percent of households), indicating that better-off households are better able to diversify their sources of income. In the poorest agricultural households, 40 percent of male workers outside of agriculture are in the construction sector and 58 percent of female workers are in wholesale and retail trade.

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Figure 3.9 Percentage of households relying on agriculture, by consumption quintile and region

a. By consumption quintile

b. By region

Source: HIECS 2017-18. Only members 15 and above are considered.

Source: HIECS 2017-18. Only members 15 and above are considered.
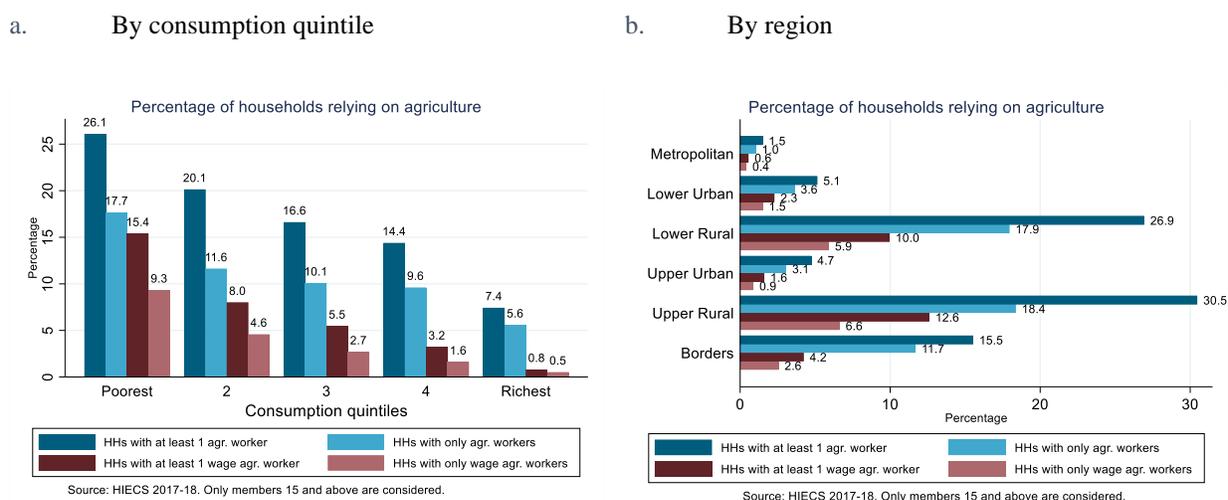
101.   Total factor productivity in agriculture has increased with declining shares of employment in farming and employment growth in the non-farm sector. Therefore, government policies and programs affecting the rate of agricultural productivity growth are a powerful means of promoting structural transformation. Egypt offers significant growth opportunities for agri-food sector given its large domestic food market. A significantly greater share of domestic demand for high-value and processed products could be met through an increase in economically competitive and environmentally sustainable domestic production than is currently the case. On average, Egyptian households spend almost 40 percent of their disposable income on food. A shift in food expenditure away from cereals to high-value proteins and relatively perishable food items occurred across all income categories between 2000 and 2015 (Yeboah and Jayne 2020). An increasing share of this growing food demand is being met through food imports. The share of the value of food imports in total merchandise has steadily, from about 25 percent in 2005 to 43 percent in 2017, according to the Food and Agricultural Organization (FAO 2020). Imports offer downstream employment in activities such as food distribution, retailing, restaurants, and some types of processing. The untapped export potential for agriculture stands at US$16 billion, according to the International Trade Center, three times current export levels of about US$5 billion a year. Meeting this demand needs to be environmentally sustainable.[21]

102.   How much scope is there to raise agricultural total factor productivity among small-scale family farms? Egypt has a dualistic farming system—small-scale family farms in the delta and Nile valley using irrigation and state-of-art large commercial farms on reclaimed lands. The incidence of very small land plots is higher in Upper Egypt than in Lower Egypt—a feature that also likely contributes to the difference in agriculture productivity between the two regions, as the previous SCD noted. Smallholder farmers are family farms, usually of 3 feddans or less. These farmers grow field crops (cereals, legumes, sugar crops, oilseeds, and forages for livestock feed) and raise livestock. Medium-size and large farm holdings tend to allocate a larger share of land to horticultural cash crops.

103.   Fragmentation of land holdings into very small plots limits economies of scale and reduces efficiency. Estimates based on the 2012 ELMPS data show that the average number of workers per feddan is 9.0 for poor agricultural households and 1.2 for better off households (Nin-Pratt, ElDidi, and Breisinger

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[21] Agricultural products with the greatest export potential include fruits, vegetables, dairy products, and other food products (such as food preparations and vegetable saps and extracts), as the global income for high value foods rises.

2018). This high intensity of cultivation of small farms relative to larger farms is similar to that found in other developing countries and could indicate market imperfections. Small family farms in Egypt have year-round access to irrigation water, but the water supply is entirely reliant on the Nile (see chapter 6) and incentives for efficient water use are not in place. Both factors limit the sustainability of water use in agriculture. The inefficient use of water resources by smallholders reflects Egypt's irrigation water pricing and farmers' suboptimal crop mix (Saleh 2018). Smallholder family farms use the traditional flood irrigation system, which does not allow farmers to control the amount of water used per plot and for different type of crops. They grow crops considered important for food security, such as wheat, rice, and sugar beets, which are also water-thirsty, in a context in which their purchases are effectively guaranteed by the government and state-owned refineries (World Bank Group 2015).

104.   Another factor affecting the efficiency of small family farmers is lack of information about demand for crops. For crops other than strategic field crops, market mechanisms determine the price and quantity sold. Small farmer associations that could provide marketing services or information are not in place. Agricultural cooperatives tend to focus only on the distribution of (significantly subsidized) fertilizer and other inputs rather than as market-enabling organizations linking small farmers to market opportunities and value chains, as the 2015 SCD noted.

105.   Weak intersectoral linkages between farm and off-farm opportunities and demand for agricultural products prevent farmers from responding to rising domestic demand or participating in export value chains. These weak linkages can be attributed to inefficiencies along key agricultural value chains that result in losses averaging 30 percent, including poor logistics and marketing infrastructure (which accounts for about half of all losses); the lack of access to (cold) storage and transportation, which particularly affects small farmers; poor skills and poor access to new technologies and knowledge; and implementation of food safety and quality standards (World Bank 2018b).

4   Firm Performance

Key findings on constraints to boosting private sector investment, firm growth, and productivity (Pathway 2):

- Egyptian firms do not grow as much as firms in peer economies —not in terms of hired workforce and less so in terms of sales. As a result, there are relatively fewer large Egyptian firms, and they are undercapitalized, compared to what is found in peer economies.

- There are a great number of small firms, many of which are in the informal sector. But this sector is not an incubator for future formal firms—rather, once informal firms enter that sector, they likely remain there.

- Firm-level productivity is relatively stagnant, although the most productive ones are slightly more likely to gain market share than the less productive ones.

- While improving, the economy is still relatively closed and has a complex trade regime that likely keeps firms from growing, investing and innovating. FDI is relatively confined to a few sectors. In more open economies, the competition from international trade and foreign firms adds dynamism to the economy.

- Persistence of pricing above costs—that is, markups—indicates a lack of competition and segmented markets, and a lack of competition seems to be a prevalent problem.

4.1   Firms, Jobs, and Poverty Alleviation

106.   Egypt cannot reduce poverty or improve economic inclusion without good jobs; job creation and poverty reduction are not independent. Because private sector firms are the main engine of job creation, it is critical to understand what drives job creation and what obstacles prevent firms from growing and generating jobs. While in a well-functioning private sector, competition among firms would push them to improve productivity, innovate, and expand markets—allowing the most productive firms to grow, and less productive firms to shrink or go out of business—this dynamic process seems to be hampered. Without the benefit of these firm dynamics, the Egyptian economy will find it difficult to sustain growth, create jobs, raise incomes, and reduce poverty.

107.   A clear problem with firm dynamics is that Egyptian firms do not grow as rapidly as those in other economies, and firm-level productivity is stagnant or declining. In several sectors, increased market share is not related to productivity; a growing market share does not necessarily mean that firms are getting better at what they do.

108.   Because it is difficult for firms to grow, the Egyptian economy has fewer large firms than other economies do. This has implications for overall economy-wide productivity. Segmentation between formal and informal firms is sharp; differences in productivity between the two sectors make it difficult to see how informal firms can transition to the formal market. The underlying cause of these findings may be low levels of competition manifested in markups on prices above competitive levels.

109.   Most importantly, large firms are the steppingstone for the making of a country's middle class. The job stability, the benefits and the higher and rising wages are the hallmarks of what provides a middle-class family the ability to save, invest and keep the consumption engine of an economy growing. With fewer larger firms, it is difficult to see how Egypt can grow a vibrant middle class.

110.   The analysis in this chapter uses firm-level data from the World Bank's Enterprise Surveys to compare Egyptian firms with firms in other economies (peer economies or other economies in the MENA

region).[22] Enterprise Surveys poll a representative sample of private sector firms, with a focus on the manufacturing sector. Formal (registered) companies with five or more employees are targeted for interview. Firms with 100 percent government/state ownership are excluded from the sample. In each country, businesses in the cities/regions of major economic activity are interviewed. The Enterprise Surveys for Egypt covered the urban regions of Greater Cairo, the Middle and East Delta, the West Delta, Northern Upper Egypt, Southern Upper Egypt, the Suez Region, and the Frontier.

111.   In a well-functioning economy, firms enter the market small and then grow, creating jobs and increasing sales. In a distorted business environment, firms grow more slowly, create fewer jobs, and may stagnate (Hsieh and Klenow 2014). One way to determine how effective an economy is in supporting firm growth is to track firms over their lifecycles—that is, to see whether they employ more workers and/or earn more revenue every year they stay in the market. The slope of the lines in Figure 4.1 indicates how rapidly firms in Egypt grow with respect to their workforce and revenues as they age.[23] Where firm growth is faster, the slope of the line is steeper.

Figure 4.1 Projected number of employees and revenues given firm age in Egypt and comparator countries
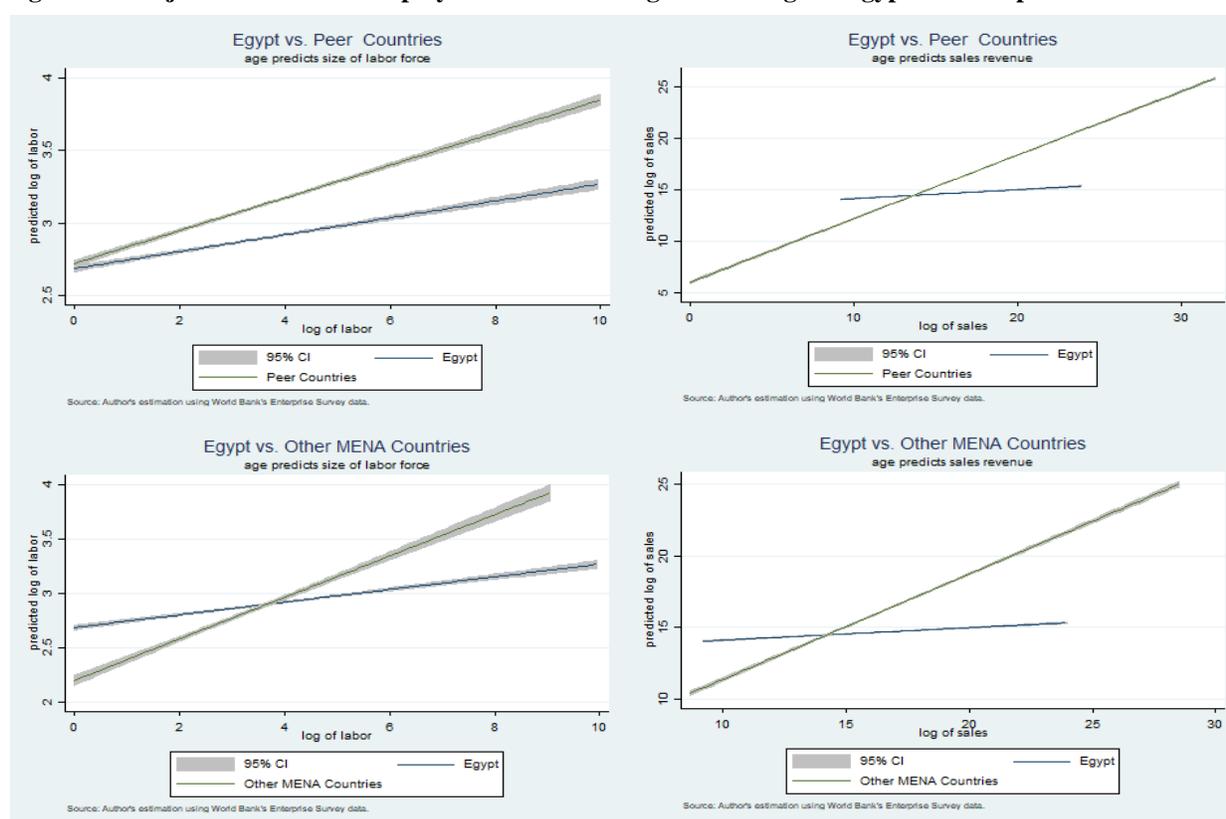
Note: Band shows 95 percent confidence level.

112.   This analysis suggests that firm growth in Egypt is slower than in other economies, in terms of both revenue and employment growth. The presence of stagnant or slow-growing firms hampers overall growth

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[22] For Egypt, the chapter uses data collected in 2013, 2016, and 2020. For information on the World Bank Enterprise Surveys, see www.enterprisesurveys.org.

[23] A cross-sectional analysis of this type incorporates the strong assumption that the average 1-year-old firm today is the same size as the average 10-year-old firm was 10 years ago. The expectation is that age is a good predictor of growth.

because these inefficient firms compete for and take away resources (labor and finance) that more productive firms could possibly employ more efficiently. The staying power of these stunted firms suggests that economic competition is not sufficient to force unproductive firms to exit.

113.   As a result of poor firm growth dynamics, Egypt has many small firms. As a result, many workers are employed in small firms, according to the 2017 General Census for Population, Housing and Establishments. Using Establishment Census data for 1996 and 2017, Assaad and others (2019) find the same pattern. Because small firms tend to be less productive, they often offer lower wages and often no benefits than larger, more productive firms.

114.   Many of these small firms are in the informal sector—and stuck there. Informal firms differ in important ways from small, formal firms. Using data from Egypt's 2017 Economic Census, Krafft and others (2020) find that formal and informal firms differ with respect to productivity and the background and intentions of their owners. Productivity differences between the two types of firms are large. Informal firms are less productive than formal firms, and their owners' have significantly less formal education than do owners of the average formal firm. Managers of informal firms see no benefit to formality, despite the government's efforts to reduce the cost of becoming formal. These differences between informal and formal firms mean that informality is not an incubator of future formal firms.

115.   At the same time, Egypt also has fewer large firms than other countries do. In most economies, the smaller number of large firms may represent a misallocation of resources and sizable productive inefficiencies in the economy.[24] Because firm scale is associated with efficiency, large firms are key to employment, productivity growth, innovation, exporting, and a sustainable structural transformation of the economy. Figure 4.2 shows a kernel density plot that depicts the size distribution of manufacturing firms in Egypt and peer economies. There is a truncation in the right-hand tail of the size distribution, where large firms should be. With respect to firm size based on the number of workers employed (panel a), Egypt has fewer larger firms than other economies. Based on the log of sales revenue in 2020 US dollars (panel b), Egypt is represented by as many larger firms as found in other economies. The same pattern is evident when looking at the distribution of firms with respect to the value of capital used in production (panel c). The relatively low capital to labor ratio mirrors the finding in chapter 2 (see Table 2.2) that capital per worker is relatively low in Egypt.

Figure 4.2 Size distribution of firms based on number of employees, annual sales, and value of capital
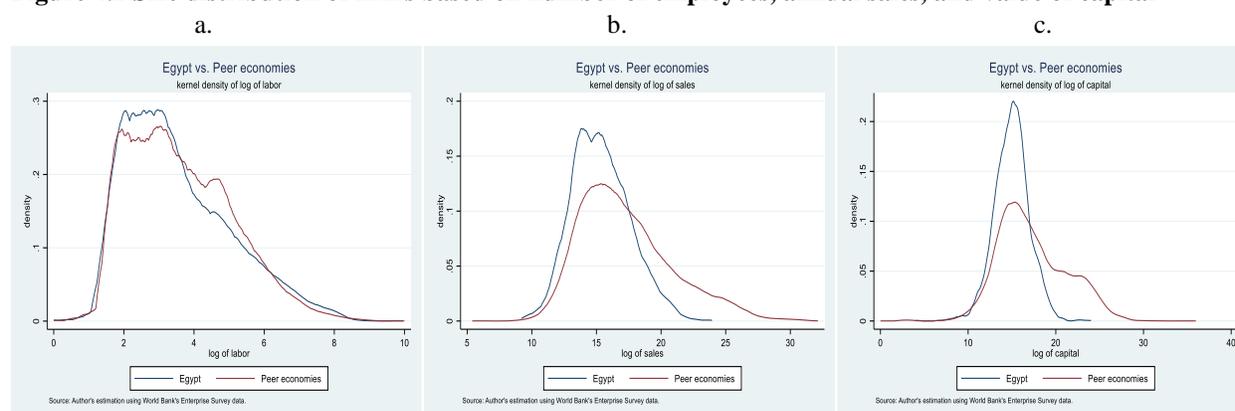
Source: World Bank, based on data from the World Bank Enterprise Survey.

116.   Capital constraints may be one of the reasons Egyptian firms are not growing. The microeconomic literature on the links between access to finance and firm growth provides evidence from some countries

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[24] Bento and Restuccia 2017.

that firms with access to external finance grow more quickly than other firms (Rajan and Zingales 1998; Ayyagari, Demirgüç-Kunt and Maksimovic 2010). The undercapitalization of large firms points in the direction of financial constraints as well.

117.   In addition to access to capital, firms are likely to grow where labor is well-trained or trainable, and labor contracts are flexible. Large, competitive markets that are open and growing are also key to firm growth. Foreign direct investment (FDI) and open trade give firms access to new technologies and new ways of organizing more efficient production, allowing firms to compete for market share and grow.

4.2   Productivity of Manufacturing Firms and Reallocation of Resources

118.   Why is firm growth relatively low in Egypt? The concern is with what is happening with productivity—as opposed to demand, another factor that affects firm growth. Since the economy has been growing during the period of time reviewed, demand should be growing, productivity is more likely to be impeding firm growth. Changes in productivity can occur within the firm (through innovation, technology, or reorganization of production) or through a reallocation of resources across firms (through markets). It is the latter that is the focus of the following analysis. Two measures are used to examine the allocation of resources across firms and sectors: (i) the relationship between a firm's market share and its productivity (Olley and Pakes 1996); and (ii) the distribution of firm-level productivity across economies (Hsieh and Klenow 2009).

4.2.1   Low and stagnant productivity

119.   Between 2013 and 2020, overall firm productivity, as measured by total factor productivity (TFP), for the sample of formal, urban manufacturing firms in Egypt remained relatively stable, as shown in Figure 4.3. The bell-shape part of the distributions has not shifted to the right, which would indicate that average productivity is improving. However, the Figure displays an almost complete overlap between the productivity distributions for the three years sampled, revealing that productivity changed little during this time period.[25]

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[25] World Bank Enterprise Survey data are used to estimate productivity because the data are designed for cross-country comparisons of firm-level productivity. These distributions are unweighted, so the kernel density displays the productivity distribution for the average firm, reported in the second column of Table 4.1.

Figure 4.3 Distribution of productivity of formal, urban manufacturing firms in Egypt, 2013, 2016, and 2020
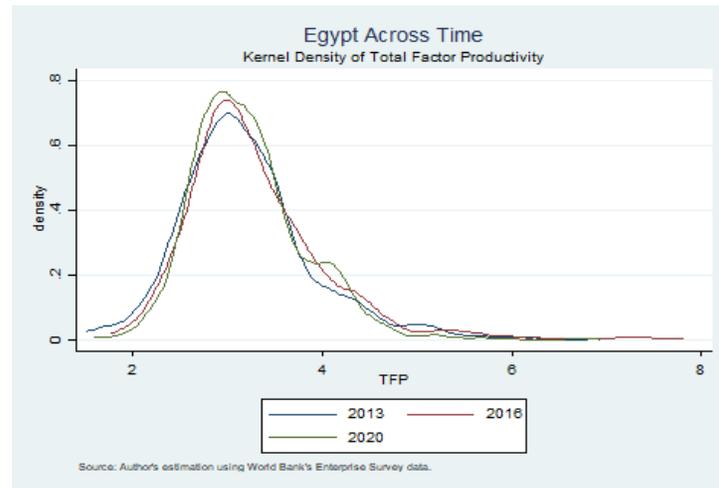
Source: World Bank, based on data from the World Bank Enterprise Survey. Estimates are based on the methodology detailed in Ackerberg, Caves, and Frazer 2015.

Note: Figures are in 2010 dollars.

Figure 4.4 Distribution of firm-level productivity in Egypt and peers
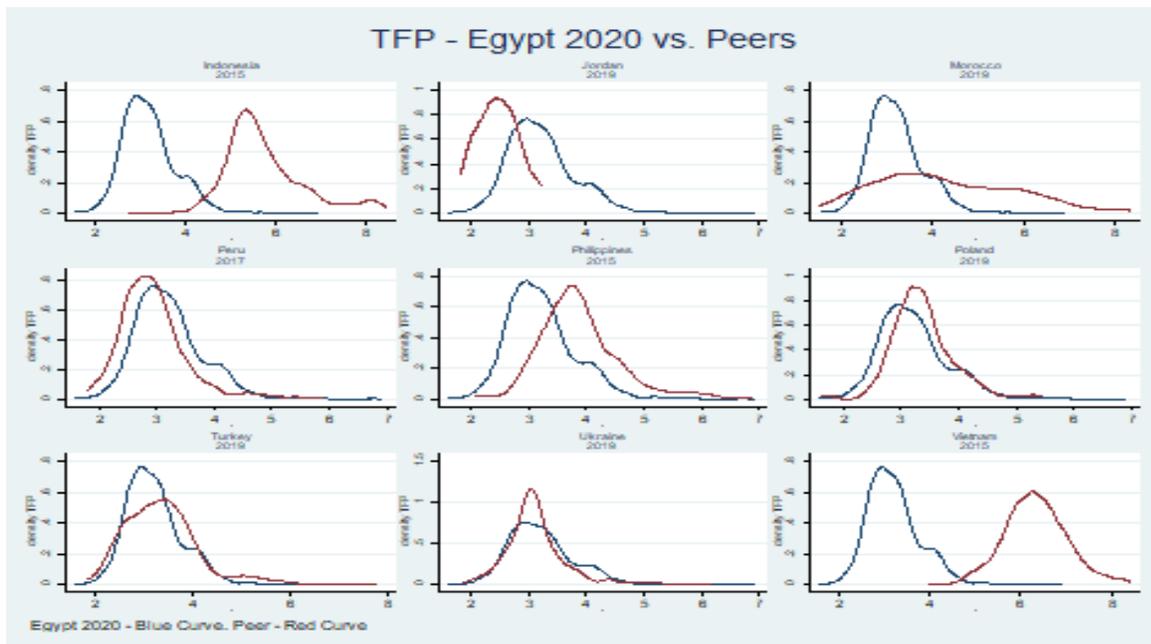
Note: Figure shows kernel density of log of TFP in 2010 US dollars. TFP estimates are from World Bank Enterprise Survey data for firms in Egypt (2020), Indonesia (2015), Jordan (2019), Morocco (2019), Peru (2017), the Philippines (2015), Poland (2019), Turkey (2019), Ukraine (2019) and Vietnam (2016) following Ackerberg, Caves, and Frazer (2015).

120.   Moreover, the firm-level productivity of manufacturing firms is lower in Egypt than in many of its peers, as shown in Figure 4.4. by the fact that the bulk of the distribution of its firm-level productivity lies

to the left of that of most peer economies (Indonesia, the Philippines, Vietnam, Morocco, Poland, and Turkey). Firm productivity in Egypt is closer to that of Ukraine and higher than that of manufacturing firms in Jordan and Peru. [26] The data also reveal that Egypt has fewer high-productivity manufacturing firms than its peers, especially Indonesia, Morocco, Poland, Ukraine, and Vietnam. There is a strong correlation between the predominance of large firms and above-average levels of productivity (Ciani and others 2020) (see Box 4.1 for how TFP was estimated).

121.   In addition, differences in productivity are greater among large firms than among small- and medium-size firms.[27] Of the 40 most productive firms in this sample of manufacturing establishments, almost half (18) are large, 13 are small, and 9 are medium-size. The top 5 firms in terms of productivity and 8 of the top 10 are large.

Box 4.1 Estimating total factor productivity

The classic production function used to analyze productivity follows the Cobb-Douglas approach, where Y_{it} is the physical production of firm i in period t; A_{it} is the Hicksian neutral efficiency level of firm i in period t; and K_{it}, L_{it} , and M_{it} represent the capital, labor, and material inputs, respectively:

$$Y_{it} = A_{it} K_{it}^{\beta_k} L_{it}^{\beta_l} M_{it}^{\beta_m}.$$

In principle, all inputs (K_{it}, L_{it}, and M_{it}) are observable to both the firm and the econometrician, but the efficiency level A_{it} is observed only by the firm (Van Beveren 2010). It affects the firm's decisions about inputs levels and allocations. Taking natural logarithms to the previous expression produces a linear equation that could be estimated using ordinary least squares (OLS):

$$y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_m m_{it} + \varepsilon_{it}$$

where the lower-case letters represent natural logarithms, and the efficiency term can be rewritten as:

$$\ln(A_{it}) = \beta_0 + \varepsilon_{it}$$

In the previous expression, β_0 represents the average efficiency level across firms and over time, and ε_{it} is the time- and producer-specific deviation from the mean efficiency. This deviation from mean efficiency could be further decomposed into an observable (v_{it}) and an unobservable component (u_{it}^q), where the latter is an independent and identically distributed random variable representing unexpected deviations from the mean:

$$\varepsilon_{it} = v_{it} + u_{it}^q.$$

Combing the previous elements into a single equation results in

$$y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_m m_{it} + v_{it} + u_{it}^q.$$

Estimating the previous expression using OLS is problematic. Marschak and Andrews (1944) noted that the selection of inputs in the production function was determined by characteristics of the firm, such as

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[26] Peer economies used as comparators are Indonesia, Jordan, Morocco, Peru, the Philippines, Poland, Turkey, Ukraine, and Vietnam. Mexico and Pakistan are also peer economies, but the latest round of panel for these economies was collected before 2015, making these data too dated to provide a meaningful comparison with the latest data from Egypt. As of September 2020, full World Bank Enterprise Survey panel data were not available for Malaysia, Sri Lanka, or Tunisia. Malaysia and Sri Lanka had completed only one wave. Tunisia conducted a survey in 2020 but a panel was not constructed using the previous survey. For this reason, these economies were excluded from this analysis.

[27] One firm had negative value added. As the finding can be a data error, this observation was excluded.

its efficiency (endogeneity of inputs or simultaneity bias), violating the condition $E(\varepsilon|X) = 0$. As a consequence, using OLS would bias the estimated coefficients.

The traditional approach to estimating TFP relied on firm-level data from balanced panels. It therefore excluded firms that exit or enter the market. Failure to explicitly take the exit decision into account would result in a selection bias or endogeneity of attrition, as the firm's decision on the allocation of inputs in a given period is made conditional on survival (Van Beveren 2010). Ackerberg and others (2007) argue that the observations of firms' expected productivity level before their exit will generate a correlation between the error term and their productivity level, conditional on the firm being in the dataset, because firms with more capital will be able to survive shocks of lower productivity relative to firms with lower capital stock.

Olley and Pakes (1996) argue that the simultaneity problem arises because the selection of input quantities is (partly) determined by prior beliefs about their productivity. For example, a positive productivity shock would likely lead to more intense use of labor and materials, introducing an upward bias in the input coefficients (De Loecker 2007) and likely a downward biased in the capital coefficient (Levinsohn and Petrin 2003). They argue that addressing the selection and simultaneity problems requires a dynamic model of firm behavior that allows for differences in firm-specific efficiency that show idiosyncratic changes across time. The model, they argue, must specify the information available when input decisions are made. To control for the selection induced by the liquidation decision, the model must also include an exit rule. Olley and Pakes solve a control function on investment (which needs to satisfy some characteristics, such as invertibility and be positive with respect to productivity) as a proxy for a firm's productivity.

Levinsohn and Petrin (2003) argue that using investment as the proxy variable for productivity is problematic, because several firms report zero investment and the investment variable tends to be very lumpy (as investment tends to face important adjustment costs), forcing researchers to drop multiple firms from the sample and show few reactions to productivity shocks. They propose using materials as the proxy variable for a firm's productivity (or one of the material components, such as fuel or electricity).

Ackerberg, Caves, and Frazer (2015) find that the estimation method proposed by Levinsohn and Petrin does not allow for identification of the labor coefficient when labor is a state variable (when, for instance, there are significant hiring and firing costs, as in several EU countries). They came up with an alternative procedure to solve this problem. If labor is a completely flexible input, estimates using either their method or that of Levinsohn and Petrin should be the same. If labor is not a completely flexible input, the parameter on labor may be biased and the TFP estimates may therefore differ. As labor markets are fraught with frictions, the Ackerberg, Caves, and Frazer method seems to be better suited to estimating TFP.

Several caveats are necessary regarding results of the productivity estimation exercise. First, the periods used to estimate productivity differ in each country. In addition, as the objective of the exercise was not to obtain the best possible estimation of productivity but to present comparable estimates of productivity, a simple model was used to estimate productivity in each country. Data from the Enterprise Survey were collected and harmonized to be as comparable as possible and a similar model was used to estimate productivity. Nevertheless, definitions (especially regarding capital) in Egypt, Indonesia, and Turkey may differ somewhat. Overall, the results obtained using the Enterprise Survey data for these countries should be taken as suggestive evidence, not proof of differences in productivity across firms in different countries.

The exit and entrance of firms should not be attributed to the endogeneity of attrition in the sample. When working with administrative registries, it is possible to observe the entrance and exit of firms based on their actual economic activity. However, as the firm-level information from the Enterprise Surveys corresponds to a representative sample, it is not possible to determine whether changes in the composition

of the sample reflect actual changes in firm entrance and exit or to sampling or survey implementation decisions.

4.2.2 *Poor allocation of productive resources*

122.   A first step in better understanding the dynamics of productivity in Egypt is to ask whether markets allocate resources to more productive firms. To answer this question, the Olley and Pakes (OP) decomposition is used. The OP decomposition assumes that in the absence of distortions, more productive firms would expand while less productive firms would shrink or even exit the market.[28] By implication, productivity and firm size move in the same direction, so the covariance between productivity and market share is positive when the economy is not distorted, and markets function well; a large covariance term suggests that the economy efficiently allocates productive resources. In contrast, a large negative covariance term indicates that the economy is inefficient in allocating resources, suggesting distortions in product markets.

123.   Estimates of the OP productivity decomposition for Egypt provide mixed results about how efficiently the economy allocates resources and how well markets function (Table 4.1). The first result is that for a large proportion of firms—which are mostly smaller ones—there is little productivity growth. The smaller changes between the unweighted (.80, .83 and .81), as compared to the weighted (1.0, 1.14, and 1.15), imply that larger Egyptian manufacturing firms had larger productivity gains than smaller firms.[29] In the unweighted mean, smaller firms have more influence on the mean since they are more numerous in the sample.

Table 4.1 Covariance of productivity with market share (2013, 2016, and 2020)

Year	p_t Weighted mean	$\bar{p}_t$ Unweighted mean	$Covar(p_t, S_t)$ Covariance between TFP and sales
2013	1.00	0.80	0.20
2016	1.14	0.83	0.30
2020	1.15	0.81	0.34

Source: World Bank, based on data from World Bank Enterprise Surveys.

Note: Productivity is estimated using the Ackerberg, Caves, and Frazer method. Weighted and unweighted means are normalized to the 2013 weighted mean (1.00).

124.   The second result is that a higher market share goes to more productive firms though the relationship between productivity and market share is low. This is so because a positive and large (close to 1.00) covariance indicates that a higher (lower) share of the market goes to more (less) productive firms. Although market shares, based on sales, were correlated with higher productivity—the term is positive and the covariance factor rose between 2013 and 2020—the relationship remains relatively weak.

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[28] Other decompositions used for similar objectives include those developed by Baily, Hulten, and Campbell (1992); Griliches and Regev (1995); Foster, Haltiwanger, and Krizan (2001); Baldwin and Gu (2006); Diewert and Fox (2010); and Petrin and Levinsohn (2012). For more details, see Karagiannis and Paleologou (2018).

[29] When an average is unweighted, that means that firms with more revenue influence that average more than when the average is weighted. Stability in the unweighted means that the covariance of large firms did not change much across the years as compared to others in the distribution.

125. Taken together, these two results suggest that the reallocation of output across firms—rather than the increase in the average productivity of each firm—seems to drive increases in productivity at the industry level. That means that it is less likely that internal (within-firm) factors, such as innovation, the reorganization of production, and the application of new technologies, drive increases in productivity growth. It is more likely that improvements in productivity, though rather muted, are driven by reallocation of resources to more productive firms.[30]

126. In sum, the analysis in this section found that while the allocation of market share generally goes to the more productive firms, there are reasons for concern. The good news is that larger firms seem to be driving productivity. The bad news is that small firms, the largest employers, seem to be stagnant. The relatively weak correlation between sales and productivity appears to call into question how well markets function to reallocate resources efficiently in the Egyptian economy. There are also concerns that the estimated improvements of productivity growth by large firms may be due to their ability to charge higher prices, because of market power, not improvements in productivity.[31]

4.3   Stunted Competition

127. Another concern about the dynamics of productivity centers on market power and competition—in particular, that Egypt is characterized by less competition than most of its comparators. The World Economic Forum computes a Global Competitiveness Index, including a domestic and foreign competition index. These indicators—based on macroeconomic data, as well as responses to surveys by business leaders—are available for 2019. They consider factors such as the intensity of local competition, the effectiveness of anti-monopoly policy, and the ease of doing business, measuring the level of competition on a scale of 1 (worst) to 7 (best). Egypt ranks low on both domestic and foreign competition, but especially on foreign competition. Among the peers identified in the SCD, only Pakistan ranks lower on foreign competition, and only Mexico, the Philippines, and Ukraine perform worse in terms of domestic competition (Figure 4.5).

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[30] Concerns about biased estimates are based on the lack of data on firm entry and exit, as well as the impact a large informal sector may have on the productivity of formal firms. New entrants tend to price their goods lower than the average firm. Lower than average prices would pull average productivity down even when output productivity is the same. Ignoring entry thus pull the average down and can be misinterpreted as lower productivity growth of surviving firms. The opposite is true with exiting firms. When exiting firms go unmeasured, they tend to raise the aggregate productivity of surviving firms, because exiting firms are likely to have had lower than average productivity. It is unclear what happens to aggregate productivity when entry and exit goes unmeasured. Another potential source of bias is the fact that the sample includes only formal manufacturing firms and the share of informal firms is relatively high in Egypt (as in other developing economies). The presence of a high share of informal firms indicate that distortions exist that could induce even formal firms to exit. As a consequence, firms that left because of these high distortions are not captured in the sample.

[31] The models used to estimate productivity use total annual revenue as the dependent variable. In other words, the models are designed to explain how much the variation across firms in sales revenue are due to the use of capital, labor, and how efficiently these are employed. Sales revenue is a function of how much is sold (Q) and prices (P). Q multiplied by P equals Revenue ($P \times Q = R$). The variable P, however, may be inflated because of markups. This, in turn, would inflate R (revenues). The econometric model would interpret this inflated revenue, all other things being equal, as higher productivity; two firms that use the same amount of labor and capital, but in one revenues are higher because of higher prices, would be categorized as more productive. This would be an incorrect conclusion. An increase in markups could lead to the false conclusion that productivity is improving. In future research, it would be important to understand how much of the positive changes in productivity in Egyptian manufacturing firms can be attributed to markups and to efficiency gains.

Figure 4.5 Correlation between domestic and foreign competition
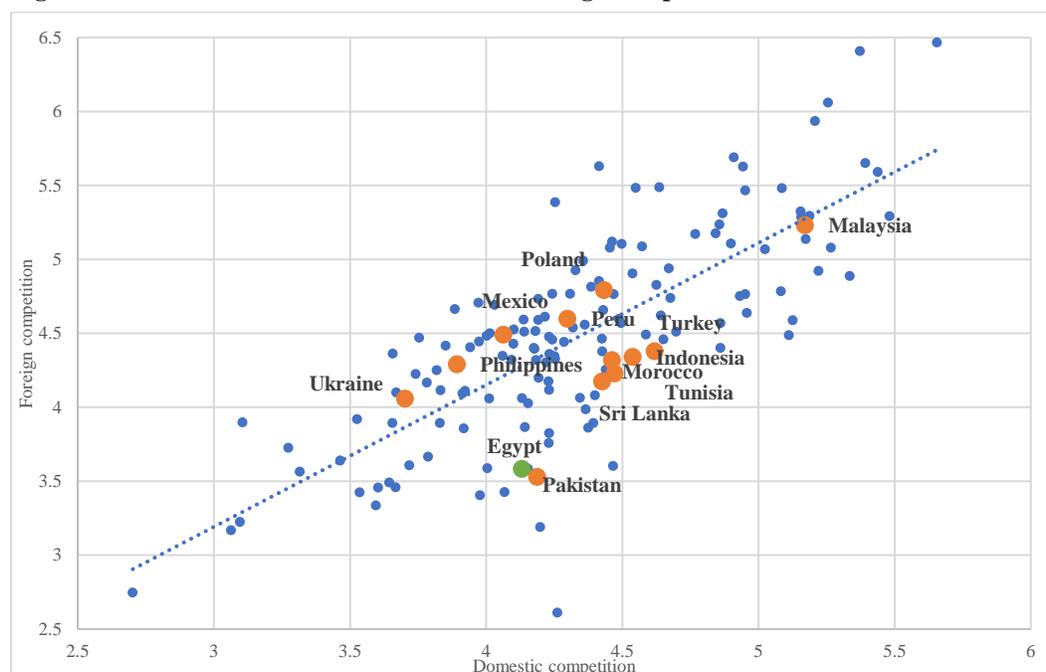
Source: World Bank, based on data from World Economic Forum, Global Competitiveness Index.

Note: Figures are averages for 2008–18.

128.   At this point, Egypt's domestic competition environment remains relatively weak. Although the government recently passed an improved competition framework, the measure remains to be fully implemented. In addition, the dominance of a few firms, structural and regulatory barriers to entry, and the distortive effects of fiscal regimes hamper competition. Further, while there have been recent efforts to lower trade barriers, low foreign competition is driven largely by the remaining, relatively high, trade barriers. Trade barriers not only limit direct competition from foreign firms but they also indirectly affect domestic competition by restricting the availability of inputs (or by making them more expensive).

129.   Another indicator of weak competition is Egyptian manufacturing firms' markups (Table 4.2). Estimates above 1.00 indicate a markup. The bigger the number above 1.00, the greater the markup. When firms operate in markets that are less than fully competitive, they are able to raise the price of goods well above the cost of producing them, allowing them to earn excess profits. Although there are circumstances in which markups could reflect conditions other than market power, those conditions do not appear to be met in Egypt.[32] For this study, markup indicators are constructed using detailed information obtained from

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[32] Changing cost conditions, demand conditions, and the pricing environment could cause markups to rise. Firms and industries in which information technology has grown in importance may have rising fixed costs, for example, which lead to rising markups and the dominance of one or a few firms. The growing importance of network effects could lead one or a small number of firms to dominate a market and thus command higher markups. Shaked and Sutton (1982) and Sutton (1991) show that fixed (and often sunk) costs at the firm level partly reflect endogenous choices of product quality, production techniques, and marketing. Under the assumptions they make, industries do not deconcentrate even as market size grows, because there is always an incentive for some firm to become large, relative to the market, by making a sunk investment that drives up demand for its product. If firms are investing, changes in technology that increase fixed costs, and/or dramatic changes in demand that force firms to change product quality, markups might reflect these changes rather than market power. However, these conditions are not present in Egypt. Given flat private sector investment, the nearly stagnant structure of industry (as reflected, for example, in the lack of diversification in products), falling private consumption, and the lack of growth in firms, it is unlikely that markups reflect changes in fixed (or sunk) costs based on the application of new technologies of production.

World Bank Enterprise Surveys, which provide mostly cross-sectional information. Markups are estimated using the methodology described in De Loecker and Warzynski 2012 (Box 4.2).

Box 4.2 Estimating markups

Markups can be expressed as the ratio of prices to marginal costs. They can be recovered from a production function by dividing the output elasticity of an input by the revenue share of that input (the latter being the ratio of the expenditure in that particular input to total output).

A translog production function is first run to estimate output elasticities:

$$y_{it} = \beta_l l_{it} + \beta_{ll} l^2{}_{it} + \beta_{lk} l_{it} k_{it} + \omega_{it} + \varepsilon_{it}$$

where yit is the output of firm i in time t; lit is the number of workers; kit is the capital stock; wit is a term that reflects the inclusion of capital stocks, intermediate materials, and the interaction between them in the production function; and eit is the error term. All variables are expressed in logs.

The election of a translog (instead of a Cobb-Douglas) production function is important because it allows the output elasticities to depend on input use intensities (given by the squared variables and the cross factors). To estimate this function considering the endogeneity of the error term, De Loecker and Warzynski used a working paper version of the model that would later be published by Ackerberg, Caves, and Frazier (2015).

The estimated output elasticity of the labor input is given by

$$\widehat{\theta^L}_{it} = \hat{\beta}_l + \hat{\beta}_{ll} l_{it} + \hat{\beta}_{lk} k_{it}.$$

The markup mit of the firm is computed by dividing this output elasticity by aL, the wage bill of the firm divided by total output (measured by sales):

$$\hat{\mu}_{it} = \widehat{\theta^L}_{it} (\alpha^L{}_{it})^{-1}.$$

An additional correction can be made to the revenue share. Instead of dividing the wage bill by total sales, total output, it is divided by the sales predicted by a factor of production and materials from the first equation. According to De Loecker and Warzynski, this correction eliminates any variation in expenditure shares that comes from variation in output that is not correlated with the inputs of the production function—or, put differently from output variation that is not related to variables affecting input demand, including input prices, productivity, technology parameters, and output prices.

Table 4.2 Markups in Egypt's manufacturing sectors, 2013, 2016, and 2020

Year	Weighted by sales	Weighted by labor
2013	1.00	1.00
2016	1.09	1.12
2020	1.06	1.05

Note: All markups were computed using the method explained in De Loecker and Warzynski (2012). Individual markups are weighted by firms' sales and the number of employees to obtain the economy's averages. Markups are normalized to 1.0 in the first wave of the World Bank Enterprise Surveys (2013).

130.   On average, markups in Egyptian manufacturing rose between 2013 and 2016 and then fell slightly between 2016 and 2020 (Table 4.3). The chemicals, rubber, basic metals, and all of the electrical machinery and transport sub-sectors have higher markups than other sub-sectors. Markups are lower than average in apparel, leather, wood manufacturing, nonmetallic manufacturing, fabricated metals, printing, and furniture. Most of the sub-sectors with higher markups have relatively high fixed costs. Higher fixed (or

sunk) costs can lead to fewer firms in a market, which can result in softer competition, higher prices, and reduced consumer welfare.[33]

Table 4.3 Markups in selected manufacturing subsectors

Sector (ISIC two-digit code)	Weighted by sales	Weighted by labor
Wood (20)	0.59	0.61
Leather (19)	0.72	0.72
Furniture (36)	0.81	0.82
Non-metallic (26)	0.87	0.88
Fabricated metals (28)	0.87	0.88
Apparel (18)	0.93	0.95
Food and beverages (15)	1.02	1.01
Paper and publishing (21)	1.06	1.05
Machinery (29)	1.07	1.07
Textiles (17)	1.10	1.07
Electrical machinery, communication, office, motor, and transport equipment (30–35)	1.14	1.15
Rubber (25)	1.16	1.16
Basic metals (27)	1.18	1.20
Chemicals (24)	1.23	1.24

Note: All markups were computed using the method explained in De Loecker and Warzynski (2012). Individual markups are weighted by firms' sales and the number of employees to obtain the economy's averages. Markups are normalized to 1.0 in the first wave of the World Bank Enterprise Surveys (2013).

4.4   Lack of Openness as a Constraint to Firm Growth

131.   A final aspect of productivity dynamics is whether a lack of openness is constraining firm growth. Certainly, Egypt has signed free trade agreements with the European Union, Turkey, and Arab countries. But on the one hand, Egypt's relatively closed economy restricts opportunities for private sector development and impede economic growth. On the other hand, its natural endowments and the comparative advantages of a large domestic market, strategic location, and diversified sectors point to significant export potential. But exports have not increased, even in response to the large currency depreciation in 2016. And the experience of other economies has shown that high trade barriers often constrain an economy from responding to the market opportunities international markets hold.

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[33] In some cases, higher fixed (or sunk) costs can be the endogenous outcome of improved products or of improved production technology that lowers marginal cost (Sutton 1991). In this case, observed higher markups may or may not be associated with higher prices and reduced consumer welfare.

132. Another indication that the trade regime may be restricting growth is the relatively low level of Egyptian firms' integration into global value chains (GVCs) compared to other large developing economies. This matters greatly given that the growth of GVCs has been a key feature of the last two decades of globalization. Countries that have successfully integrated into GVCs have seen high rates of growth of exports and positive impacts on poverty. A recent major review concludes that GVCs can continue to boost growth, create better jobs, and reduce poverty provided that developing countries implement deeper reforms to promote GVC participation.[34]

133. At the sector level, Egypt is much less globally integrated into key GVCs than Indonesia, Malaysia and Turkey. The goods sectors in Egypt that shows the highest degree of total GVC participation are: (i) metal products, (ii) petroleum, chemical and non-metallic mineral products, (iii) mining and quarrying (iv) electrical and machinery and (v) textiles and wearing apparel. Nevertheless, the degree of GVC participation for these sectors is lower than in the comparator countries, especially Turkey and Malaysia. For all four countries, metal products are the most integrated sector but backward and forward linkages account for just over 50 percent of gross exports in Egypt compared to over 70 percent in Turkey and Malaysia. For both electrical machinery and textiles and apparel—two key sectors in which GVCs have driven export growth in a number of fast-growing developing countries—the GVC index for Egypt is just over 30 percent, whereas for Malaysia it is more than 50 percent of gross exports. Again, Egypt exhibits very limited backward linkages. For electrical machinery, 20 percent of Egypt's gross exports are from backward linkages compared to 37 percent for Turkey and 43 percent for Malaysia.

134. As measured by the GVC integration index, Egypt's total participation in GVCs stands at 37 percent of gross exports, compared to 57 percent in Malaysia, 48 percent in Turkey, and 39 percent in Indonesia. Egypt's total GVC participation is decomposed into 26 percent of forward participation (the use of domestic intermediates in third country exports) and 11 percent of backward participation (the use of foreign inputs embodied in gross exports). It is with regard to backward linkages that Egypt's performance compared to other countries is particularly low. Egypt's participation in GVCs has slightly declined during the last decade from 40 percent in 2006 to 37 percent in 2015.

135. Egyptian tariff protection for other parties, outside of preferential trade agreements, remains very high and has become more restrictive and unpredictable in the past five years. High levels of protection reduce overall welfare and can have disproportionately large effects on inequality, given that protection goes to producers (generally wealthier) and tariffs are paid by consumers.[35] With an average most favored nation (MFN) tariff of 19 percent—the tariff that is applied to imports from countries that do not have a trade agreement with Egypt—Egypt has the second-highest average MFN tariff in the world (after Sudan). Protection is highest for processed food and beverages and consumer goods.[36]

136. High MFN tariffs may also be distorting the incentive to export, either because profits per unit are much higher in selling to the domestic market, because protection limits the incentive to make productivity-enhancing investments that could lead to firms becoming internationally competitive or because they undermine the ability to compete by raising the cost of essential intermediate inputs relative to exporters in other countries. Further analytical work would be useful to identify the extent to which the removal of tariffs on imports from the European Union has led to more competition, lower prices, and access to a wider variety of goods—or has been reflected in higher profits for EU firms. It is also worth assessing whether

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[34] World Bank 2020e. World Development Report 2020: Trading for Development in the Age of Global Value Chain provides a comprehensive review of the growth and impact of GVCs.

[35] Furceri and others 2018 report evidence of the adverse effects of tariffs on both growth and inclusion.

[36] For example, tariffs of 60 percent are levied on products including prepared fruit and vegetables, perfumes, soaps, suitcases, carpets and floor coverings, footwear, glass and glassware, stoves and cookers, a range of electrical appliances, furniture, and pens.

the policy framework is channeling resources into the production of low-quality products for the domestic market if high tariff protection has limited competition in low value-added segments.

137.   This, together with extensive non-tariff barriers, poor trade facilitation and weak logistics may have contributed to Egypt having fewer exporting firms than comparator countries, exports are less technologically advanced, and they are sold in fewer markets on average. It lags comparator countries in participation in global value chains and has yet to reach the stage of a medium-technology manufacturing exporter. Export activity is also concentrated in a small number of regions, and the poorest ones appear to have no linkages to overseas markets through exports.

138.   Improving export performance and having increased participation in GVCs may also be affected by nontariff barriers, with more than 33 ministries or government agencies regulating trade. The result is a very complex and opaque process for importing and exporting. Notification of measures to the World Trade Organization (WTO) reveals that Egypt has been introducing new measures at a faster rate than competitor countries. Studies of the implementation of nontariff barriers in Egypt in the 2000s suggests that these measures primarily benefited politically connected firms and that the presence of politically connected firms in a sector strongly predicted the subsequent introduction of nontariff measures. Diwan, Keefer and Schiffbauer (2015), as well as Eibl and Malik (2016), suggest that the entry of politically connected firms into a sector tends to lead to lower productivity and slower employment growth.

5   The Role of the State

Key findings on constraints to improving public sector spending efficiency, macroeconomic resilience, boosting private sector investment, firm growth, and productivity (Pathways 1 and 2):

- Egypt boosted growth with deficit spending. However, returns to public investment have recently dropped.

- High interest payments, due to high public debt, reduce fiscal space for needed social spending and revenue mobilization remains relatively low.

- The widespread presence of SOEs across the economy reduces competition and distorts the market. The recent amendments to the SOE law enhance governance, disclosure, transparency and accountability of some SOEs. Nonetheless, the sustained growth of state-owned enterprises, and the complex framework in which they operate, feeds private sector uncertainty and some SOEs remain outside the law making it difficult to monitor them and hold them accountable.

- The government is pursuing an anti-corruption strategy, including offering about 500 governmental services electronically to cut down red tape. Government efforts are ongoing but more are needed to reduce uncertainty and conflicts of interest.

5.1   High Public Debt as a Constraint to Continued Public Investment–Led Growth

139.   The Egyptian government has boosted growth with investment spending that is increasingly inefficient (see Chapter 2). When the economy has at times slowed, the government has increased spending and investment, providing countercyclical spending to stem the slowdown. However, public sector spending has historically outweighed revenues, and so chronically high budget deficits are financed through government debt. Driven by longstanding fiscal imbalances and bouts of exchange rate depreciation, government debt[37] averaged 96.8 percent of GDP in 2002–17. Following years of steady increases, the government debt ratio fell sharply from 108.0 percent of GDP in 2017 to 90.2 percent in 2019, helped by the ongoing fiscal consolidation process and strong economic growth. The government debt to GDP ratio went on to decrease further to 87.5 percent in by the end of fiscal year 2020, despite the adverse impact of the pandemic, although the decline was explained by the one-off cancellation of debt owed by the government towards the Social Insurance Funds, in return for larger annual transfers and improved investment opportunities, notably on Social Insurance Funds' holdings of government securities.

140.   The returns (ICOR) to public investment are recently dropping (see Chapter 2), indicating that the efficiency of some investments fell. At the same time, since government covers a large proportion of that investments through borrowing and must be repaid with interest, requiring returns that would cover the cost of paying back funds. Thus, the government's efforts to prop up growth with investment spending may be reaching their limits.

5.1.1   Public sector spending efficiency

141.   What is the extent of this inefficiency? A recent study looks at the efficiency of public spending in education, health, and infrastructure by measuring input inefficiency (the excess input consumption needed to achieve a level of output) and output inefficiency (the output shortfall for a given level of inputs) across countries (Herrera and Ouedraogo 2018). It finds that developing countries have output efficiency scores

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[37] In this report references to government debt mean gross budget sector debt and do not include debt held by state owned enterprises that is often backed by a sovereign guarantee.

of 0.6, 0.8, and 0.9 in infrastructure, education, and health, respectively (a score of 1 implies that the country is on the frontier, or maximum efficiency). On the quality of overall infrastructure to public investment per capita, it finds input and output efficiency scores of 0.38 and 0.72, respectively (well below the frontier). These scores indicate that many peer countries achieve significantly higher levels of outputs with the same level of input (spending), although Egypt performs better than the average for MENA countries.

142.   Given that public investment has been the main source of total investment in recent years (see Figure 2.12), the low efficiency or returns suggests that public resources are not going to areas with high development impact. For example, several geographic areas, particularly rural Upper Egypt, continue to face some challenges regarding sanitation infrastructure.[38].

143.   Much of this inefficiency may be attributed to the fact that public investment is managed through a complex and fragmented system (World Bank 2018b). This means that there is room to improve budget comprehensiveness, prioritization, and management of public investments—both by government and the broader public sector—to support value for money and better service delivery.

144.   For education, transformational reforms are underway and there has been recent positive progress in learning outcomes as evidenced by 2019 TIMSS score. Multiplying this success is key especially in light of COVID-19 pandemic. Egypt spent less than other countries in the region, both as a share of total government expenditure and as a share of GDP. Education spending as a share of GDP has declined in real terms, from 3.6 percent of GDP in 2016 to 2.5 percent in 2020. Morocco and Tunisia allocate more than 5 percent of their GDP to education and most OECD countries spend between 4 and 7 percent of their GDP on education. Overall, public spending on education is in large part based on historical budgets, and learning metrics or needs are seemingly weakly factored into budget formulation. In addition, Egypt's primary-level pupil-to-teacher ratio was 23.1 in 2016, higher than the MENA average of 20.5 but slightly lower than the middle-income average of almost 24.

145.   For health, important governmental effort towards universal health coverage and tackling the pandemic are underway. There is a constitutional mandate to increase public spending on health to 3 percent of GDP, however, spending on health declined from 1.6 percent of GDP in 2017 to 1.4 percent in the two following years, before reaching 1.5 percent of GDP in 2020. Within MENA, Egypt is on the lower end of the spectrum in terms of spending on health as a percent of GDP. Healthcare services are financed mainly with private funds from households, businesses, and nonprofit organizations—and about 90 percent of private expenditures are out-of-pocket costs, paid directly to healthcare providers by households. Thus, there is a pressing need to improve targeting of public health services for the poor, which will require better expenditure prioritization, broader public financial management, and better service delivery. To accelerate progress toward universal health coverage and improve health outcomes, the government passed the Universal Health Insurance Law in 2018 which envisions mandatory coverage for all citizens in the country. The new universal health insurance scheme aims to provide Egyptians with financial protection, improve public health facility capacity, and enhance the quality of care.

5.1.2   Implications of government debt for macroeconomic resilience

146.   Most government debt remains domestic, although external debt increased in recent years. The share of domestic debt in total public debt averaged 85.0 percent in 2002–18; external government debt remained contained, at an average of 15.4 percent of total public debt—equivalent to 15.2 percent of GDP—over the same period. However, its share rose to 18.0 percent of GDP at the beginning of 2017 before reaching 19.0 percent of GDP at the end of 2018.

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[38] The government has recently announced the Decent Life (Hayah Karima) initiative for Sustainable Rural Communities and aimed at improving access to basic services and infrastructure in target villages. (Source: https://sustainabledevelopment.un.org/partnership/?p=36683)

147.   This external government debt increase was due to valuation effects stemming from the large currency depreciation in 2017. In addition, the government increased external borrowing from international financing institutions and international bond issuances, with the latter benefitting from better macroeconomic conditions and enhanced confidence in the economy. A recent push by the government to build up foreign reserves increased the portion of debt held in foreign currencies from 12.5 percent of all public debt (domestic and external) at the end of 2015 to 29.2 percent at the end of 2017. The external portion of the debt surpassed 200 percent of exports of goods and services. At more than US$120 billion, it required servicing of about US$13 billion in 2020 and may soon need to be refinanced. The pressure of the external debt will increase if interest rates rise or the Egyptian pound devalues further.

148.   Another source of fiscal risk stems from contingent liabilities (sovereign guarantees were last estimated at 18.4 percent of GDP in end-June 2020)[39] as they may push up government financing needs if they materialize and become direct liabilities. Further, financial interlinkages between the Treasury and other extra-budgetary public entities entail debt-issuance that exceeds the budget financing needs (Alnashar, Elashmawy, and Youssef, 2020). Therefore, enhancing debt transparency is warranted in order to render the government debt path more predictable and to ensure its sustainability.

149.   Egypt's dependence on external revenues is high and risky because the pandemic has reduced many of the sources of foreign exchange required to pay the debt. In 2019, the country needed to raise nearly US$100 billion to cover its foreign exchange needs and service its external debt. Despite decades of pro-market reforms and a 2016 devaluation of 50 percent, it managed to export only US$30 billion of goods (including about US$10 billion of gas, as Egypt became a net exporter of oil and gas in late 2018). The gap was covered by remittances (nearly US$30 billion), tourism (about US$15 billion), foreign direct investment (FDI) and portfolio investment (US$12 billion), revenues from the Suez Canal (US$6 billion), and official international assistance of about US$10 billion (from the IMF). The largest of these sources, tourism, is being badly hit by the global pandemic. Surprisingly, remittances may actually be rising.

150.   State-led investment and spending financed by borrowing may be difficult to maintain. Although financial prospects improved after the successful 2016 stabilization, the fundamental problem of public sector–led spending—fueled by borrowed money—to support growth remains. Post-COVID, the economy may once again be at serious risk of unravelling in the medium term if the government cannot find another engine for growth. While the government enables the private sector to take the lead in propelling growth, it can also constrain private sector growth in many ways.

5.2   The Long Shadow of the Public Sector

151.   The government recognizes that the private sector must be the engine for growth, and it is making efforts to create a business environment that is more hospitable to business. However, constraints to private sector growth stem from the capital restrictions that heavy public sector borrowing has on private establishments, along with the anticompetitive effects from the dominant presence of government entities and corporations in the domestic market. Both phenomena suppress private sector investment, entry into new markets, innovation, and productivity growth.

152.   Sizable public borrowing constrains private sector growth because public demand for credit soaks up scarce capital. Before 2011, credit to the private sector represented about 20 percent of GDP, one of the lowest ratios in MENA. By 2015, the figure had fallen to 14 percent of GDP, and in subsequent years, it fell as low as 7.5 percent of GDP, before starting to recover (Figure 5.1). Claims on the government continued to make up the largest portion of total domestic credit and remained the main contributor to liquidity growth (Figure 5.2). Although credit extended to the private business sector started to pick up, its share in total domestic credit, as well as its ratio to GDP, has not yet returned to historical levels.

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[39] Ministry of Finance, Medium Term Debt Management Strategy for Fiscal Years 2020-21 through 2023-24.

153.　　High rates of public borrowing raise interest rates, which are expected to dampen private sector investment but have not induced improvements in the savings rate. Despite significant monetary policy easing, Egypt's monetary stance continues to be tight, as evidenced by relatively high real interest rates during December 2018–February 2020 (Figure 5.3) At the same time, a persistently low domestic savings rate contributes to the scarcity of domestic capital and dampens capital formation (Figure 5.4). Although gross domestic savings started to recover slowly, after hitting a low of 1.8 percent of GDP in 2017, the savings rate remained modest, at just 9.4 percent of GDP, in 2019.

Figure 5.1 Private sector and public sector credit as percent of GDP, 2011–19
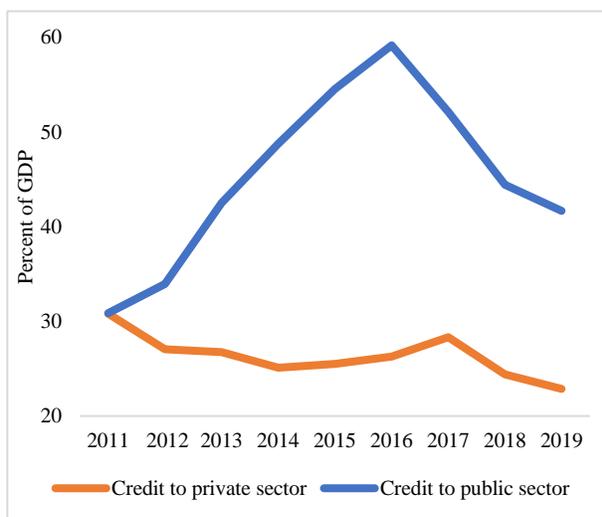
Source: Central Bank of Egypt.

Figure 5.2 Shares of credit, by sector, 2008–20
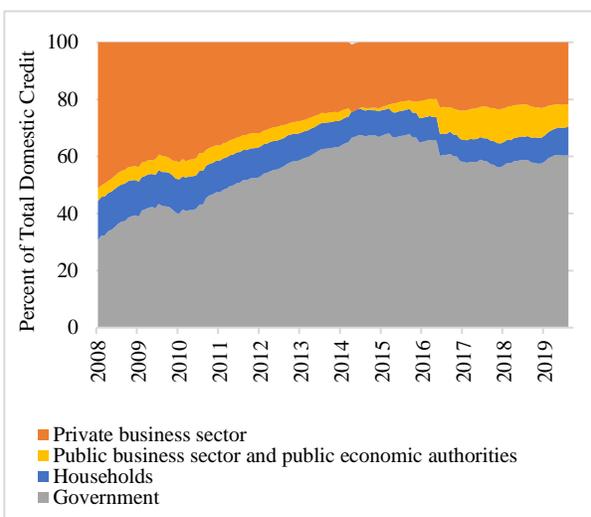
Source: Central Bank of Egypt.

Figure 5.3 Real interest rates, February 2016–February 2020
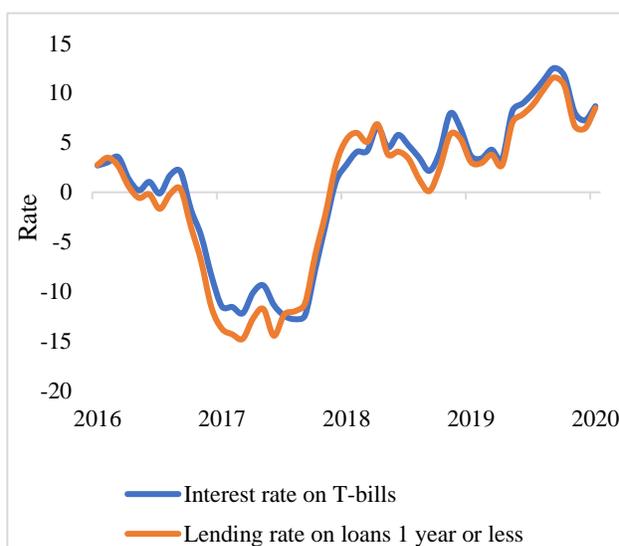
Source: Central Bank of Egypt.

Figure 5.4 Gross domestic savings and gross capital formation rates, 2009–19

Source: Central Bank of Egypt.

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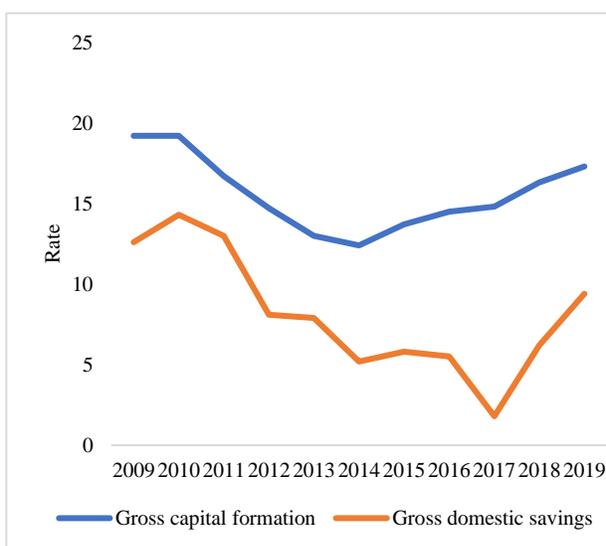
154. Moreover, private sector investment remains muted. In 2017, total investment is about 15 percent of GDP (versus MENA average of 23 percent, itself one of the lowest in the world), according to World Bank (World Development Indicators) data. The level of private investment in 2017 is approximately 6 percent of GDP. In comparison, the 1991 reform period was able to raise private investment from 10 percent of GDP in the early 1970s to 19 percent in the early 1990s. Investment by the central government is also down to about 2.5 percent of GDP. The rest—about 6.5 percent of GDP—is made by enterprises owned and managed by the state. Part of the muted response of private investment to better macroeconomic conditions can be attributed to investors' perceptions of the prominent role of the state in economic activity. Although Egypt has been transitioning from a centrally planned to a market economy for decades, the state remains an important economic actor. In recent years, perceptions of its growing role in economic activities have created confusion about the country's vision for the role and space available for the private sector to contribute to development challenges. The effect has been compounded by flaws in the competition policy framework, private sector sentiment about the lack of a level-playing field, and ambiguity over whether firms in Egypt face the same set of rules regardless of ownership.

155. Based on OECD and Egyptian records that are public information, only China may have more SOEs than Egypt (Box 5.1). SOEs have a significant presence across sectors in Egypt. EAs operate in 12 industry groups, including 2 (media entertainment and diversified financials) in which no SOEs covered in the official reports operate. State-owned non-civilian enterprises operate in 14 of the 24 sectors studied. Although some address market failures (including natural monopolies), there is an unusually high presence of SOEs in subsectors in which SOEs do not usually operate and in which the private sector might be better placed to provide goods and services.

156. Public Sector Law No. 203/1991 requires that SOEs may not be deprived of any benefits or be burdened with any charges that may put them at a competitive disadvantage with respect to joint stock companies. The recent amendments to the same law enhance governance, disclosure, transparency and accountability of some SOEs. Nonetheless, the sustained growth of state-owned enterprises, and the complex framework in which they operate, feeds private sector uncertainty.

157. Besides incorporated SOEs, Egypt has 51 Economic Authorities (EAs), many of them are technically SOEs. The Egyptian General Authority for Petroleum (EGPC), the Suez Canal Authority (SCA), and the New Urban Communities Authority, for example, play significant roles in the economy. In addition, some SOEs operate under, or are affiliated to, non-civilian authorities with their governing authorities being subject to special laws. These include the National Service Projects Organization (NSPO), the Arab Organization for Industrialization (AOI) and the National Authority of Military Production. NSPO owns 32 companies active in 14 industry groups.[40]

Box 5.1 Reducing the role of state-owned enterprises in China

China's has an enormous SOE sector and a history of extraordinary economic growth and poverty reduction. For more than three decades, GDP growth averaged 10 percent a year, lifting half a billion people out of poverty. However, success was probably related to reducing the size of the SOE sector, rather than the sector's large size.

Indeed, significant enterprise sector reforms underpinned China's growth performance. Bold reforms under the Ninth Five Year Plan (1995–2000) led to a greatly expanded role for the private and other nonstate sector. The state sector's share of the total number of industrial enterprises with annual sales of

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[40] A more detailed description of SOEs and the legal and institutional framework under which they operate is included in the World Bank's recently published Country Private Sector Diagnostic (World Bank 2020c, see Chapter 2 and Appendix D).

more than US$750,000 (in 2020 US dollars) fell from 39.2 percent in 1998 to just 4.5 percent in 2010. During this period, the SOE share of total industrial assets fell from 68.8 percent to 42.4 percent, and the SOE share of employment plummeted from 60.5 percent to 19.4 percent. The SOE share of China's exports fell from 57 percent in 1997 to 15 percent in 2010. As a result, the nonstate sector has become not only the main generator of output (an estimated 70 percent of GDP) and employment and the strongest engine of growth—but also the most active sector for innovation.

The reforms under the Ninth Five-Year Plan's guiding principle of "grasping the big, letting go of the small" left China with a distinctive industrial structure. Most small- and medium-size firms were privatized. Facing much domestic and external competition in an increasingly integrated domestic market, they became very dynamic and productive and now dominate many sectors.[*]

In parallel, the "commanding heights" of the economy (the 120 or so large central enterprises in sectors such as electricity, petroleum, aviation, and telecommunications) remained largely state owned. But progress was made among them, too. Many SOEs were corporatized, radically restructured (including through the shedding of labor) and expected to operate at a profit. In some sectors, intra-SOE competition was promoted and the scope for private participation expanded. The 2003 establishment of the State-Owned Assets Supervision and Administration Commission to exercise authority over large centrally run firms laid a foundation for future improvements in governance and investment planning. As a result, the profitability of China's SOEs increased, with their reported average return on equity jumping from 2.2 percent in 1996 to 15.7 percent in 2007, before sliding back to 10.9 percent in 2009.

Relative to the private sector, SOEs still consume a large share of capital, raw materials, and intermediate inputs to produce relatively small shares of gross output and value added. *China 2030: Building a Modern, Harmonious, and Creative Society* (a joint research report of the World Bank and the Development Research Center of China's State Council), therefore, gives priority to: (a) additional reforms of state enterprises—including measures to recalibrate the role of public resources; introduce modern corporate governance practices (such as separating ownership from management); and implement gradual ownership diversification where necessary; (b) development of the private sector and removal of barriers to entry and exit; and (c) increased competition in all sectors, including strategic and pillar industries.

China's success rate in creating jobs and reducing poverty is likely tied to an open, stable exporting economy—with high savings rates and low fiscal deficits, high levels of investments in social and physical infrastructure and less so to the presence of SOEs. If Egypt were to emulate China's model, it would need to increase its domestic savings rate and avoid large fiscal deficits, dramatically shift to a more open trade and investment policy, aggressively integrate the domestic economy, adopt more technology-oriented education, and increase reliance on private sector jobs.

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*"Bamboo Capitalism." The Economist, March 11, 2011.

158.   The widespread presence of SOEs across the economy reduces competition and distorts market outcomes. In some sectors, the lack of clear separation between the state's role as a market regulator and a major player/SOE owner creates conflicts of interest. Independent regulators are required to act as a neutral arbiter, particularly when the state controls one or more operators. However, many regulators remain under direct supervision of line ministries, which results in less scrutiny of their operations, and they sometimes give SOEs access to information before other market participants. For instance, the Ministry of Communications and Information Technology oversees both the National Telecom Regulatory Authority (NTRA) and Telecom Egypt—an SOE that is 80 percent owned by the government and holds a dominant position in the sector—creating a conflict of interests. The Ministry of Energy regulates the energy sector, another clear conflict of interest, as the regulator is not independent. The regulatory regime for the energy

sector is considered strong, but it is not strictly enforced. In the financial sector, the Central Bank of Egypt regulates and supervises the banking sector. But it is also the owner representative of banks wholly owned by the state, given that it owns the majority of the shares of one private sector bank as well as significant minority stakes in two others. As stated in the recently published Country Private Sector Diagnostic for Egypt (World Bank 2020c), the two largest banks in Egypt, which together held 48 percent of customer deposits as of end-June 2019, are state owned.

159.   SOEs and nonincorporated EAs that perform both commercial and noncommercial/public service activities—and do not separate the costs and revenues for the two—distort markets, which is the case in Egypt. In addition, SOEs are not required to earn a positive rate of return through their commercial activities. Revenues generated by SOEs from commercial activities means that they compete directly with private operators that typically cover their costs and generate a rate of return without recourse to government coffers. The Egyptian Public Enterprise Law calls for equal treatment of SOEs and private enterprises, but SOEs benefit from implicit and explicit support from the Treasury. This includes direct monetary support via subsidies as well as indirect subsidies through mandatory state purchasing of goods and services (as in the requirement that governmental officials fly only on EgyptAir, the national carrier). Explicit support can also occur through the credit channel when the Ministry of Finance on-lends to an SOE or issues explicit loan guarantees. EAs have had increasing access to bank credit since early 2016. In contrast, the private sector share has been stable, at about 22 percent of total credit. Preferential access to inputs also sometimes takes the form of free or low-price land or real estate, along with the provision of cheap labor (Abul-Magd, Akça, and Marshall 2020).

160.   Tax exemptions provided under certain laws provide financial privileges and feed the perception that the playing field is not level. For instance, SOEs are generally taxed under the same reference system as private operators, but public agencies are often granted tax exemptions (such as the exemption of the National Service Projects Organization from income tax, exemptions of state-owned non-civilian facilities from real estate tax, and the exemption of railways and petroleum authorities from import duties on equipment and machinery). The latest proposed amendments to the Egypt Fund law—approved by the cabinet in December 2019—allow its subsidiary funds and companies with Fund ownership of more than 50 percent to claim a value-added tax refund proportionate to the Fund's investment share. The amendments also waive notarizing fees on assets transferred from the state to the Fund (or its fully owned subsidiaries).

161.   Having to compete against large and protected SOEs is likely one of the constraints preventing large firms from growing. Incorporated SOEs vary significantly in size and financial performance. Among SOEs on which financial information is publicly available, the total assets of the top 20 (mainly banks, electricity companies, oil and gas companies, Egypt Air, water and sanitation providers, insurance companies, and Telecom Egypt) were LE 170 billion (3.3 percent of GDP) in 2018; the total assets of the smallest 20 SOEs (mainly in the textile, logistics, automotive, and trading sectors) were less than LE 1 billion. Companies with large revenues operate in a few industries, including banking, oil and gas, utilities, food retail, transportation, telecommunications, and capital goods (construction). Investors are concerned about the unknown boundaries of these enterprises and likely hold back investments for fear of running afoul of them, because of protection from the state, lack of transparency on the budgetary support received, and lack of transparency in the deals they make (Sayigh 2019).

5.3   The Political Economy; the Most Binding Constraint to Reforms

162.   The state-led growth based on public sector–led capital accumulation and state-controlled enterprises is likely to increasingly encroach on and crowd out the private sector. Because many of these enterprises are likely to be inefficient, they cannot survive international competition. Firms and businesses benefiting from them are unlikely to welcome the opening of the large Egyptian market. This inward orientation exacerbates the lack of innovation and means that Egypt fails to upgrade its operations through access to foreign technologies, resulting in even less-efficient enterprises. It also gives these enterprises market power and the incentives to segment markets in order to avoid domestic competition. These

enterprises do not need to invest. Because they cast a large shadow over the private sector, private sector firms do not invest either.

163.   Throughout this SCD, the economic role of the state is mentioned, but the government plays a variety of roles in the economy. A useful starting point is Stiglitz's (1989) simple division of government economic activity into production, consumption, and stabilization. Here, the SCD is focused on different types of government intervention in production.

164.   Governments can intervene indirectly in private production through regulation and subsidy and directly by producing some goods themselves (Stiglitz 1989). The three broad government roles in the production side of the economy are: (a) the state as regulator of economic activity; (b) the state as market actor, through state-owned civilian and non-civilian enterprises; and (c) the emerging role of the state as investor, through financialization or direct investment and financial interest in private enterprises.[41]

5.3.1   The state as regulator of the market

165.   When designed correctly and implemented well, the state's regulatory role can benefit the economy by improving allocative efficiency, leveling the field of competition, incentivizing job creation, and improving wealth and income distribution—while at the same time protecting workers, consumers, and businesses. In theory, the major economic justifications for the state regulating the private sector include:

- Addressing market failures (situations in which market prices do not reflect the true costs and benefits of providing a good or service).

- Reducing entry barriers, leveling the playing field, encouraging greater competition and innovation, and combating short-sightedness in order to increase economic growth.

- Ensuring consumer, worker, and investor safety; transparency in information about products and services; and a fair distribution of net benefits in the economy counter.

- Preventing potential market power abuses in prices and quality.

166.   Regulations affect allocative efficiency across economic sectors by defining how resources (labor, capital, natural) are used to produce different goods and services and whether those inputs are distributed to their highest-value uses. They affect vibrancy and competitiveness within industries by determining how easy it is for new businesses to form and for the most successful businesses to grow and thrive; it also determines how easy it is for unsuccessful firms to close down. They affect the short-term, cyclical movements of the economy (such as employment during a recession) and the longer-term growth of the economy (such as via investment and innovation). And they affect the distribution of benefits by determining which businesses, workers, and consumers end up bearing the burden of the economic cost of regulations and whom it helps (through rents and privileges).

167.   But when regulations are complex and go beyond addressing market failures, they can become burdensome and costly and provide opportunities for corruption. The emergence of an invasive regulatory regime is often identified as a major cause of corruption (Tanzi 1998). Particular kinds of regulatory burdens are associated with corruption (Djankov and others 2002).

168.   Complex regulations make it more difficult for the government to control corruption and improve regulatory quality. Corruption and regulatory quality indicators generated by the World Bank's Worldwide Governance Indicators (WGI) indicate this phenomenon.[42] The control of corruption indicator reflects

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[41] At the time Stiglitz wrote, the emerging role of the state as investor—as has happened in China and is emerging in other economies, such as Malaysia and Turkey—was not yet apparent.

[42] For more information on the WGI data, see Figure 5.6.

perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption and "capture" of the state by elites and private interests. The regulatory quality indicator reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The WGI project reports governance indicators for more than 200 countries and territories over the period 1996–2019 for six dimensions of governance, including control of corruption and regulatory quality. For this SCD, data from 2004–19 were used. In these worldwide rankings, Egypt is in the 20th–25th percentile in controlling corruption and below the 20th percentile in regulatory quality (Figure 5.5).

169.   Restrictive government regulation and the widespread presence of SOEs across the economy reduce competition and distort market outcomes. Newly available Product Market Regulation (PMR) data on a range of OECD and emerging non–OECD countries reveals that Egypt scores worse than comparator countries with similar income levels (Figure 5.6). [43] Egypt is above the average in terms of restrictiveness (2.84 on a scale of 0–6, where higher scores are associated with regulations that are more restrictive).

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[43] The product market regulation methodology explores three aspects that affect competition in markets: the extent of State control, the presence of barriers to market entry and rivalry, and the presence of barriers to trade and investment. The combination of these aspects shapes the competitive environment that enables firms to enter new markets, invest, and expand.

Figure 5.5 Egypt's Worldwide Governance Indicators rankings for controlling corruption and regulating the economy, 2004-2019

Egypt, Arab Rep.: Control of Corruption

Egypt, Arab Rep.: Regulatory Quality
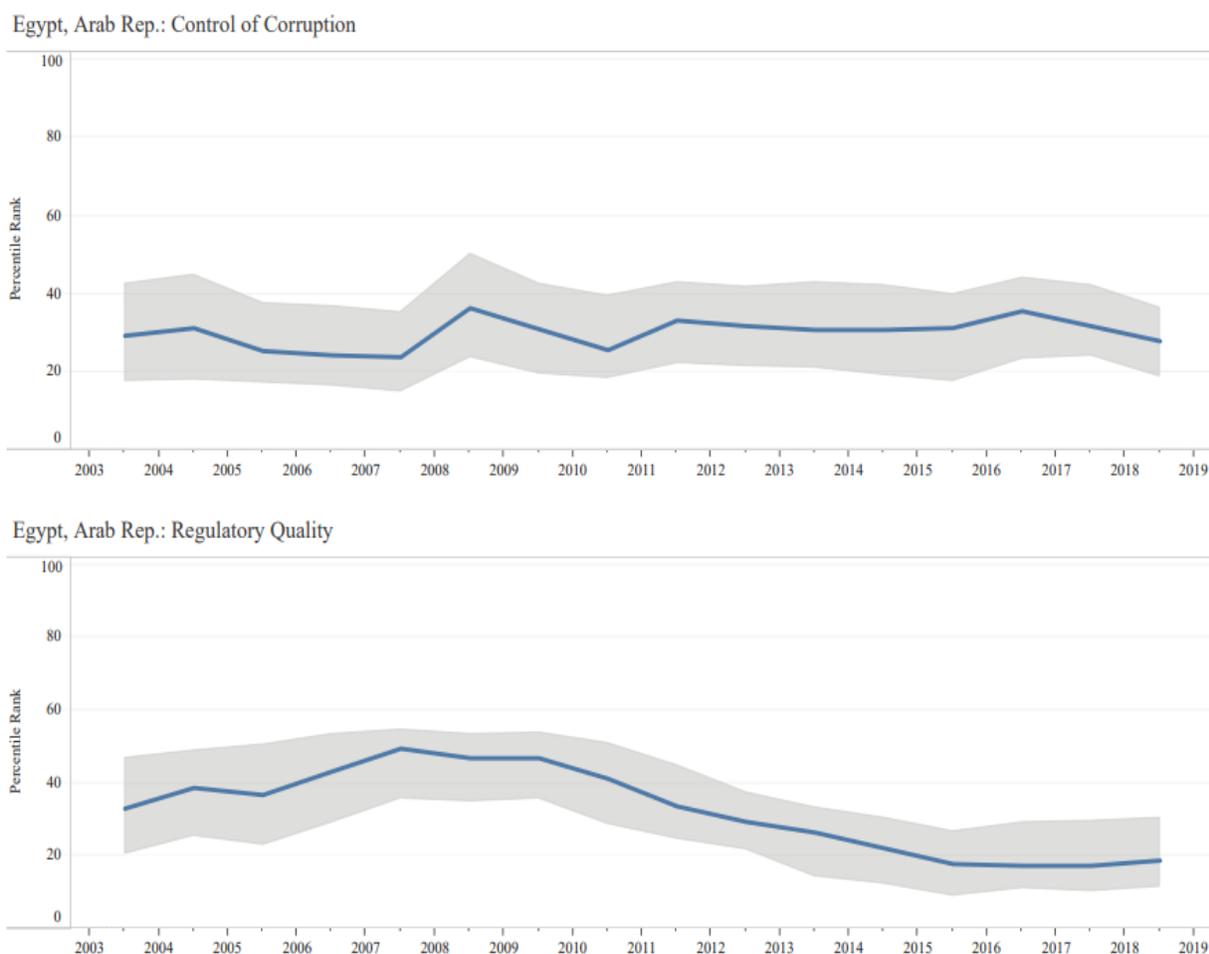
The solid blue line shows the selected country's percentile rank on each of the six aggregate indicators. The grey-shaded region indicates the margin of error.

Source: Kaufmann D., A. Kraay, and M. Mastruzzi (2010), The Worldwide Governance Indicators: Methodology and Analytical Issues - https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130

The Worldwide Governance Indicators are available at: http://info.worldbank.org/governance/wgi/index.aspx#home

Note: The Worldwide Governance Indicators (WGI) are a research dataset summarizing the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector..

170.   In its role as regulator, the government uses price controls in telecommunications, electricity, and air transport, which may distort incentives for private sector companies to enter some market segments. The PMR data indicate that the prices of certain goods may impose unnecessary restrictions on competitive conditions, and widespread price controls may contribute to distorted market outcomes. Although Egypt has embarked on efforts to liberalize prices since the 1970s, both general and sectoral provisions still allow the government to set prices. Price-fixing mechanisms and subsidies are often implemented simultaneously, as was the case for bread and gasoline. This approach not only suppresses market signals and introduces distortions to competition (limiting business strategies) but also places strains on public finances.

Figure 5.6 Economywide product market regulation score for Egypt and other economies
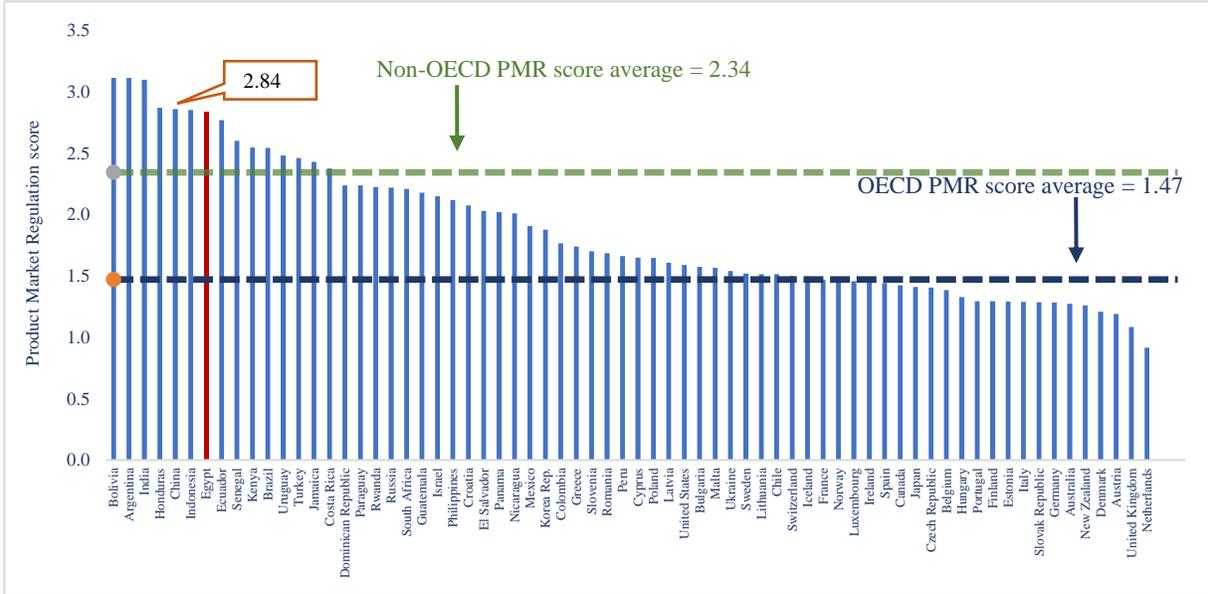
Source: OECD–World Bank Group Product Market Regulation (PMR) indicators for Egypt; OECD PMR database for OECD countries; OECD–World Bank Group PMR database for non-OECD countries.

Note: Scores range from 0 to 6. Higher values are associated with regulations that are more restrictive to competition.

5.3.2   *The state as a participant in the market*

171.   Egypt is the only country surveyed for the PMR in which the government controls at least one firm in 26 of the 27 screened sectors (the average of the other countries is 14 sectors). Governments sometimes own and operate companies when they may want to correct the market failure of natural monopoly (sectors with increasing economies of scale). But rather than do so, they can instead simply regulate the market, so that the price is kept at the welfare-maximizing level by providing the producer with a subsidy to compensate the losses it would otherwise make (if economies of scale are large).

172.   Governments can also increase social welfare by intervening in markets for goods with large externalities. Government ownership and operation of sectors with large externalities (education, health, mail delivery) is one way to address the problem. Many other options are less intrusive. Government intervention is also justified in the case of public goods, such as defense. In this case, the arguments in favor of a light government approach are less clear, and direct government intervention is more justified.

173.   State ownership should be limited for a variety of reasons. Across the world, it is highly correlated with lower firm financial performance (Aharoni 2018; Ramamurti 1986; Stan, Peng, and Bruton 2014; Estrin and others 2016; Lazzarini and Musacchio 2018). It reduces firm performance because state owners pursue a multitude of objectives, some of which conflict with those of other stakeholders in the firm (Lazzarini and Musacchio 2018). Alongside business objectives, state owners also pursue social objectives (those directed at improving societal welfare) and political objectives (those intended to enhance the interests of politicians, bureaucrats, and special interest groups). State owners are also known for

monitoring companies ineffectively (Dharwadkar, George, and Brandes 2000) and implementing risk-averse strategies that ultimately reduce firm performance (Tihanyi and others 2019).[44]

174.   Corruption can affect SOE performance and the productivity of firms overall. It is more likely for corruption to be more prevalent in SOEs than in private firms, for several reasons. First, it is easier for politics to impinge on the operations of publicly owned firms, especially when transparency and accountability are weak (Baum and others 2019). Second, the level of productivity of firms is positively correlated with the degree of control over corruption. Although private firms tend to be more productive than SOEs, it is not the case when control of corruption is low. Corruption may also explain differences in productivity, given that labor costs are usually higher for SOEs, except when corruption is low (Baum and others 2019). In the case of SOEs, key weaknesses include lack of independent and professional boards and management, weak procurement processes, and lack of transparency.

5.3.3   The state as an emerging investor in the market

175.   The Egyptian State formally commenced its role as an investor in 2018 with the establishment of the Sovereign Fund of Egypt (Tharaa) (hereafter called the Egypt Fund). This fund has been designed as a vehicle to attract private investment into public entities and projects, while leaving the state in control. While the government acts as a holding company of the fund, it is supposed to place selected state assets under partial private control. The inauguration of the sovereign wealth fund signals Egypt's intention to begin privatizing state-owned civilian and non-civilian enterprises and, if successful, will initiate a long process of creating a more active and vibrant private sector while withdrawing government control over large parts of the economy.

176.   In effect, the government is now becoming an investor of capital and equity in firms of all kinds, including as a minority investor in nominally privately owned firms. The extension of capital in this form establishes a new role for the state in corporate governance, generates novel principal–agent problems between the owners and managers of capital, and provides an alternative means for the government to push its political agenda through its stakes in firms. Having the state act as an investor could further hinder the growth of a decentralized, innovative, modern economy.

177.   The role of the state as investor is different from the financialization of the state's role in managing SOEs, state assets, and private firms in which the state has interests. Financialization is a process in which the state increasingly relies on a set of financial means (financial markets, financial indicators, and financial instruments). However, when the state is an investor, its goals extend beyond maximizing shareholder returns and relationships that expand outside the realm of traditional SOEs.

178.   The government has managed to address concerns about transparency and management of the Egypt Fund by becoming a signatory of an Associate member of the International Forum of Sovereign Wealth Funds and signing on to the Santiago Principles. As an associate member, the Egypt Fund agrees to work to apply the Generally Accepted Principles and Practices for governance, investment, and risk management of sovereign wealth funds (known as the Santiago Principles) as it puts its investment and risk management processes in place.

179.   The Egypt Fund may generate uncertainty to the investment climate. For example, the fund will pursue both financial and development objectives, but the exact scope of its "sustainable economic development" objective remains unclear. Defining boundaries for the scope would ease concerns from private investors in sectors where existing or potential competitors could receive investments from the fund. The worry is that such uncertainty will likely freeze investments.

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[44] None of the cross-country studies cited above included Egypt, probably because financial data on its SOEs are hard to come by.

180.   Most importantly, issues may arise from conflicts of interest between the state's role as investor and its role as market participant. The extent and scope of the assets owned by the state are complicated and will make it difficult if the state, as investor, decides to fund projects in which the state, as market participant, is involved. It would then become unclear whether the regulator would be acting to enhance the fund's return on investment or influence the regulator to look favorably upon the fund's investments. Here, too, the uncertainty might be enough to freeze investments from other parties.

181.   The private sector's concerns about competing against firms that receive relatively high levels of government investment are not unwarranted. Some state-owned enterprises are known to suffer from excess capacity that has led to revenue shortfalls—that are then covered by public banks that provide financing or oblige domestic and foreign business partners to accept unattractive terms. Wealth fund investments in select SOEs would be difficult to monitor because these enterprises are generally not subject to independent auditing or public accountability. This is still the case in spite of the recent changes to the SOE law which improves public disclosure. Some state-owned civilian and non-civilian enterprises, however, remain outside this regime, making it difficult for investors to monitor them and hold them accountable.

6 Resilience, Efficiency, and Sustainability

Key findings on constraints to resilient, efficient, and sustainable natural resource use (Pathway 4):

- Egypt appears to be food secure and resilient to natural hazards relative to its peers, but in a water scarce country, this resilience could be weakened without a more efficient and sustainable use of natural resources such as water.

- A growing population and rapid spatial expansion further strain sustainability and inclusion, as demands for meeting housing needs and delivering basic infrastructure services go unmet.

- Ambient air pollution is one of the most significant environmental health issues in the Greater Cairo area.

- Households' resilience to shocks may have been eroded by periods of high inflation, and the COVID-19 crisis has created additional challenges such as loss of incomes. Social protection and expanding digital technologies are important policies to support households' resilience.

- Egypt faces challenges on data transparency as well as on key indicators of social sustainability, including on voice and accountability, and citizens' engagement.

6.1 Resilience, Efficiency, and Sustainability of the Growth Model

182.   Resilience refers to the ability of an economy or household to withstand shocks. Ensuring resilience to multiple shocks can minimize the adverse effects of what cannot be avoided. Sustainability refers to a growth model that brings economic progress and job creation while preserving natural assets. Water scarcity can affect livelihoods and productivity. Climate change is deepening existing challenges of water scarcity, coastal resources and populations will be affected by sea level rise. These are only a few of the challenges to come and thinking ahead about how to prepare for the future through a focus on sustainability is essential today for a better tomorrow. Better management of natural and financial resources is also needed, and hence improving efficiency in the use of resources is critical.

6.2 Resilience and Efficiency

6.2.1 Use of natural resources

183.   Resilience is assessed through six key indicators that provide a broad characterization of the many risks to which countries are exposed: the size of the population affected by disasters, exposure to rainfall shocks, risk to assets, risk to well-being, the urban slum population, and the food security index. How does Egypt score on these indicators? It is at the top among its lower-middle-income peers because it has the lowest share of population and assets exposed to natural hazards (Figure 6.1). Its exposure to rainfall shocks is average, although most of the country's water supply is from the Nile. And overall food security is above average for its income group and almost the median for upper-middle-income countries.

Figure 6.1 Performance on resilience indicators relative to lower-middle-income countries

Indicator Name	Egypt	Low Middle Income countries LMIC (median)		Upper Middle Income countries UMIC (Median)	
Population affected by disasters %	0	▬	1.9	▬	1.1
Rainfall shock exposure %	21.5	▬	11.9	▬	16.3
Risk to asset %	0.1	▬	0.5	▬	0.3
Risk to wellbeing %	0.1	▬	0.8	▬	0.5
Urban slum population %	10.6	▲	43.5	▬	24
Food Security Index	64.5	▲	56.9	▬	66.8

■ Indicates the country is within 1 standard deviation of the LMI median /UMI media

▲ Indicates country performs 1+ standard deviations better than LMI median /UMI median

▼ Indicates country performs 1+ standard deviations worse than LMI median /UMI median

*Prior to the indicator names indicates that higher value represents worse performance

Source: Food Security Index (2019) from the Economist Intelligence Unit; Risk to asset (% of GDP- 2017) and Risk to wellbeing (% of GDP- 2017) from Hallegatte 2017; Population affected by disasters from EM-DAT database (2000-2019), Rainfall shock exposure % Average (2009-2013) from Damania et al. (2017); Urban slum population % from World Development Indicators.

184.   However, food affordability remains a major concern, and sustainability challenges may jeopardize Egypt's strong performance on building resilience. About 12–15 percent of the most fertile arable land in the Nile delta is expected to be negatively affected by sea-level rise and saltwater intrusion, potentially affecting food security in the long term. Given that Egypt imports more than half of its food, a decline in agricultural production is likely to exacerbate the impact of fluctuations in international food prices (World Bank Group 2020).

185.   Moreover, climate change could also affect resilience on food security, underscoring the need for investments in adaptation measures. For example, climate models predict lower rainfall and higher temperatures in agricultural areas, both of which could lower food production. According to Perez, Kassim, Ringler, Thomas and Eldidi (2021), "Compared to a no-climate change scenario, on average, yields for food crops are projected to decline by 10 percent by 2050 as a result of heat stress (4.9 percent), water stress (4.1 percent), and salinity (1.6 percent)." Such an impact, along with others that result from climate change in countries that Egypt imports food from, could weaken domestic food security.

186.   Within areas officially designated as urban, population growth has led to an expansion of informal settlements. Egypt's share of the population living in slums is the lowest among its peer countries; Egypt outperforms countries with comparable income levels on this Sustainable Development Goal (SDG11) indicator on sustainable cities and communities (Amin-Salem and others 2018). However, informal settlements have been growing. They are particularly prevalent in the Greater Cairo region (the Cairo governorate and the urban areas of the Giza and Qalyubia governorates), which is home to almost 20 percent of the population, and 60 percent of the population live in informal settlements, according to one estimate (Khalifa 2015). The Informal Settlements Development Fund (ISDF)—the government authority responsible for identifying and promoting the development of slums—distinguishes between unplanned informal settlements (generally with good-quality housing that do not meet requirements of the building law) and unsafe informal settlements.

187.   Egypt's greenhouse emissions are relatively low, but its output per greenhouse emission is also very low. Therefore, room exists for the country to improve its use of natural resources (Figure 6.2). According to the Natural Capital Index (NCI), the efficiency of the economic resources allocated to control air pollution is still low and only just above that of other countries in North Africa. Water efficiency in Egypt is lower than most of its income peers, almost the bottom 10 percent of the distribution.

188.   Land property rights are stronger than in other lower-middle-income countries, but land management systems are outdated, leading to inefficiencies in the way land is used for urban growth, industrial development, and agriculture.

Figure 6.2 Performance on efficiency indicators relative to lower-middle-income countries

Indicator Name	Egypt	Low Middle Income countries LMIC (median)		Upper Middle Income countries UMIC (Median)	
Tenure insecurity %	19	▬	22.5	▬	18
Agricultural land productivity $/ha	6,738	▲	522	▲	545
Agricultural value added per worker $	5,412	▬	2,944	▬	6,929
Control of corruption	-0.6	▬	-0.6	▬	-0.4
Governance effectiveness	-0.6	▬	-0.6	▬	0
Logistic performance index	3	▲	2.6	▬	2.7
Population using internet %	45	▬	34.1	▼	64.4
Regulatory quality	-0.9	▬	-0.5	▬	-0.1
Total Gross National Income(GNI)/Greenhouse gas (GHG) emission	922,631	▬	499,318	▬	1,085,063
Water use efficiency (USD/m3)	4.4	▬	6.5	▬	11.1

> ▬ Indicates the country is within 1 standard deviation of the LMI median /UMI media
> ▲ Indicates country performs 1+ standard deviations better than LMI median /UMI median
> ▼ Indicates country performs 1+ standard deviations worse than LMI median /UMI median
> *Prior to the indicator names indicates that higher value represents worse performance

Source: Governance effectiveness, Control of corruption, and Regulatory Quality from WB Worldwide Governance Indicators (2018): Population using internet (2017), and Total GNI/GHG (2012) from World Development Indicators; Logistics performance index (Aggregate 2012-2018) from WB Logistic Performance Index; Tenure Insecurity (2018-2019) from Global Property Index; Agriculture value added per worker $ (2019), Agricultural land productivity $/ha (2016), and Water efficiency (USD/m3) (2017), from the Food and Agriculture Organization.

6.2.2   *Household resilience to shocks, social protection, and financial services*

189.   Households' well-being is affected by individual-level shocks such as job loss or illness as well as by economy-wide shocks such as inflation spikes or disruptions due to the COVID-19 crisis. Using data from the 2018 Egypt Labor Market Panel Survey (ELMPS), Helmy and Roushdy (2019) find that about 25 percent of Egyptian households had experienced food insecurity during the month preceding the survey and 16 percent of households had been exposed to at least one type of shock in the year preceding it. Economic shocks, defined as reduced income or loss of employment, were the most frequently reported type of shock, followed by health shocks. Households in the poorest wealth quintile were much more likely to experience shocks (23 percent) than households in the fourth (12 percent) and fifth (9 percent) wealth quintiles.

Households' exposure to shocks was also higher in rural areas than in urban areas. Consumption rationing, defined as reducing expenditures on food, health, and education (55 percent), as well as borrowing (43 percent), mostly informally, were the most commonly used coping mechanisms in response to shocks (Figure 6.3). Social capital played a significant role as an informal safety net for Egyptian households, given that almost a third of households reported seeking assistance from relatives and friends to cope with a shock.

Figure 6.3 Coping mechanisms used by households experiencing shocks during previous year
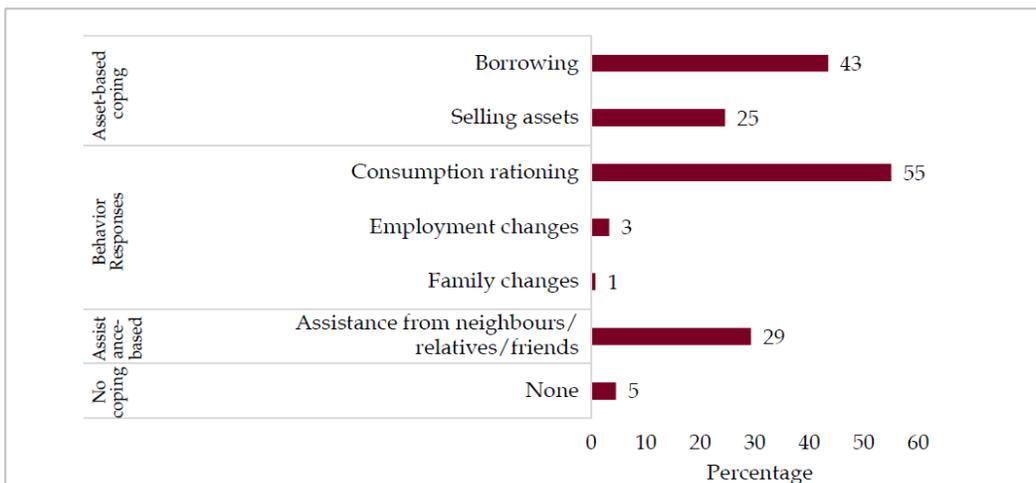
Source: Helmy and Roushdy 2019.

Note: Multiple strategies are possible.

190.   Households rely on informal coping mechanisms when faced with shocks, even though a large share of them receive some formal social protection programs introduced by the government (contributory pension, non-contributory social assistance, Takaful and Karama, food smart cards, social insurance and health insurance), suggesting the need to improve adequacy of these programs. Households in the bottom two wealth quintiles were more likely to benefit from one or two programs than were households in the top two quintiles (Figure 6.4, panel a). The share of households receiving benefits from two programs was 44 percent among households in the poorest quintile and 28 percent among households in the highest quintile. However, the share of households receiving benefits from three programs was larger among households in the top quintile (38 percent) than the bottom one (26 percent). This finding may reflect that fact that a larger share of households in the top quintile receive contributory pensions and are enrolled in health insurance and social insurance because they are far more likely to work in the formal sector. Rural households are more likely to be covered by one or two social protection programs than urban households (59 percent versus 52 percent), but slightly less likely to be enrolled in three programs (30 percent versus 35 percent) (Figure 6.4, panel b).

191.   Egypt still lacks a comprehensive and adaptive social protection strategy aiming at integrating social protection programs and policies under one framework along with its corresponding monitoring framework, coordination mechanisms and institutional arrangements. The strategy should be evidence-based relying on a rigorous analysis of the efficiency and effectiveness of the existing programs i.e. cash assistance (TKP, old social pension, social housing), in-kind (food subsidies, school meals, etc..), economic inclusion interventions (i.e. FORSA which promotes graduation out of cash transfers), pensions systems and protection of the informal workers; and leveraging technology for an efficient and effective delivery chain, promoting financial inclusion and strengthening social registry. The strategy would also look at how social spending is allocated across the following three pillars: provision, prevention, and promotion.

192. Despite the positive expansion of TKP which has reached up to date 3.4m households (approximately 12 million individuals) and another 400,000 households getting cash assistance under the old social pension (Daman), there are around 4 million poor households not covered. As such, making the fiscal space through increasing the tax base and reallocating expenditures within the social protection portfolio to increase the efficiency and effectiveness of spending is necessary to be able to cover additional poor households. Egypt is also moving towards consolidating all its cash assistance under one umbrella program, that of TKP, pending the issuance of a Unified Cash Transfer Law. There is an ongoing debate of moving from in-kind to cash and perhaps capitalizing on the Unified National Registry, led by the Administrative Control Authority, can offer a good step towards better integration and targeting.

Figure 6.4 Percentage of households covered by social protection programs, by wealth quintile and location

a. By wealth quintile

b. By location
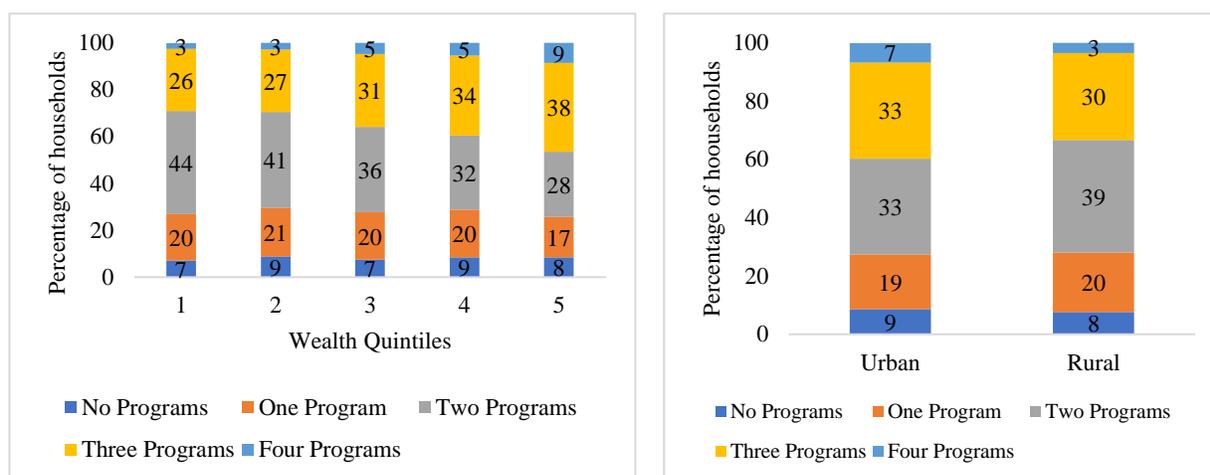
Source: World Bank calculations, based on data from the 2018 Egypt Labor Market Panel Survey.

193.   In 2018, around 57 percent of Egyptian households had a least one member receiving either non-contributory (such as Sadat/Mubarak pensions, Takaful and/or Karama, and other types of social assistance) or contributory (such as retirement pensions) benefits as opposed to 62 percent in 2012 and 68 percent in 2006. This reduction is potentially due a decline in the percentage of households with at least one actively contributing member as well as the drop in social insurance coverage that decreased by around 10 percentage points, from 42 percent in 2012 to only 32 percent in 2018 (see Selwaness and Ehab 2019).

194.   As for finances, only 33 percent of Egyptians over 15 had an account at a regulated financial institution in 2017 (27 percent of women and 39 percent of men), according to the World Bank's Global Findex database.[45] Among unbanked Egyptians, 83 percent cited insufficient funds as the reason for not having an account. Other barriers included the cost of opening and maintaining an account (19 percent), lack of documentation (13 percent), distance to the nearest access point (7 percent), lack of trust in the financial sector (5 percent), and religion (5 percent). These findings suggest that a wider range of financial products could help meet Egyptians needs.

195.   Egypt has very few financial sector access points (World Bank 2020b). In 2018, it had just five commercial bank branches per 100,000 adults. The number of automatic teller machines (ATMs) per 100,000 adults (18.7) was far fewer than in Lebanon (39.5), the West Bank and Gaza (34.6), Tunisia (30.7),

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[45] See https://globalfindex.worldbank.org/.

or Jordan (29.4). The number of point of service (POS) terminals (97 per 100,000 adults) in 2015 compared poorly with other countries in MENA, including the United Arab Emirates (1,796), Saudi Arabia (1,000), Lebanon (610), Jordan (465), and Tunisia (152). There were 20,600 banking agents in Egypt and 22,247 mobile money agent outlets in 2018.[46] There were also more than 140,000 locations of digital payments companies. Egypt Post has an extensive branch network that makes it particularly suitable for reaching low-income and remote populations.

196. With regards to digital finance, online payments are regulated by the Central Bank and Banking System Law (World Bank 2020b). According to this law the CBE can regulate and supervise banks and regulate and oversee payment service providers and payment service operators. CBE has adopted a bank-led model for mobile money and introduced regulations in 2012 and 2016 to enable the development of mobile wallets and mobile payment services in Egypt.

6.2.3 The COVID-19 shock

197. Egypt registered its first case of COVID-19 on February 14, 2020 (the first case detected in Africa). On March 17, following the country's first recorded COVID-19 death, the government declared a national public health emergency and launched a strong response, including travel restrictions, social distancing, and lockdown measures. The strict public health measures put in place at the beginning of the pandemic were later relaxed to balance the need for public health, economic activities, and overall well-being.

198. The pandemic put a significant strain on the health system and exacerbated challenges related to quality of care and efficiency of service delivery. The daily number of new cases declined considerably after peaking at 1,774 cases on June 20, 2020. As of February 15, 2021, the total number of confirmed cases in Egypt was 174,426, with 10,050 deaths.

199. During the initial days of the pandemic, most households reported that they suffered income shocks, according to a survey in April-May 2020 by the Central Agency for Public Mobilization and Statistics (CAPMAS) as part of the Household Expenditure Income and Consumption Survey (HIECS). The vast majority of surveyed respondents said incomes fell because of job loss or reduction in hours or days worked. Households coped by adjusting food consumption and shifting to cheaper foods; reducing weekly consumption of meat, poultry, and fish; relying on friends and relatives; reducing the quantity of food in each meal; and reducing the frequency of meals in a day. A larger share of rural than urban households reported using these coping strategies. About half of the interviewed households reported borrowing money to smooth the income shock.

200. The COVID-19 crisis and its future waves are expected to disproportionately affect informal workers, particularly urban workers. The share of households in which all workers are informal wage workers is large, especially among the urban poor. In 42 percent of urban households in the poorest consumption quintile, all members who work are informal wage workers. Among half of all poor households, an informal wage worker is the only working member of the household.

201. The average monthly income of an informal wage worker living in a poor household and employed in the nonagricultural sector was LE 1,433 (in 2020 prices), according to the HIECS 2017–18. Informal workers in sectors affected by the pandemic could lose all or part of this monthly income because of disruptions in economic activity. The vast majority of these workers are enrolled in the food subsidy (Tamween) program. The challenge is reaching them with cash compensation. In March 2020, the government opened registration for Seasonal Workers Assistance program for informal workers. Eligible workers received LE 500 a month.

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[46] See International Monetary Fund, Financial Access Survey (FAS) and World Bank Global Payment Systems Survey (GPSS).

202.   The pandemic has not only intensified many pre-existing economic challenges but also highlighted the key role digital technologies can play in helping people and firms cope better in the face of shocks. As recent experience with COVID-19 lockdowns has shown, digital payments are crucial in facilitating minimum essential economic activity during such periods of stress and crisis (World Bank 2020b). Most payments in Egypt are made in cash. The use of digital payments by Egyptian adults is low. Overall, only six percent of Egyptian adults reported making a digital payment in the past year. This includes using a debit or credit card, a mobile phone to make a payment from an account, using the internet to pay bills or to buy something online, paying bills or sending domestic remittances directly from a financial institution account or through a mobile money account. [47] The percentage is much lower than most economies, with the MENA average at 28 percent and the world average at 45 percent. Among those who report paying utility bills in the past year (69 percent of adults), 98 percent report using cash. Only two percent of Egyptian adults reported using the internet to pay bills online. Around 66 percent of wage earners report receiving salaries in cash. Twenty-two percent of account holders report having made neither a deposit nor a withdrawal in the previous year. Similarly, the use of mobile money services in Egypt is low at only two percent of Egyptian adults.

6.3   Sustainability

203.   Egypt lags peer countries on most sustainability indicators (Figure 6.5). Freshwater availability is very low, and pollution, especially from agricultural waste and poor rural sanitation, affects the quality of water. The level of wastewater utilization is much higher than in the average lower-middle or upper-middle-income countries, a strength that should be maintained. However, only a third of waste is properly managed. Although this proportion is higher than in Egypt's income peers, it is only half of the median for upper-middle-income countries, suggesting an area that must be improved as Egypt pushes toward higher income levels.

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[47] Global Findex (2017)

Figure 6.5 Performance on sustainability indicators relative to lower-middle-income countries

Indicator Name	Egypt	Low Middle Income countries LMIC (median)		Upper Middle Income countries UMIC (Median)	
CO2 emissions (MT pc)	2.5	▬	1	▬	4
PM2.5 mean annual exposure (µg/m3)	87	▼	32.4	▼	22.6
Waste generation rate (kg/pc/day)	0.7	▬	0.5	▬	0.9
Biodiversity Habitat index	77.1	▲	52.7	▲	57.1
Fisheries index	12.1	▬	11.9	▬	11.1
Greenhouse gas (GHG) intensity growth rate	53.4	▬	50.8	▬	46.8
Renewal energy consumption %	5.7	▼	42.1	▬	16.5
Renewal internal freshwater (m3 pc)	10.4	▬	2397.0	▬	3567.5
Waste properly managed %	33.4	▬	19	▼	66.1
Wastewater treated %	42	▲	1.8	▲	8.8
Water Quality SDG 6.3	-8.4	▼	-0.4	▼	-2.9

■ Indicates the country is within 1 standard deviation of the LMI median /UMI media

▲ Indicates country performs 1+ standard deviations better than LMI median /UMI median

▼ Indicates country performs 1+ standard deviations worse than LMI median /UMI median

*Prior to the indicator names indicates that higher value represents worse performance

Source: PM2.5 mean annual exposure (2016), Renewable energy consumption (2015), Renewable Internal Freshwater Resources per capita (2017), and CO2 emissions (2016) from World Development Indicators; Waste water treatment, Biodiversity and Habitat, Fisheries Index, and Green house growth rate from Yale Environmental Performance Index (2020); Municipal solid waste from Kaza et al (2018); Share of waste properly managed from Jambeck et al data, 2015; Water quality SDG 6.3 from Damania et al data, 2016.

204.   Egypt's renewable energy generation is the lowest among lower-middle-income countries, highlighting the need to exploit the country's impressive endowments of wind and solar energy to reduce dependency on fossil fuels, which currently meet 95 percent of energy needs. The Benban Solar Park project, the world's fourth-largest solar power plant, promises to add significant capacity from solar energy starting in 2019–20.

205.   Environmental challenges are putting additional pressures on sustainability, with air pollution at extremely high levels. Average PM2.5 levels are almost nine times higher than World Health Organization (WHO) guidelines, with open burning of agricultural waste and motor vehicles the primary sources of air pollution.

6.3.1   Environment and natural resources use

206.   Air quality is poor in some urban and industrial centers of Egypt, as well as in some rural areas (World Bank 2020a). At many industrial and traffic sites, emissions of nitrogen oxides, sulfur dioxide, and particulate matter regularly exceed WHO limits. Air pollution in Greater Cairo severely affects areas adjacent to industrial activities, as well as areas around heavy traffic highways, such as the Cairo–

Alexandria Agricultural Road. Small and medium-size industrial activities—such as foundries, secondary smelters, pottery workshops, brick industry, mechanical workshops, lime crushers, and charcoal producers—are scattered within most urban areas, especially Greater Cairo, Alexandria, Tanta, and several other cities. These activities are often located in informal settlements and use old technologies, with few precautions for air pollution control.

207.   The primary contributors to air pollution in Greater Cairo are public and private transport, the burning of agricultural residues, industrial emissions, and the burning of municipal waste. Fuel combustion is the greatest source of greenhouse gas emissions. Air pollution source attribution studies from the early 2000s show that motor vehicle emissions, as well as the open burning of waste, were the largest contributors to PM10 concentrations. Together, these two sources account for about two-thirds of ambient fine particle air pollution concentrations in Egypt. Their combined contribution to air pollution may be lower in the autumn when agricultural burning is more prevalent.

208.   Pollution management is key to ensuring safe living conditions for communities. Solid waste management is a critical part of pollution management in the Greater Cairo area, which generates about 0.8 kilograms per capita per day (about 5,256 tons a year), only about 70 percent of which is collected. Increasing levels of waste generation, the lack of sufficient infrastructure, the uncontrolled spread of urban development, and inappropriate disposal practices by communities and individuals are increasing the challenges of collecting, transferring, and disposing of solid waste. As a result, uncollected and poorly treated waste, such as unrecycled plastic, is dumped at open sites and subject to open burning or ends up contaminating water bodies. Several laws have been endorsed over the last few years covering tenure security and building regulations.

209.   Coastal zones in Egypt are expected to suffer from direct climate change impacts (UNFCCC 2014). For example, sea-level rise and the overflow of low-level land poses a risk in particular to Alexandria and Port Said. In fact, Alexandria is among the top 20 cities with the highest exposed assets by 2070 under business as usual (BAU) sea-level rise scenarios (Nicholls and Cazenave 2010). Unmitigated sea-level rise and coastal erosion bring a substantial risk of mass displacement and mass migration. Almost half of Egypt's population may be negatively affected or forced to relocate because of sea-level rise by the end of this century. Proposed solutions include Integrated Coastal Zone Management, sea-level rise adaptation, and urban flood prevention measures. But constraints to managing coastal areas include lack of an integrated, multisectoral approach to reduce the vulnerability of coastal areas and institutional fragmentation in regulation and enforcement.

210.   Overfishing and unregulated fishing threaten the sustainability of the marine and coastal economy (the "blue economy"). This sector contributes significantly to food security and the livelihoods of many Egyptians. Coastal ecosystems (including mangroves and reefs) provide marine habitats for fish and green infrastructure/protection against storm surges. But they are being destroyed and degraded by coastal development, habitat destruction, pollution (including marine debris), ocean warming, and acidification.

6.3.2   Water supply

211.   Egypt is a water-scarce country. The United Nations predicts that by 2025, Egypt may reach the level of absolute scarcity of less than 500 cubic meters per capita. The Nile River is the main source of water (providing 55.5 billion cubic meters a year), followed by groundwater, rainfall, and flash floods. Recycling of wastewater (estimated at 20 billion cubic meters a year) and desalination are the two nonconventional water resources.

212.   Agriculture accounts for more than 80 percent of water needs, followed by drinking water and industrial use (Figure 6.6). Demand for water is growing, and the supply of water may be becoming increasingly constrained. Using the Suez Canal zone for industrial development and the Western Desert for agriculture poses additional water challenges (World Bank 2018b), as it requires expensive long-distance conveyance infrastructure for Nile waters, the desalination of sea waters, or the exploitation of groundwater.

Limited recharge and depth to the water table are constraining the supply of groundwater. The gap between demand and supply is expected to exceed 20 billion cubic meters by 2037 (World Bank 2020d). Untreated sewage, industrial effluent emissions, and agricultural fertilizer runoff further contribute to the declining availability of clean water (Alternative Policy Solutions 2019).

Figure 6.6 Sources of demand for water
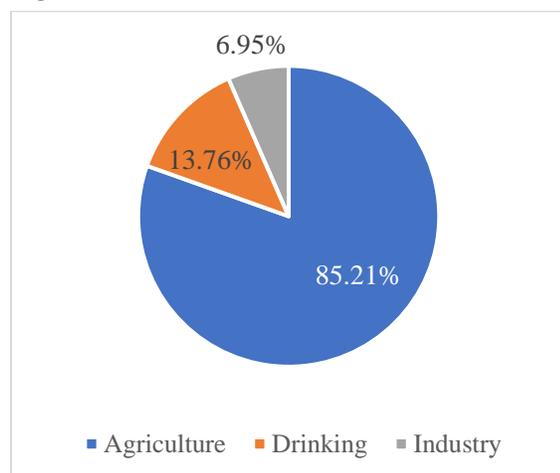
Source: World Bank 2020d.

213. Egyptian agriculture is dependent on the Nile for irrigation water. Factors such as population growth and possibly climate change affect the per capita availability of water from the Nile. Output per unit of water use is lower in agriculture than in industry; within agriculture, it is higher for some crops than for others. The efficiency of water use is as low as 50 percent, according to one estimate reported in Nin-Pratt and others (2018). Farmers in the Nile delta and valley pay only for the operations and maintenance costs of irrigation water, which does not account for environmental externalities, and they do not pay for the volume of water used (Saleh 2018). In addition, the government subsidizes a large part of the fixed cost of irrigation water delivery. Volumetric pricing would encourage farmers to conserve water use, but it is unclear how efficient such a solution would be given the high incidence of small plots. Reforms to the way Water Users Associations function could help price irrigation water more effectively.

214. The government's approach to addressing the demand–supply gap is based on tackling the supply side. Its efforts are constrained by the size of the investment needed to find alternative sources of water supply, including by expanding desalination, increasing groundwater usage, reusing treated water, and reducing water losses and nonrevenue water (estimated to account for more than 40 percent of the total). The volume of treated water used can be increased by expanding the construction of wastewater treatment plants, increasing their efficiency, and upgrading them to tertiary treatment for irrigation water use. The government is considering private sector participation in the sector, given the significant investment needs. Multiple water sector government agencies, low tariffs, the need for significant capital spending, and obstacles to public–private partnerships constrain investment, however.

215. There is also significant scope to address the demand side management of drinking water and irrigation water in the Government National Water Resources Plans (Alternative Policy Solutions 2019). More attention has to be paid to helping water users adapt to changing water supply scenarios. Residential water tariffs were increased significantly in 2017 and 2018, and an increasing block rate structure was adopted. There is also scope to address water scarcity via the agricultural sector, the largest source of demand for water. Constraints to the agricultural sector productivity (such as fragmented land holdings) are relevant in this regard (see Chapter 3). Also important are appropriate tariffs for irrigation water suitable for Egyptian agriculture.

6.3.3   Social sustainability

216.   Improved voice and accountability can help ensure the social sustainability of structural reforms. Two global measures of governance provide an assessment of Egypt's performance on voice and accountability. The 2019 Worldwide Governance Indicators document the decline in Egypt's performance on voice and accountability, which fell from the 14.2 percentile in 2009 to 8.4 percentile in 2019. The 2020 Bertelsmann Stiftung Transformation Index (BTI) shows that Egypt has an overall score of 4.20 (on a scale of 1-10) and ranks of 104 out of 137 countries.[48] The findings of the 2020 BTI indicate that there is scope for Egypt to improve performance on consensus building, rule of law, and political and social integration. The BTI analysis also notes the limited inputs by civil society in policy formulation.

217.   Transparency and regulatory governance are important for increasing trust by the public and investors in the government's economic program and reform efforts. Fiscal transparency and oversight and regulatory governance are key to bolstering the confidence of investors and enhancing possibilities for private sector investment. Egypt is gradually improving its budget process. According to Open Budget Survey[1], which covers the three areas of budget transparency, public participation and oversight, Egypt's score on transparency has improved cumulatively by 27 percentage points (pp) in the Open Budget Index in 2019 up from 16 pp in 2015. The score on this Index has increased to 43/100 in 2019 from 41/100 in 2017. This improvement is mainly due to publishing Mid-Year review and Year-End Report online in a timely manner. There is room for improving opportunities for public participation as well as oversight by the legislature and supreme audit institution during the budget process. The 2019 Worldwide Governance Indicators find a decline in indicators for regulatory quality, with Egypt's score falling from 46.9 out of 100 points in 2009 to 18.8 points in 2019. The Worldwide Governance Indicators also show Egypt's limited progress on controlling corruption. Government efforts are ongoing with ample room for improving indicators.

218.   In addition to transparency, citizen access to the government rule-making process would foster trust in the state and adherence to new regulations; it is a key part of business environments in which investors make long-range plans and investments. Egypt's regulatory governance score of 1.5 (on a scale of 0–5) reflects challenges, such as the fact that rule-making bodies are not required by law to solicit public comments on proposed regulations or report on the results of any consultations that are convened. On the 2019 Open Budget Survey, Egypt scored 50 out of 100 on oversight of its budget, 43 on the transparency of its annual budget preparation and implementation, and 15 on public participation at various stages of the budget process.

219.   Central to stronger citizen engagement is the transparent provision of accessible, reliable, and usable data that meets the demand for information. Egypt's statistical capacity to produce data is strong relative to other MENA countries (see Annex A). However, data transparency is limited, as it is in most countries in the region (Arezki and others 2020). Egypt's national statistical agency, CAPMAS, routinely announces data on key indicators such as the employment rate and quarterly unemployment rate, for example, but the data are published in formats that are not easily accessible or reusable by users. Egypt also provides limited access to raw microdata from surveys, which are needed for social and economic analysis. Egypt has "basic data registers" that cover diverse registries of vehicles, land, and businesses, many of which are not publicly known or accessible (World Bank 2020b). The most recent Open data Access Indicator (ODIN), for 2018–19, reveals the limited access. In 2018, Egypt ranked 64th out of 178 countries in terms of coverage of data available but 136th out of 178 countries in terms of openness.

220.   Managing public health crises at the scale of the COVID-19 pandemic requires effective communications with the public. Several lessons can be drawn from Egypt's efforts during the first

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[48] https://www.bti-project.org/content/en/downloads/reports/country_report_2020_EGY.pdf.
[1] https://www.internationalbudget.org/open-budget-survey/open-budget-survey-2019-0

lockdown. During this period, the government's communication reached a large share of the population. In a national phone survey conducted in May 2020, 74 percent of respondents reported being aware of the national curfew. But awareness about the use of masks and handwashing as a way to prevent the spread of COVID-19 was low at this early stage of the pandemic, and awareness of measures taken by the government was slightly lower among respondents from the bottom quintile than among other respondents. Television was by far the main source of information: 81 percent of respondents learned about measures taken against the spread of the virus through TV (Table 6.1). Social media was a major source of information but only among people in the top quintile. More recent data show that awareness has grown substantially thanks in large part to government efforts.

Table 6.1 Sources of awareness of measures taken by the government to slow the spread of COVID-19

Source	National	Wealth quintile				
		Bottom	Second	Third	Fourth	Top
Television	81	76	83	82	82	83
Family and neighbors	23	30	23	21	18	17
Social media	20	6	14	18	28	43
Local government	3	3	3	4	3	2
Radio	2	2	2	3	2	2
Number of respondents	2,034	409	415	447	372	391

Source: Phone survey on well-being conducted in April-May 2020.

221.   The rollout and expansion of the Takaful (Solidarity) and Karama (Dignity) (TKP) cash transfer programs illustrate the combination of citizens' engagement and evidence-based policy adjustments that can be replicated for other programs in Egypt. TKP, which was introduced in 2015, uses a combined targeting approach—drawing on geographical and proxy means testing, along with cross-validation against the Unified National Registry. An independent impact evaluation of the Takaful program in 2018 by the International Food Policy Research Institute (IFPRI) showed that it increased household consumption for beneficiary households by between 7.3 percent to 8.4 percent compared to non-beneficiary households. The TKP information system and database facilitated program adaptability during COVID-19. The proxy means testing threshold was revised to expand the program coverage to include more poor and vulnerable households from the database. Social accountability tools and mechanisms are used at the village level to provide citizens with the opportunity to voice their opinions and concerns about the program and to ensure regular feedback. A management information system (MIS) grievance redress mechanism captured a total of 660,184 complaints through November 30, 2020, 70 percent of which were closed.

6.3.4   Sustainability of cities and communities, agglomeration, and territorial development

222.   Control of designated public land is complex, with about 90–95 percent of Egyptian territory owned by the state. More than 40 laws and executive orders stipulate which government entities control what land, whether the land can be disposed of, and who has a say in determining land use (Sims 2015). A minority of public land is reserved for security or other state purposes. The remaining territory either has a governing authority, which in many cases can allocate land to investors, or does not yet have a designated use or specific controlling entity. As a result, the supply of land is detached from market demand, which impairs efficient and sustainable use.

223.   Egypt's urbanization rate is low, even though the country is highly agglomerated, because a relatively small share of the population lives in areas officially designated as urban. Census data reveal that since 1976, the share of the population living in urban areas has remained roughly constant, at about 40 percent. However, this apparent stagnation in the urbanization rate does not reflect actual urbanization trends—rather, it reflects the arbitrary administrative definition of which settlements are declared as cities. In the 2017 census, for instance, 275 settlements were administratively defined as villages, even though their populations exceeded 40,000 inhabitants. Considering the extent of agglomeration, almost 97 percent

of the population can be considered urbanized. It is, therefore, more accurate to refer to a "core–periphery continuum" in Egypt than to rural and urban spaces (World Bank 2014).

224.   The spatial pattern of development of Egypt's cities is characterized by informal expansion, low-density urban sprawl, and leapfrog development. According to some estimates, more than half of urban dwellers may be living in informal areas (see Khalifa 2015), and this percentage is likely to increase with population growth.

225.   Agglomeration has both positive and negative effects. A World Bank (2014) study finds that wages are higher in Egypt's core, which is highly agglomerated, than in the periphery. Firms are concentrated in the core—with Alexandria, Cairo, Giza, Sharkeya, Beheira, and Gharbeya accounting for 53 percent of all establishments, according to the 2017 Establishment Census. Such agglomeration can increase the productivity of firms if clustering reduces business costs (for example, by increasing the availability of skilled workers). But it can also raise business costs by increasing congestion. Using data from the 2013 Economic Census, Badr, Rizk, and Zaki (2019) find that firms' productivity is positively related to the number of firms in a governorate, the average productivity of those firms, and the number of high growth firms (sales in the 90th percentile) within a sector, suggesting the existence of agglomeration economies at the core (Cairo area). In contrast, the number of firms within a governorate and sector negatively affects the productivity of firms on the periphery (outside Cairo), suggesting the presence of congestion effects.

226.   Access to regular water supply and sanitation services is lower in rural areas than in urban areas, with most Egyptian households outside of metropolitan areas lacking regular access to water and modern sanitation (Figure 6.6). As the share of poverty in rural areas of Upper Egypt and Lower Egypt governorates is high, weak services connectivity translates into a larger share of the poor without access to basic services. The government recently launched the Decent Life (Hayah Karima) initiative for Sustainable Rural Communities and aimed at improving access to basic services and infrastructure in target villages. The impact of these investments can be assessed by future HIECS surveys.

Figure 6.6 Regular availability of water and modern sanitation services, by region, 2017
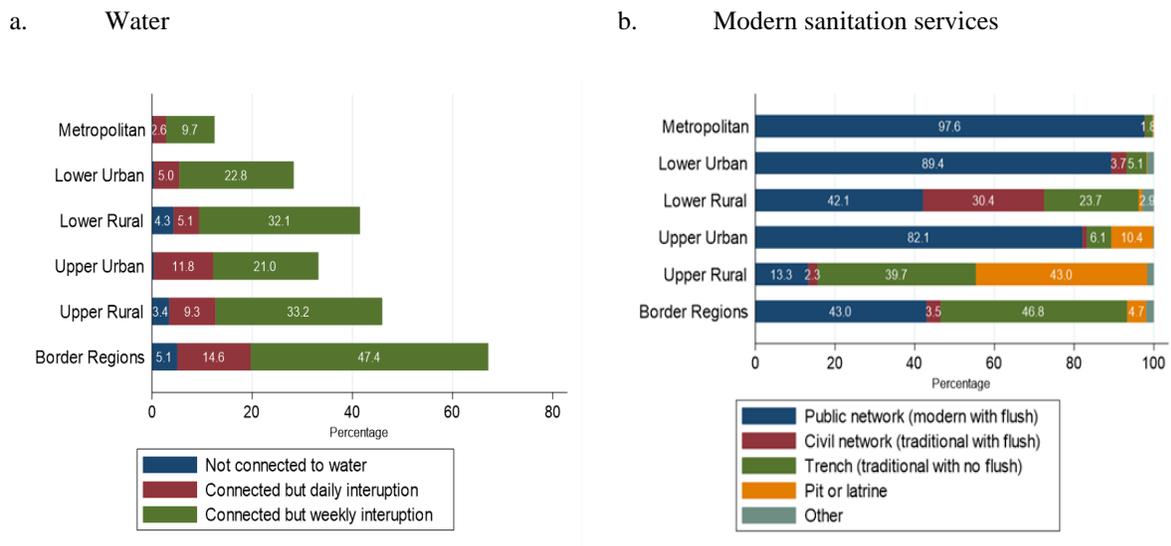
a.   Water   b.   Modern sanitation services

Source: World Bank, based on data from the 2017–18 Household Income, Expenditure, and Consumption Survey (HIECS).
Note: Irregular water supply includes households not connected to water and households that experience interruption in supply at least once a day or once a week.

7 Pathways to Tackling Poverty Reduction and Inclusive Growth: A New Growth Model

Key findings on the components of a new growth model:

- To safeguard the success of the first wave of economic reforms, and recover strongly from the health crisis, it is important to tackle the longstanding challenges that have kept per capita growth low and hamper success on poverty reduction, shared prosperity, and inclusive growth.

- A new growth model that expands opportunities for job creation and productivity is needed. The growth model may require stronger implementation of existing programs and policies, policy or institutional changes of existing programs, or the introduction of new programs or structures.

7.1 A New Growth Model

227. Egypt's flagship economic reforms in the last 15 years have been bold and successful in restoring macroeconomic stability while navigating political change. Although Egypt succeeded in achieving growth as a result of these reforms, progress on reducing poverty and boosting shared prosperity lagged. This pattern is symptomatic of an economy that lacks the productivity growth needed to create jobs with rising wages and benefits.

228. A new growth model can bring productive jobs that create pathways out of poverty for the poor and create opportunities for a stronger middle class. This SCD suggests four areas to accomplish these goals: (i) improve public sector spending efficiency and strengthen macroeconomic resilience; (ii) boost private sector investment, firm growth, and productivity; (iii) advance economic inclusion and strengthen household resilience; and (iv) promote resilient, efficient, and sustainable natural resource use and prepare for climate impacts. There also needs to be a cross-cutting focus on stronger citizens engagement and data transparency.

229. Many of these elements and needed actions have been put forward by previous studies, including the previous SCD. But acting on these recommendations now is even more urgent than it was then. Half of Egypt's population today is under the age of 24. By 2025, the share working age population is projected to increase, creating favorable conditions for a boost in growth (a "demographic dividend")—provided productive jobs are available for this rising share of young workers (Assaad 2020). In addition, climate change adds a sense of urgency, underscoring the need for investments in adaptation activities that can mitigate its negative effects on agriculture and food security. Globally, the prospects for regional and global trade are changing as are the possibilities for leveraging new technology and advances in digitalization. As one of the Middle East and North Africa's leading economies, Egypt can prepare itself to tap into these global mega-trends for growth that can transform people's lives, boost their incomes, and lift them out of poverty.

7.2 Prioritizing Pathways

230. Pathways of the new growth model are ordered to reflect their priority level based on the potential of each to unlock progress across multiple constraints. Another criterion for ranking pathways is the extent to which each pathway can contribute to protecting the economy from the negative effects of the pandemic crisis. Thus, the pathway that can enable progress across multiple pathways and help with pandemic recovery is deemed to be a top priority.

231. Applying the two criteria, the priorities across pathways are as follows (Figure 7.1):

- **Pathway 1**: Improve public sector spending efficiency and strengthen macroeconomic resilience.

- **Pathway 2**: Boost private sector investment, firm growth, and productivity.

- **Pathway 3**: Advance economic inclusion and strengthen household resilience.

- **Pathway 4**: Promote resilient, efficient, and sustainable natural resource use.

232.   Cutting across these pathways is the need for strong state engagement with its citizens and firms and data transparency. The goal is to ensure social sustainability and to build the public's and investors' trust in the government's economic program and reform efforts.

Figure 7.1 Pathways and constraints to poverty reduction and inclusive growth in Egypt

What will it take to achieve poverty reduction and inclusive growth sustainably?		
	Pathway 1: Improve public sector spending efficiency and strengthen macroeconomic resilience	Constraint 1.1: Public investment (mostly in infrastructure) progressively yields lower returns and is inefficient.
		Constraint 1.2: Education spending is low and with limited link to learning/quality.
		Constraint 1.3: Public health spending is low relative to needs and population growth.
		Constraint 1.4: High public sector borrowing exposes the economy to macroeconomic shocks.
	Pathway 2: Boost private sector investment, firm growth, and productivity	Constraint 2.1: State's footprint as investor creates uncertainty, stifling private investments.
		Constraint 2.2: State's role as regulator adds uncertainty, conflict of interest, and lowers productivity.
		Constraint 2.3: State's role as market participant introduces uncertainty and unfair competition, stifling private investment.
		Constraint 2.4: Domestic markets are relatively closed to international trade, thwarting competition and innovation.
		Constraint 2.5: Domestic markets are segmented, stifling competition and adding unnecessary costs to the economy.
	Pathway 3: Advance economic inclusion and strengthen household resilience	Constraint 3.1: Labor market is segmented (spatially); labor demand is low and skewed toward low skills; and informal sector productivity is low.
		Constraint 3.2: Care responsibilities and gender norms limit female employment, reducing the economy's potential.
		Constraint 3.3: Fragmented social protection leaves many poor households vulnerable to shocks.
	Pathway 4: Promote resilient, efficient, and sustainable natural resource use	Constraint 4.1: Agricultural practices and water use reduce sectoral sustainability.
		Constraint 4.2: Air pollution exacerbates health problems.
		Constraint 4.3: Rapid territorial development affects sustainability.
	Cross-cutting constraints: Limited mechanisms for feedback provision and participation by citizens and the private sector and limited data transparency	

7.2.1   *Priority areas by pathways*

233.   **Pathway 1**: Improving public sector spending efficiency and strengthening macroeconomic resilience is critical and a top priority for the new growth model given the role the government plays in the Egyptian economy. Macroeconomic stability is not only good for the private sector, it also helps protect people's purchasing power (via contained inflation). More efficient public spending could help direct more public resources toward activities that help attract private sector investment and increase productivity, support macroeconomic resilience, and redirect resources away from activities that drive employment toward low-skilled employment. It can also enhance confidence in the government's stewardship role that is important as steps are taken to increase domestic revenue mobilization.

234.	Egypt has committed to increasing public spending as part of its pandemic response. This pathway calls for ensuring that spending is efficient and equitable and meets critical social infrastructure needs. Increased health spending is needed to equip the public health system to meet the goals of universal health coverage and also fight COVID-19 effectively with resources to vaccinate the population. Better aligning education spending with learning needs is crucial given the need to boost jobs and earnings. With globalization and increasing digitization, economies have been undergoing substantial transformations and, as a result, so has the nature of work and the demand for skills. In this age of greater digitalization, there is a higher demand for advanced cognitive skills, socio-behavioral skills and skill combinations associated with greater adaptability.[49] In addition, studies have shown that cognitive abilities are closely related to productivity and economic growth (Hanushek and Woessmann 2008). When benchmarked against other members of the MENA region, Egypt qualifies as "Emerging" in Digital Skills (World Bank 2020b). To build these skills, there will need to be not only strong basic education foundations and lifelong learning but also new higher education programs and teaching methods that adopt and use the latest technologies (World Bank 2020b; World Bank 2021).

235.	**Pathway 2**: The next priority is boosting private sector investment, firm growth, and productivity because this is critical for the jobs and productivity boost needed. This pathway requires loosening constraints to competition and labor demand in the economy. These constraints arise because markets are protected from external competition and are poorly integrated spatially, and because the state's activities create policy uncertainty, conflicts of interest, and unfair competition.

236.	Enhancing the oversight and transparency of the financial operations of SOEs and Economic Authorities, clearly separating the state's role as owner from that as sector regulator and bringing the regulatory arrangements of these entities into line with those of private sector competitors is important. Strengthening the transparency of state procurement activity and enhancing the public-private partnership (PPP) environment are also priorities. The private sector could play a greater role through a well-crafted PPP environment through (i) removing duplication of laws due to overlapping jurisdiction; (ii) introducing stronger provisions in both laws related to transparency, record of procurement proceedings, procedural safeguards for the use of registers of suppliers/contractors, and the requirement to publish a notice of award (iii) clarifying dispute resolution mechanisms available through the PPP Law and those designated by the PPP Central Unit and (iv) increasing the technical and physical capacity of the Central PPP Unit.

237.	Opening up markets not only means improving the trade regime but also the regime that governs foreign direct investments (FDI). Egypt has not been able to attract much FDI beyond the oil and gas sector. In 2018 net FDI inflows amounted to 2.7 percent of GDP, slightly down from net inflows of 3.1 percent of GDP in 2017. These inflows as a share of GDP are similar to those of Morocco, Thailand, and Turkey, but less than half of those of Vietnam. To improve chances of attracting more FDI, the government may want to reform policies that restrict FDI in services to pave the way for greater freedom of movement of services providers (as done in Morocco) and better governance (as in Turkey and Jordan).

238.	**Pathway 3**: Advancing economic inclusion and strengthening household resilience represents the most direct route to reducing poverty and gender inequality and is a third priority area. This is an area where a number of beneficial policies have already been introduced to support vulnerable workers and women. As most employment growth will likely take place within the informal sector in the near term, reducing constraints to productivity of microenterprises and protecting informal workers will be important, especially as the economy recovers from the pandemic crisis. For women, additional constraints to employment from factors such as care responsibilities will need to be addressed as well. Policy attention will also be needed to help build households' resilience against shocks, especially among the poor and vulnerable.

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[49] Advanced cognitive skills are skills such as complex problem-solving, and socio-behavioral skills such as teamwork. Skills predictive of adaptability are, for example, reasoning and self-efficacy.

239. Addressing informality is important for economic inclusion. The analysis presented in Chapters 2 and 4 suggests that in Egypt, informal sector firms are mainly subsistence entrepreneurs who have a low probability of growing and entering the formal sector. For this sector, more equitable public policies and programs to foster greater inclusion are needed. However, it must be emphasized that informality is also an outcome of the lack of dynamism and fair competition in the economy. Addressing these constraints to openness will also go a long way towards addressing informality.

240. **Pathway 4**: Last but not least, promoting resilient, efficient, and sustainable natural resource use is vital because Egypt is using its natural resource endowments in unsustainable ways—with particularly negative effects on the agricultural sector, an important source of employment and food security. Population pressure and weak policies are leading to rapid territorial development that needs better policy planning and resource allocation. Ensuring that public spending responds to spatial gaps in productive infrastructure investment could also help address constraints to sustainable development that is both resilient and efficient.

7.2.2 *Enablers for a new growth model*

241. These pathways require modernizing the state to ensure that it becomes a guardian of the environment in order to safeguard the wealth and well-being of future generations. They also require better investments in the human capital of current and future generations, with a focus on complementing rather than crowding out private sector activity and achieving higher returns. To effect these changes, Egypt requires a nimble, modern, and responsive state—one that is best served by fostering diverse and frequent channels of communication and feedback with its citizens, communities, and markets. Such a system would also serve Egypt well to cope with shocks in the future.

242. Digital transformation can be a key enabler for the new growth model. Several of the issues highlighted in this SCD Update can be partially addressed with the increased adoption and use of digital technologies. Digital technologies can provide opportunities to increase the productivity and improve market access of the private sector, increase the efficiency of public expenditures, enhance the cost-effectiveness of public services, and provide citizens and businesses a platform for voice and the means to hold government accountable.

243. Recent evidence suggests that reaching the goal of universal and affordable internet coverage can raise growth per capita by 2 percentage points per year and reduce the poverty headcount by 1 percentage point per year. When internet coverage is complemented by human capital investments, growth per capita increases by approximately 5 percentage points and the poverty headcount falls by 2.5 percentage points per year. These contributions to growth are mainly due to growth in productivity across economic sectors; digital transformation is thus part and parcel of economic transformation (Choi, Dutz, and Usman 2019).

244. The introduction of digital systems can also have a transformative effect on government. It is estimated that developing countries could collectively save 0.9 to 1.1 percent of GDP, equivalent to US$220 billion to US$330 billion annually (IMF 2017), by introducing digital systems in government that increase efficiency and reduce the potential for leakages to occur. Additionally, significant effectiveness gains can be realized by equipping government officials responsible for public service delivery with access to better data and tools.

245. Digital technology can improve access to new markets and create new ones. Online and social media platforms offer new markets and reduce the distance between producer and buyer. Innovative business models such as the sharing economy are disrupting established ways of doing business and creating markets.

246. But identifying reform areas and enabling factors is only one element of the transformation that Egypt needs. The other is reaching a consensus among national stakeholders on the rationale, measures, and implications of reforms in order to build support for the needed change. The feasibility of implementing the proposed package of reform measures described below will rest on engaging with private sector

stakeholders—including micro, small, and medium-size enterprises, members of civil society, workers, and grassroots organizations.

7.3   Policy Recommendations by Priority Areas

7.3.1   Policy areas for Pathway 1: Improve public sector spending efficiency and strengthen macroeconomic resilience.

247.   Three constraints reduce the returns to public spending on infrastructure, education, and health. First, capital accumulation, which is led by the public sector, is increasingly less efficient. There are infrastructure needs. Gaps remain in connectivity to water and sanitation infrastructure outside of urban areas, and public investment in social sector infrastructure has declined, failing to keep pace with population growth. Second, public spending on education is only weakly linked to quality or learning outcomes. Third, public spending on health is low—especially with regard to achieve universal health coverage, responding to the pandemic, and delivering the COVID-19 vaccine.

248.   Well-targeted public spending could add to the capital stock and crowd in private investments. Using scarce public resources to lower the cost of doing business could help boost firm growth. The following policy recommendations address ways in which the efficiency of public spending and service delivery could be improved:

• Enhance the transparency of public spending by improving the range of reporting on budget expenditures and public sector debt, and supplementing this with regular reports on the performance and position of SOEs and Economic Authorities. The budget reports should progressively introduce performance information and the annual reports should be subject to an audit which is made available to the public.

• *Review public investment management (PIM) system for a more systematic approach to developing project pipelines and managing a project cycle to improve the allocation of public investment funds, both on-budget and off-budget.* This could include: (i) performing robust economic appraisal of capital investment project proposals (cost-benefit analysis for all high value projects and cost-effectiveness analysis for lower value projects, possibly coupled with other appraisal methods); (ii) rationalizing project portfolio, particularly for projects funded from the government budget (including cancelling poorly performing projects) to create fiscal space for new high-priority projects; (iii) facilitating a dialogue between core central agencies on whether public investments should be implemented as on-budget capital projects, as public-private partnerships, or by SOEs or Economic Authorities (which typically involves sovereign guarantees); and (iv) putting in place an effective monitoring system for implementation of capital projects.

• *Increase education spending and improve its efficiency in improving learning outcomes continuing the education sector reforms underway.* As part of this it will be important to reform budgeting and budget management for education expenditures to include medium- and long-term budget plans. Additional measures could include making capital spending decisions based on supply and demand and equity considerations.

• *Increase public health spending and efficiency, and direct it toward general health services, as well as the construction of new primary health care facilities to support universal health care and roll out of universal health insurance.* Measures could include: (i) evaluating all public investments in new public hospitals, primary health care units, new technologies, and new procedures for need, efficacy, cost-effectiveness, and affordability; (ii) aligning public health plans and spending priorities with resource allocations at the governorate level; (iii) targeting public subsidies in the health sector to poor and vulnerable households as the comprehensive health insurance (universal health insurance) scheme is rolled out; and (iv) doubling vaccination capacity to reach high-priority population groups (reaching 70 percent of the population with the vaccine is estimated to cost about 0.14 percent of GDP).

249.   High overall fiscal deficits threaten macroeconomic resilience. Interest payments take up 39 percent of total expenditures, and tax revenues remain low, at 13.8 percent of GDP. To achieve macroeconomic resilience, the following actions will be needed:

• *Maintain macroeconomic stabilization achieved by reforms begun in 2016–17 and avoid policy slippage and reversals.* Resuming the fiscal consolidation after the COVID-19 crisis, notably through revenue mobilization, will be crucial for creating the space to finance physical and human capital.

• *Advance a macroeconomic policy framework supportive of an open and export-oriented trade regime.* A sound macroeconomic policy facilitates stable relative prices, which encourage long-term planning and private investment. Fine-tuning macroeconomic policies to respond to terms of trade shocks more quickly would spur the robust recovery of private investment. Fiscal discipline and high public savings would allow Egypt to manage its exchange rate better.

7.3.2   Policy areas for Pathway 2: Boost private sector investment, firm growth and productivity

250.   Private sector investment is low, firm growth is slow, and firm-level productivity is stagnant. The oversized presence of state-owned civilian and non-civilian enterprises discourages private investors. A complex and costly regulatory regime (which well-connected firms can circumvent) compounds uncertainty. Firms linked to the state can avoid the regulatory labyrinth, gain access to land, and obtain exemptions from taxes and other state-imposed costs; they also have access to government coffers, aid, and special deals (World Bank 2020c). For the private sector to invest, grow, and create jobs, the state will have to redefine the role it plays in the economy.

251.   The following reforms would help make the private sector more dynamic:

• *To promote consistency in the application of the law and increasing predictability for court users,* a dedicated system for commercial cases can make a big difference in the effectiveness of the judiciary, add predictability of the business environment and speed to resolving business disputes. Judges in such courts develop expertise in their field, which may support faster and more qualitative dispute resolution. Having specialized commercial courts or divisions reduces the number of cases pending before the main first-instance court and thus can lead to shorter resolution times within the main trial court.

• *To reduce business uncertainty make the following aspects of the Tharaa fund clear and transparent:* (i) its structure, including its objectives, fiscal treatment, and whether it is separate from the country's international reserves; (ii) its governance, including the roles of the government and the fund's managers and whether the fund follows guidelines for corporate responsibility and ethical investment behavior; (iii) its accountability and transparency in its investment strategy, investment activities, reporting, and audits; and (iv) its behavior in managing its portfolio, including the use of leverage and derivatives.

• *To address the resulting conflicts of interest between the state's role as sector policy maker/regulator and SOE owner* create a separate entity, not line ministries, oversee SOEs, particularly relevant to the ICT and banking sectors.

• *To ensure that SOEs face the same conditions private firms do, consider taking the following actions:* (i) Establish the tools to clearly identify the commercial and noncommercial activities of SOEs and look to finance the SOEs for their non-commercial obligations. In addition to the transparency steps mentioned in pathway 1, SOE and Economic Authority oversight should focus on the overall financial performance of the entity and hold the Board and management accountable for the performance achieved; (ii) foster regulatory neutrality by limiting exclusions and exemptions from the competition law and other economywide and sectoral regulation; (iii) reduce tax exemptions or exceptions granted to public agencies and special funds; (iv) strengthen debt neutrality rules to restrict public entities from accessing financing sources at preferential rates; and (v) reduce the distortions to competition of subsidies/state aid through

clear rules on subsidy design that are proportionate to the market failure they address and limit discriminatory treatment.

- *To improve corporate governance and transparency, strengthen the legal framework of SOEs.* Legal reforms could first be applied to Law 203, which governs a large number of commercial SOEs. An overarching state ownership policy could complement legal reforms and improve the SOE governance framework. That policy should: (i) lay out the rationale and strategic objectives of state ownership; (ii) define the role of the state in the governance of SOEs; (iii) assign roles and responsibilities across government agencies; (iv) specify policy tools to be used for implementation; and (v) monitor progress and evaluate results to inform regular policy reviews.

252.   To export more successfully, Egypt will have to develop a less restrictive business environment for FDI, lower tariffs, and reduce distortions and restrictions on exports. Opening up Egypt's relatively closed markets calls for actions on tariffs, nontariff measures, and transparency:

- *As an initial step, to reduce the most extreme distortionary effects of high MFN rates, extensive tariff preferences, and the bias against exports, lower the maximum tariff rate to 40 percent.* Given the small share of products subject to duties of more than 40 percent in total imports, the impact on revenues would be insignificant, but the boost to trade could be noticeable.

- *To establish transparency and streamline nontariff measures use a regulatory guillotine approach* by: (i) compiling all regulations governing both imports and exports (preferably through an online registry) for transparency; (ii) determining whether the public policy objectives these measures seek are achieved, and eliminating measures that are redundant or hinder export competitiveness or domestic competition; and (iii) ensuring a transparent, risk based, and streamlined implementation process, which would necessitate less interference and duplication of activities by different ministries and agencies involved in trade.

253.   The following measures can improve competition and support better geographic integration:

- *To ensure free and fair domestic competition* by: (i) create a transparent, predictable, and streamlined regulatory environment that encourages competition through easy firm entry, operation, and exit; and (ii) establish a level playing field on which all firms, public and private, play by the same rules, and private investment enters sectors currently dominated by the public sector.

- *To promote better connectivity across Egypt,* particularly between Upper Egypt and port locations, enabling private participation in infrastructure (as discussed in World Bank 2018b), should facilitate this connectivity. Improving connectivity would facilitate agricultural exports and reduce losses from potential agricultural exports that cannot reach markets. Additional action items could include reviewing and reforming laws and regulations governing the transport sector.

7.3.3   Policy areas for Pathway 3: Enhance economic inclusion and strengthen households' resilience

254.   Besides increasing opportunities for good-quality employment via reforms to boost private sector dynamism, three related sets of constraints need to be tackled. Tackling these constraints will enable workers to better adapt to labor market shifts arising from structural changes or economic shocks. First, the labor market does not appear to function as an integrated market. The geographic segmentation of employment opportunities means that workers who live far from Cairo or Alexandria have reduced employment opportunities. In addition, the productivity of the informal sector is low. This sector has borne the brunt of the pandemic crisis, suffering the large majority of employment losses. Social insurance does not cover informal workers, including agricultural workers, even though the social insurance law aims to do so. Second, women's participation has been constrained by the rising share of occupations requiring manual and physical tasks and a declining share of occupations requiring tasks more conducive to female work (such as those in the public sector). In addition to these demand-side challenges, gender norms about female work outside the home and care responsibilities constrain women's employment.

255.   The following actions could enhance economic inclusion:

• *To reduce geographic market segmentation design and implement policies that lower job search costs.* Promising policy interventions could include active labor market programs that provide training in skills demanded by the private sector and facilitate information sharing on job openings. The creation of digital platform–based job boards such as Shaghalni and Wuzzuf, which feature low-skilled jobs, are promising private sector options that facilitate job search.

• *Focus on the informal sector productivity.* A study from Togo shows the significant impact of personal initiative training on sales and profits among microentrepreneurs (Campos and others 2017). A combination of providing income generating assets and skills training (targeted to women) has also been found to be effective in helping poor entrepreneurs escape poverty in Bangladesh (Bandiera and others 2017). Rotating credit and savings associations (ROSCAs) could be leveraged to broaden access to finance.

• *Use digital technologies to improve the delivery of financial services and make the financial sector broader, more efficient, and more inclusive.* Payments, transfers, savings, credit, insurance, securities, financial planning, and account statements can be delivered via digital/electronic technology such as e-money, payment cards, and regular bank accounts.

• *Continue reforms to contributory pensions and social insurance system and increase participation by informal workers*. The 2019 Social Security and Pension bill helped advance the sustainability, fairness, and incentives of the pension system. Nevertheless, there is significant scope to better tailor the pension system to the current and emerging economic, demographic, and labor market shifts, including to the rising importance of self-employment and informal work. Measures to increase take-up by casual and seasonal workers include raising awareness about these schemes and providing incentives for participation. Creation of a unified national registry would reduce documentation needs and would also facilitate greater participation by informal workers.

• *Invest in early childhood care and education for children 0–6 and consider legal reforms as part of a broader reform effort to enable women to participate in the labor market.* A number of measures can help expand access to quality nurseries and kindergartens (pre-school): Reviewing and simplifying licensing procedures and establishing quality assurance and accreditation system for nurseries; increasing spending on kindergartens to improve access and quality. Redefinition at both the firm and societal level of notions of gender and work is also needed. Suggested efforts at the firm level include tracking gender diversity across job roles as well as acknowledging and tackling societal and institutional biases and barriers to inclusivity. Suggested efforts at the societal level include interventions targeting attitude change to create a fairer contract between employees and employers regardless of gender. With regards to the law, analysis from the Women, Business and the Law 2021, suggests several areas where reforms could enhance Egyptian women's work and earning opportunities, including mandating equal remuneration for work of equal value and removing restriction to women's work at night or in jobs deemed dangerous for women. Enforcing the legislation protecting women from violence and harassment in public spaces (including transport facilities, and the workspace) would also help induce women to take up employment opportunities. Other measures include informing the public about this law and supporting the expansion of the Safe City initiative.

256.   The third constraint to making progress under this pathway is related to households' resilience in the face of any type of shocks they may face. Functioning credit markets and social protection programs help households cope with shocks and smooth consumption without having to cut spending on health or children's education. Egypt has been shifting public spending from regressive universal energy subsidies toward more efficient targeted programs. The government introduced the targeted cash transfer programs, Takaful and Karama, in 2015 to cushion the most vulnerable groups from the impact of those reforms. The non-contributory social pension scheme (Daman) is being dissolved and merged with TKP and will be using its targeting formula.

257.   To strengthen social protection, the government needs to craft a comprehensive, multisectoral strategy; conduct a comprehensive review of different types of subsidies; and assess the gradual transition from in-kind subsides to cash, including its fiscal implications. Specific actions include the following:

• *Strengthen the institutional system to implement the new cash transfer law, which puts all cash transfer programs under a single umbrella.* The government is moving in this direction as it leverages the database of TKP beneficiaries and TKP applicants who did not qualify for the program to launch cash distribution plus interventions that tackle multiple dimensions of poverty and vulnerability (such as the need for housing, family planning, and child health and nutrition). Upgrading the management information system infrastructure of the Ministry of Social Solidarity and building a social registry of the poor will also help.

• *Continue developing the unified national registry, including connecting existing databases through the unique identification number, to improve targeting and promote integration.* The Administrative Control Authority has made progress in establishing a unified national registry, connecting more than 50 databases. The registry database is being used to better target food subsidies and roll out health insurance plan, among other interventions. The registry can also help facilitate the delivery of cash transfers and social insurance for informal sector workers. The registry of irregular workers introduced by the Ministry of Manpower offers a promising start to reaching these workers.

7.3.4   Policy areas for Pathway 4: Promote resilient, efficient, and sustainability of natural resource use

258.   Agriculture is an important sector for the poor. The sustainability and efficiency of this sector are, therefore, critical to reducing poverty. This sector is also critical for ensuring food security and realizing export potential. Several actions could help improve the productivity and sustainability of the sector (World Bank 2018b):

• *Identify cross-sectoral growth opportunities presented by the broader agri-food system in Egypt and promote local value addition.* Priority reforms to help upgrade the sector's productivity rest on six pillars: land, labor, connectivity, quality of output, access to finance, and value chain (see Alnashar, Elashmawy, and Youssef 2020). Thus, it will be crucial to focus on the following reforms: (i) addressing land fragmentation which hinders production efficiency and limits small farmers ability to access markets, in addition to expanding reclaimable land, adequate water resources and facilitating land registration and titling; (ii) investing in upgrading the capacity and the skills of farmers, including through access to knowledge and information; (iii) enhancing connectivity, storage and logistics to minimize waste (estimated at 30 percent of the value chain, half of which results from the poor, or lack of access to logistics and marketing infrastructure); (iv) upgrading the quality of agricultural production through adopting quality standards and strengthening the food quality certification system; (v) facilitating access to finance through different sources including through banks and non-bank financial institutions, notably those catering to micro enterprises and farmers; (vi)developing agricultural value chains through policy interventions along all its different components, including seeds, chemical inputs, mechanization, output processing, quality control, marketing and access to credit. Furthermore, streamlining tax and tariff rates and procedures, and enhancing policy predictability are key to influence agriculture value chains.

• *Better manage water demand through appropriate tariff design and awareness measures, and support efforts to increase the water supply.* Improving the financial viability of water supply companies is key, as is supporting PPP opportunities, given the scale of financing needs and the urgency of improving water supply management (World Bank 2018b).

259.   Despite progress, air pollution levels remain high in Egypt, particularly in densely populated urban areas. Rapid territorial development also needs to be addressed to support sustainable development. Specific measures to consider include the following:

- *Address air pollution by adopting an integrated, multisectoral approach*: (i) implement low-emissions solutions in key emitting sectors; (ii) continue to establish an integrated air quality management system with a robust system of solid waste management; (iii) improve the evidence base on emissions (by sector and health impacts) and disseminate this information; (iv) complement the construction of mass transit systems with transit-oriented development, the right kind of feeder systems, and public awareness campaigns.

- *Address challenges posed by territorial development and access to land by the following actions*: (i) empower local governments by reforming local planning processes and prioritizing local services and infrastructure and enhancing asset management and local government operations and maintenance capabilities; (ii) promote the sustainable expansion of cities, and halt informal expansion and low-density leapfrog development; (iii) modernize Egypt's land registration system; and (iv) address the mismatch between land demand and supply by ensuring better coordination by and synergy between the different land custody agencies during the process of allocating state land to each agency.

7.3.5 *Policies to enhance citizen engagement and data transparency across all pathways*

260.   Stronger engagement by citizens and firms would help improve the design and implementation of policy priorities in each pathway. This engagement would include informing citizens, soliciting inputs, and using evidence-based methods to assess impact of proposed policies. Egypt could strengthen citizen engagement by publishing draft regulations, conducting public consultations, conducting impact assessments, and reporting back on consultation results (Mahmood and Slimane 2018).

261.   The growing use of digital technologies, including mobile connectivity and the internet, offers new opportunities to institute a range of scalable feedback mechanisms that are far speedier, and probably less costly, than traditional approaches. Rapid, more granular, feedback can help in the early design phases as well as in the reform of legacy systems where major redesign may be costly. Bottlenecks can be alleviated, and accountability improved, often without the need to fully replace the system. Some nongovernmental organizations have pioneered efforts to build on digital technology to strengthen citizen feedback and many governments have taken steps to incorporate the use of digital technology, including payments, into service delivery. However, few government programs have yet harnessed the potential of the vast amount of information generated by digital systems to assess service quality and empower citizens.

262.   The pandemic has underscored the importance of a transparent and robust system of data collection and sharing. A coordinated system within the government is needed to collect and disseminate data and information. A 2015 assessment of Egypt's national statistical system conducted by the PARIS21, the United Nations Economic Commission for Africa (UNECA), the United Nations Economic and Social Commission for Western Asia (UNESCWA), and the African Development Bank identified the need to update the statistical law. The government has recently prepared a National Strategy for the Development of Statistics (NSDS) which can pave the way for a modernized system of data and statistics. Another important step toward increasing data transparency would be building a digitally enabled system of information and data sharing and access (World Bank 2020b). Egypt could strengthen its Open Data initiative,[50] which aims to make data digitally and publicly available.

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[50] Open_Gov_Data_initiative; CAPMAS manages the Egypt Open Data Portal.

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Annex A: Data Diagnostics for Egypt

At 82.2 percent, the 2019 World Bank's Statistical Capacity Indicator (SCI) score for Egypt ranks higher than the average for countries in the MENA region at 53.8 percent.[51] The World Bank's SCI assesses the capacity of a country's statistical system using publicly available information and/or country input. The WB SCI is a composite score assessing the statistical capacity of countries across three dimensions namely: methodology, source data, and periodicity and timeliness.[52] The statistical methodology dimension assesses countries' ability to comply with internationally recommended standards and methods, while the source data dimension assesses whether countries conduct data collection in accordance with internationally recommended periodicity and whether data from administrative systems are available and reliable for statistical estimation purposes. Finally, the periodicity and timeliness dimension assess the availability and periodicity of key socioeconomic indicators. Egypt performs better than MENA countries on all three dimensions. While Egypt has strong statistical capacity, accessibility of data, particularly with regards to microdata, remains a challenge.

The Central Agency for Public Mobilization and Statistics (CAPMAS) is tasked as the official data producer, however, other government entities produce data—such as the Central Bank of Egypt, the Ministry of Planning and Economic Development, and the Ministry of Finance. The Economic Research Forum (ERF) also disseminates microdata in collaboration with CAPMAS, and it collects the Egypt Labor Market Panel Surveys (ELMPS), which spans a period of 20 years, with the most recent round collected in 2018.[53]

In the case of surveys such as the Economic Census (survey of enterprises) or the Household Income, Expenditure and Consumption Surveys (HIECS), summary tables of statistics are more likely to be publicly available (published on CAPMAS website) than the underlying micro-level data that could be used by researchers and policy analysts. In most such cases, the unit-level (enterprise or household level) data is only available after access is requested. In a few cases, most notably for the population census data, the data is not accessible.

Data on macroeconomic indicators are published by the Ministry of Planning and Economic Development, Central Bank of Egypt, and CAPMAS. The Central Bank and CAPMAS announce inflation data every month. CAPMAS publishes results from Labor Force Surveys conducted quarterly.

During 2019-2020, CAPMAS led the preparation of Egypt's first National Strategy for the Development of Statistics (NSDS). The Strategy is expected to be launched in early 2021.

Data Openness
There are data gaps related to accessibility when data exists in Egypt. The most recent Open data Access Indicator (ODIN) for 2018-2019 reiterates this finding. The ODIN assesses the coverage and openness of data available on National Statistics Offices (NSOs) websites (based on 10 dimensions of coverage and openness). It also makes available both a data coverage subscore and an openness subscore for each country. With an ODIN coverage subscore of 49 out of 100 and an openness subscore of 30 out of 100, Egypt ranked 64th out of 178 countries in terms of coverage but ranked 136th out of 178 countries in terms of openness in 2018.[54] Like many MENA countries, Egypt has lagged in its capacity to make available data accessible, which could lead to poor policies (Atamanov, Tandon, Lopez-Acevedo, and Vergara Bahena 2020).

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[51] http://datatopics.worldbank.org/statisticalcapacity/CountryProfile.aspx

[52] http://datatopics.worldbank.org/statisticalcapacity/

[53] https://erf.org.eg/erf-data-portal/

[54] Open Data Watch-Open Data Inventory www.OpenDataWatch.com

Improving access to data where it exists in Egypt will significantly close gaps especially relating to data transparency.

Egypt's Official Poverty Measurement Methodology

Official estimates of poverty and inequality are produced by CAPMAS, which collects a nationally representative household survey, the HIECS, every two years, and publishes national and regional poverty rates after each survey round. The public use version of HIECS is released with some lag via the CAPMAS website (https://www.capmas.gov.eg/) and the data repository maintained by the ERF (http://www.erfdataportal.com/index.php/catalog). The most recent round, intended to cover the period 2019-2020, was initiated in October 2019. The first phase of the 2019-2020 survey, which consists of a first interview of all sample households, was completed prior to lockdown measures that were introduced in March 2020. CAPMAS published poverty estimates based on this phase. In the second phase, CAPMAS continued to interview sample households, with a focus on responses to COVID-19. The poverty and inequality estimates and other analyses from the first phase of the 2019-2020 survey were announced in December 2020. But the detailed report and microdata for the first phase of the survey that was used to calculate poverty had not been released as of April 2021.

Welfare aggregate

In 2015, the welfare aggregate estimation, based on a consumption measure, included the following expenditure groups: food (adjusting for subsidized food consumed); dwelling-related expenditures; education; health; general services; food away from home; a rental value as proxy for housing services; purchases of durable goods, transportation, and communications; and purchases of other non-durable goods. The welfare aggregate is not temporally deflated.

The methodology to measure welfare changed starting in 2015, and caution should be used when comparing official estimates with pre-2015 indicators.

Poverty line

The official poverty measure is based on a household-specific poverty line that considers two key things: (1) the household composition and thus the household-specific caloric requirements; and (2) the regional variation in cost/calorie and non-food allowance. This methodology leads to thousands of poverty lines.[55]

The methodology to measure poverty uses the Cost of Basic Needs Approach (CBN) approach. This approach defines a poverty line for each household, considering each household's location, size, and age and gender composition. The implementation of this approach followed two steps:

Step 1. Create a household- and region-specific food poverty line

- Using tables from the World Health Organization (WHO), caloric needs were separately specified for urban and rural individuals, by gender and 13 age categories. For example, for men over 18 years of age, an average weight of 70 kilograms and for women 60 kilograms were assumed. Urban individuals were assumed to need 1.8 times the average basal metabolic rate (BMR) and rural individuals were assumed to need twice the average BMR. By adding the caloric requirements of all individuals in the household, a household-specific caloric requirement was obtained (called k_h).

- Using the nominal consumption expenditure per capita distribution, households in the bottom 40 percent were identified and labeled as the reference group. While use of the bottom 40 percent is the practice that the World Bank recommends, CAPMAS uses the consumption pattern of the second per capita consumption quintile as the reference group (see El Laithy and Armanious, 2019). For households in the reference group, total quantities consumed of all food items (vector Z_r) were

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[55] See Lara Ibarra (2019) for more details.

calculated to define the reference poverty food bundle. Next, using calories-per-food-item information, the associated total calories of the reference bundle Z_r were calculated (called k_r).

- The value of the reference bundle Z_r was determined by the cost of purchasing the items belonging to the bundle in each region. That is, for each region, unit values were calculated for each food item and each household. The regional average unit value would then be applied to each item to obtain its representative value in the region. Adding the representative value of each item in the bundle within each region provided the value of the reference bundle.

- The region-specific cost per calorie of the consumption bundle Z_r is obtained by dividing the region-specific value of the reference bundle by the total calories in the bundle (k_r).

- The final household-specific food poverty line (*Foodline*) is obtained by multiplying each household's caloric requirements by the region-specific per-calorie cost.

Step 2. Estimate the nonfood poverty line using an application of Engel's law

- A region-specific Engel regression is run with all households in the region as observations. The dependent variable of the regression is the households' food share of expenditures, while the independent variables included the logarithm of the ratio of total household expenditures and the food poverty line, the square of this logarithm, the logarithm of household size and its square, the share of children, adult males and adult females.

- For each household, the share of food expenditure for households whose total expenditure is equivalent to the food poverty line was estimated. That is, using the Engel regression's estimates (coefficients), a prediction was obtained (fs) for each household under the assumption that total expenditure was equal to the food poverty line.

- Finally, the total poverty line associated with each household was obtained by applying the following formula: *Povline=(2–fh)Foodline*.

This approach yields household- and region-specific poverty lines, also called *lower* poverty lines. Households were classified as poor whenever the household's total consumption expenditure was below the estimated poverty line. Finally, the official national poverty rates were estimated as the share of the population living in households whose total consumption expenditure was below its corresponding poverty line.

Poverty trends

While the underlying methodology is the same across survey rounds, CAPMAS re-sets the poverty line at each survey round following the CBN approach described above (see Lara Ibarra 2019 and El Laithy and Armanious 2019). At each survey round, the reference bundle, and hence the cost of basic needs is re-calculated. If the food consumption of the reference group changes, then so will the poverty threshold. A strength of this approach is that it reflects the consumption pattern in that time period—an important consideration given ongoing reforms. Official estimates can be considered as relative poverty estimates. They are informative about the share of the population that lives below what is a relevant poverty threshold for a particular survey year.

However, the limitation of the official poverty numbers is that they are not comparable over time. This makes it difficult to evaluate the effect of policy changes and a worsening or improvement in economic conditions. For this reason, the World Bank usually recommends fixing the poverty line to one year. Comparable poverty trends require a poverty line that stays constant in real value: any adjustments made reflect only changes in the cost of living. This implementation ensures that the threshold of what is considered a minimum standard of living (that is, the poverty line) is constant across time and does not change.

Annex B: Growth accounting methodology and data

As it is standard in the literature, a Cobb-Douglas aggregate production function is expressed in the following way:

$$Y = AK^\alpha(hL)^{1-\alpha} \qquad (1)$$

where Y represents the real gross domestic product (GDP), A is residual Total Factor Productivity (TFP), K is real physical capital, h is a human capital index per person, and L is numbers of employees. All the variables vary by country i and time t. The parameter a is the capital elasticity. Dividing equation (1) by population N, and rearranging, yields the following expression:

$$y = \frac{Y}{N} = A\left(\frac{K}{L}\right)^\alpha h^{1-\alpha}\frac{L}{N} = Ak^\alpha h^{1-\alpha}l \qquad (2)$$

Where $y = \frac{Y}{N}$ is the GDP per capita, $k = \frac{K}{L}$ is the capital stock per worker, and $l = \frac{L}{N}$ the ratio of employees over the total population. Taking logarithms and differentiating to time yields[56]:

$$\hat{y} = \hat{A} + \alpha\hat{k} + (1-\alpha)\hat{h} + \hat{l} \qquad (3)$$

where $\hat{y} = \hat{Y} - \hat{N}$; $\hat{k} = \hat{K} - \hat{L}$; $\hat{l} = \hat{L} - \hat{N}$

This is our fundamental equation of growth accounting. The growth in GDP per capita (in turn, the growth of GDP minus the growth of the population) can be decomposed in the increase in productivity, growth in capital stock per worker (the growth of total capital minus the growth of workers), the growth in the human capital per person and the growth of the employment to population ratio. Note that the first term of the sum represents the contribution of TFP to the growth of GDP per capita. The second is the capital, and the last two are the labor contribution; together, the last three are the factor's contribution to growth.

For the international comparison, following (Daude & Fernández-Arias, 2011) we can express equation (2) in terms of ratios between an economy of interest (Egypt in our case) and a benchmark economy or group of economies, taken as a development yardstick. If we denote y^* as the GDP per capita of our benchmark we obtain:

$$\bar{y} = \frac{y}{y^*} = \frac{A}{A^*}\left(\frac{k}{k^*}\right)^\alpha\left(\frac{h}{h^*}\right)^{1-\alpha}\frac{l}{l^*} = \bar{A}\bar{k}^\alpha\bar{h}^{1-\alpha}\bar{l} \qquad (5)$$

To calculate a benchmark among n economies in a group, we use a geometric mean[57]: $y^* = \left(\prod_{i=1}^n y_i\right)^{1/n}$

Finally, we can obtain the evolution of this gap over time by generalizing equation (3) for any two points in time:

$$\Delta_p \ln\bar{y}_t = \ln\left(\frac{\bar{y}_t}{\bar{y}_{t-p}}\right) = \ln\left(\frac{\bar{A}_t}{\bar{A}_{t-p}}\right) + \alpha\ln\left(\frac{\bar{k}_t}{\bar{k}_{t-p}}\right) + (1-\alpha)\ln\left(\frac{\bar{h}_t}{\bar{h}_{t-p}}\right) + \ln\left(\frac{\bar{l}_t}{\bar{l}_{t-p}}\right) \qquad (6)$$

In what follows, we use equation (3) to perform the factor decomposition analysis of the Egyptian economy and equation (5) to compare the evolution of Egypt to a series of country-groups comparators.

Data

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[56] All the variables in "hats" represent growth with respect to the previous period $\hat{X} = Ln\left(\frac{X_t}{X_{t-1}}\right)$. Note that the parenthesis is one plus the growth rate of the variable X, so we are using the approximation $Ln(1 + g) \approx g$ for small g.

[57] We choose to work with geometric means as they represent the central tendency or typical value in our set of comparators.

- **Gross Domestic Product:** Data on GDP is obtained from the World Bank Open Data (WBOD), available in Stata through the command *"wbopendata"*. Except when otherwise indicated, GDP is considered in constant 2010 US dollars (variable *ny.gdp.pcap.kd*).

- **Population:** WBOD, variable *sp.pop.totl*.

- **Capital Stocks:** Data obtained from (Berlemann & Wesselhöft, 2017). They use the series of gross fixed capital formation (variable *ne.gdi.ftot.kd*) and uniform across countries (but varying over time) depreciation rates computed by the authors to compute capital stocks for 122 countries using the perpetual inventory method. As the series goes until 2016, we update for the last two years using the mentioned capital formation series and a depreciation rate of 5%, consistent with the authors' calculations for the latest years.

- **Human Capital:** Following the literature (see (Hall & Jones, 1999) for example), human capital indexes are computed using the formula: $h = e^{\varphi S}$. j is computed as the median of the overall Mincerian return for education for all the countries compiled by (Psacharopoulos & Patrinos, 2018).[58] S is the average year of schooling in the population (older than 15) from the (Barro & Lee, 2001) database, available in WBOD under the variable *bar.schl.15up*.

- **Employees:** WBOD does not have a widely available series of the number of employees. We construct it using two series: Labor Force (*sl.tlf.totl.in*) and unemployment rate, obtained either from the International Labor Organization (ILO) or national estimates (*sl.uem.totl.zs* and *sl.uem.totl.ne.zs*) respectively. Employees are calculated as *Labor Force*(1-unemployment rate)*.

- **Capital Elasticity:** As is standard in the literature (see (Hsieh & Klenow, 2010) for example), we use a constant across countries and time capital elasticity equal to $\frac{1}{3}$.[59]

This approach is based on Van Beveren (2010).

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[58] We use the median to avoid the effect of extreme values. The value of the Mincerian median across 74 countries is 8.85. That is, on median, an additional year of schooling generates a return of 8.85%.

[59] As discussed in Daude and Fernández-Arias (2011): "Although there is some debate in the literature regarding the validity of this assumption, Gollin (2002) shows that once informal labor and household entrepreneurship are taken into account, there is no systematic difference across countries associated with level of development (GDP per capita), nor any time trend. Hence its uniformity across countries and time appears to be a reasonable assumption."