

**JOBS
SERIES**
Issue No. 13

JOBS DIAGNOSTIC MOZAMBIQUE

Ulrich Lachler and Ian Walker

Volume 1: Analytics



DIAGNOSTIC **MOZAMBIQUE**

Ulrich Lachler and Ian Walker

Volume 1: Analytics

Activities under the Let's Work Partnership are supported by grants under the Jobs Umbrella Multidonor Trust Fund and/or IFC Let's Work Multidonor Trust Fund.

 Austrian
Development Agency


 **BMF**
FEDERAL MINISTRY
OF FINANCE

 **UKaid**
from the British people

 Federal Ministry
for Economic Cooperation
and Development

 **NORWEGIAN MINISTRY
OF FOREIGN AFFAIRS**

 **Sida**

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

 **PGD**

 **LET'S WORK**
A global partnership to create
more & better private sector jobs

 **WORLD BANK GROUP**
Jobs

© 2018 International Bank for Reconstruction and Development / The World Bank.

1818 H Street NW, Washington, DC 20433, USA.

Telephone: 202-473-1000; Internet: www.worldbank.org.

Some rights reserved

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges and immunities of The World Bank, all of which are specifically reserved.

Rights and Permissions



This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO)

<http://creativecommons.org/licenses/by/3.0/igo>. Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, including for commercial purposes, under the following conditions:

Attribution—Please cite the work as follows: Ulrich Lachler and Ian Walker. 2018. “Mozambique Jobs Diagnostic: Volume 1 - Analytics.” World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0 IGO.

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution:

This translation was not created by The World Bank and should not be considered an official World Bank translation.

The World Bank shall not be liable for any content or error in this translation.

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution:

This is an adaptation of an original work by The World Bank. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by The World Bank.

Third-party content—The World Bank does not necessarily own each component of the content contained within the work. The World Bank therefore does not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Images: © World Bank Mozambique. Further permission required for reuse.

ACKNOWLEDGMENTS

Vice President—Makthar Diop

Country Director—Mark Lundell

Sector Senior Director—Michal Rutkowski

Practice Manager—David Robalino

Task Team Leader—Ian Walker

This report was written by Ulrich Lachler (Consultant) and Ian Walker (Jobs Group). The authors wish to acknowledge extensive inputs from the Jobs Diagnostics team in Jobs Group, specifically: Dino Merotto (Lead Economist, Jobs Group) and Veronica Michel (Analyst, Jobs Group) for the macroeconomic transitions analysis in Chapter 1; Michael Weber (Senior Economist, Jobs Group) for the labor force data analysis of the 2015 *Inquérito aos Orcamentos Familiares* (IOF) data in Chapter 2; Reyes Aterido (Economist, Jobs Group) and Carly Petracco (Consultant) for the analysis of the CEMPRE firm census data in Chapter 3; and Federica Ricaldi (Economist, Jobs Group) for updating the labor force data in Chapter 2 and benchmarking labor market and labor demand outcomes. The authors also wish to acknowledge the substantial inputs taken from a preliminary Mozambique Jobs Diagnostic completed by Louise Fox (Consultant) in April 2016, under the supervision of Namita Datta (Senior Private Sector Development Specialist, Jobs Group). However, responsibility for any errors of commission or omission or in the criteria expressed in the report remain with the authors.

This report is a product of the Mozambique Let's Work Country Pilot. Let's Work is a global alliance of development partners and private sector agents which supports private sector development in sectors with the potential to create more good jobs—especially for the poorest households and excluded groups—through analytical work, policy dialogue, and pilot operations. This work is financed by the Jobs Multi Donor Trust Fund. Let's Work partners include the African Development Bank Group (AfDB), Asian Development Bank Group (ADB), Austrian Federal Ministry of Finance (BMF), Department for International Development (DfID), European Investment Bank (EIB), European Development Finance Institutions (EDFIs), InterAmerican Development Bank (IADB), International Labor Organization (ILO), International Youth Foundation (IYF), Islamic Corporation for Development of Private Sector (ICD), Ministry of Foreign Affairs of Netherlands, Overseas Development Institute (ODI), Private Infrastructure Development Group (PIDG), Swiss Secretariat for Economic Affairs (SECO), World Bank Group (WBG), and World Business Council for Sustainable Development (WBCSD).

ABBREVIATIONS

| | |
|-------------|--|
| AET..... | Agricultural Education and Training |
| CEMPRE..... | Mozambican Enterprise Census |
| CPF..... | Country Partnership Framework |
| FDI..... | Foreign direct investment |
| GDP | Gross Domestic Product |
| HE | Household enterprise |
| INCAF..... | Continuous Household Survey |
| IOF | National Household Income and Expenditure Survey |
| JD..... | Jobs Diagnostic |
| SCD..... | Systematic Country Diagnostic |
| WAP | Working-age population |



CONTENTS

| | |
|--|-----------|
| ACKNOWLEDGMENTS | v |
| ABBREVIATIONS | vi |
| INTRODUCTION | 1 |
| 1. GROWTH, JOBS, AND PRODUCTIVITY | 3 |
| 1.1 The Sectoral Structure of Jobs..... | 5 |
| 1.2 The Structure of Employment by Job Type | 10 |
| 1.3 Growth and Poverty Reduction in Mozambique..... | 11 |
| 1.4 Concluding Remarks..... | 12 |
| 2. DEMOGRAPHICS, LABOR SUPPLY, AND JOBS OUTCOMES | 15 |
| 2.1 Labor Force Participation and Employment..... | 17 |
| 2.2 Multiple Activities and Underemployment..... | 21 |
| 2.3 Livelihood Patterns and the Distribution of Work | 24 |
| 2.4 Education and Skills..... | 25 |
| 2.5 Youth Unemployment..... | 27 |
| 2.6 Concluding Remarks..... | 30 |
| 3. FIRM GROWTH AND THE DEMAND FOR LABOR | 31 |
| 3.1 The Business Environment in Mozambique | 31 |
| 3.2 Structure of Employment in Firms | 32 |
| 3.3 Role of Entrant Firms | 38 |
| 3.4 Correlates of Labor Productivity..... | 40 |
| 3.5 Concluding Remarks..... | 43 |

| | |
|--|-----------|
| 4. ELEMENTS OF A JOBS STRATEGY FOR MOZAMBIQUE | 45 |
| 4.1 Raising Labor Productivity in Agriculture and Non-Farm Self-Employment | 46 |
| 4.2 Generating More Wage Jobs in the Formal Sector | 47 |
| 4.3 Concluding Remarks..... | 49 |
| REFERENCES | 51 |
| ANNEX A: DECOMPOSING PRODUCTIVITY GROWTH VERSUS PRODUCTIVITY CHANGE | 54 |
| ANNEX B: STRUCTURE OF FORMAL SECTOR FIRMS AND JOBS IN MOZAMBIQUE, 2003 AND 2016..... | 57 |
| ANNEX C: DATA SOURCES..... | 60 |



INTRODUCTION

This report focuses on the challenge of Mozambique's jobs transition: how to accelerate the shift into higher value-added activities and better livelihoods. As Mozambique enters the next phase of the demographic transition, the working-age population (WAP) is growing rapidly. Education levels are also steadily improving. However, good jobs are not expanding fast enough to absorb the growing, better educated labor force. The risk is that many young people will end up doing the same jobs as their parents—and in similar levels of poverty. In this context, the challenge is to help the labor force (particularly young people entering the labor market) increase their earnings by creating opportunities for more productive work. Regardless of whether they are engaged in self-employment or in wage jobs, it is necessary to link them to sources of capital, technology and markets, and to give them access to scale and agglomeration economies. Otherwise, the demographic dividend will be squandered.

When the civil war ended in the early 1990s, Mozambique was one of the poorest countries in the world. Since then, it has had relatively fast growth and the poverty headcount rate has declined steadily. Growth was fueled initially by aid-financed post-war reconstruction spending. However, the pattern of growth has become progressively less inclusive over the last 20 years. It depends increasingly on energy-related, export-oriented, capital-intensive “megaprojects,” which have generated few jobs directly and indirectly.

A central argument of this report is that the existing growth strategy is limited in its capacity to support continued poverty reduction. The vulnerability of the growth model was highlighted in 2016; a fall in commodity prices, a fiscal crisis related to untenable debt levels, and a severe crisis of economic governance triggered a sharp economic slowdown. Throughout 2017, the economic outlook improved with the recovery of commodity prices and better macroeconomic management. This gave policymakers breathing space to shift from crisis management towards structural policies for more inclusive, jobs-rich growth.

The path to inclusive growth in Mozambique, as in most developing countries, lies in the generation of higher quality jobs, be they wage employment or self-employment jobs. Higher labor earnings will be the main driver of poverty reduction for decades to come. Today, most jobs do not yield sufficient means to raise the workers and their families above the poverty line. Most Mozambicans are self-employed or work in unpaid family jobs. Many of the country's smallholder farmers cannot work full-time because of agricultural seasonality, the lack of assets, and (for women) the burden of household chores. Even in urban areas, wage jobs are scarce. Many self-employed urban workers work long hours but still struggle to obtain a sustainable livelihood.

Changes in the structure of production and jobs are at the heart of development. In Mozambique, as in other lower-income countries in Sub-Saharan Africa, the transition towards higher productivity jobs is still in a very early stage. Much of the structural transformation of the labor force is still taking place within the informal sector. As workers move away from agriculture towards non-farm work, both in rural and urban areas, many remain in relatively low-productivity, informal self-employment. Furthermore, there is growing concern that—in the face of shifting global technology trends, demand growth, and trade policy changes—the traditional route to development, through the expansion of jobs in the manufacturing industry may be closing. Mozambique needs a viable strategy to transition its output and jobs towards better capitalized, more productive activities that can generate increased earnings in a changing world. Better jobs will be at the heart of any successful development strategy (see Box 1). The strategy should include: economy-wide policies that affect the business environment, sectoral-level policies to remove obstacles to the growth of good jobs, and “bottom-up” interventions to support jobs-rich private sector investments in specific regions and sectors.

BOX 1: WHY DO JOBS MATTER?

In developing countries, most jobs are not wage or salaried positions with an employer. Most people are self-employed and many work in family farms or businesses, without being paid separately. Jobs are more realistically defined as any activity that generates income, monetary or in kind, formal or informal. Work can take place in a factory, by the side of the road, within homes, in the backyard, or out in the open.

Jobs don't matter just because they generate incomes. A job also affects a person's identity, status, self-confidence, connections to others in the community, and his or her overall life satisfaction. The type of job, earnings, working conditions, contract, benefits, and safety and security at work all matter. But not all jobs contribute positively to well-being. Although most of the adult population of Mozambique does some sort of work, many jobs are characterized by low productivity, poor working conditions, and meagre earnings. The challenge of jobs policies is to shift as many people as possible into better jobs—either by improving the productivity of their existing jobs and enterprises, or by helping them shift into new activities.

Source: World Bank [2012]

This report consolidates our knowledge on jobs challenges in Mozambique. It brings together data from the 2012 Continuous Household Survey (*Inquérito Contínuo aos Agregados Familiares* (INCAF)) and new data from the 2014 National Household Income and Expenditure Survey (*Inquérito aos Orcamentos Familiares* (IOF)), as well as the 2015 Mozambican Enterprise Census (CEMPRE), and earlier analytical work. The goal is to provide an understanding of the labor market, including labor supply, labor demand, and overall macroeconomic conditions. The analysis covers trends in employment structure, characteristics of workers, key labor market outcomes for different population groups across regions, the incentives and constraints affecting participation in the labor market, and how the evolution of firms impacts labor demand and access to jobs. It will be enriched by additional Let's Work reports which analyze value chains with high potential to generate enhanced jobs, such as agribusiness, forestry, and green construction.

The report is divided into four chapters. Following the introduction, Chapter 1 outlines Mozambique's growth performance and the underlying challenges to job creation which stems from the country's increasing natural resource dependence. Chapter 2 examines the country's demographics and the structure of employment. Chapter 3 examines the structure of firms and the dynamics of firm creation, which influence the demand for labor in the formal sector. Chapter 4 discusses possible elements for a jobs strategy.

1. GROWTH, JOBS, AND PRODUCTIVITY

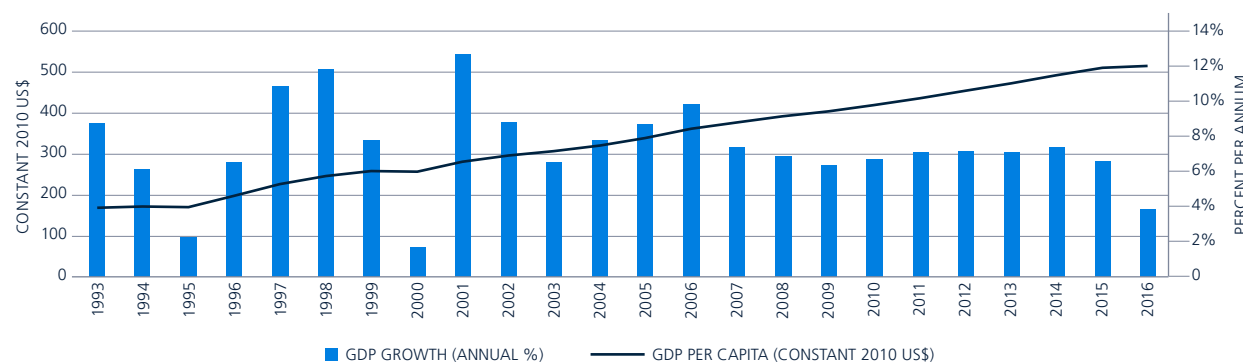
In the decade after Mozambique's long and destructive civil war, which ended in 1992, the country achieved high growth rates and substantial poverty reduction. Economic growth and incomes rebounded on the back of reconstruction investments by households, firms, and the public sector. Transport and infrastructure links were reconstructed which, in turn, connected producers, consumers, and markets. Furthermore, expansions in public services brought new educational opportunities, especially in rural areas. Productivity improved, especially in agriculture, which provides livelihoods for most poor households.

Since 2003, the gross domestic product (GDP) has continued to expand at high rates, averaging over 7 percent per year (Figure 1.1), and poverty has continued to decline, albeit at an uneven pace. The national poverty headcount ratio fell sharply in the initial post-conflict decade—from 68 to 60 percent between 1996 and 2002/03 (Figure 1.2). The pace of poverty reduction slowed, reaching just 59 percent in 2008/09, though it picked up again, reaching 48 percent by 2014/2015.¹

Nonetheless, although growth has reduced poverty, the bottom 40 percent of income earners has been left behind. Their average consumption grew slower than that of the richer deciles, so the share of the bottom 40 percent in private consumption declined, from 14 percent in 2002/03 to 11.4 percent in 2014/15, and the Gini coefficient increased (Figure 1.3).

The non-inclusive nature of Mozambique's economic growth is related, in part, to the country's reliance on "megaprojects." These are large, energy-related, capital-intensive, enclave projects which produce for export. Well-known examples are the Mozal aluminum smelter, the Vale coal mine, and the Sasol gas project. A distinguishing feature of these investments is that, while very productive, they have not generated many jobs. Meanwhile, agriculture, where 85 percent of poor households earn their living, accounted for only 10 to 15 percent of growth in value-added over the last decade, compared to 30 to 40 percent during the 1990s. That is, the sector which exhibits the most dynamism generates few jobs, while the sector which employs the most people lacks dynamism.

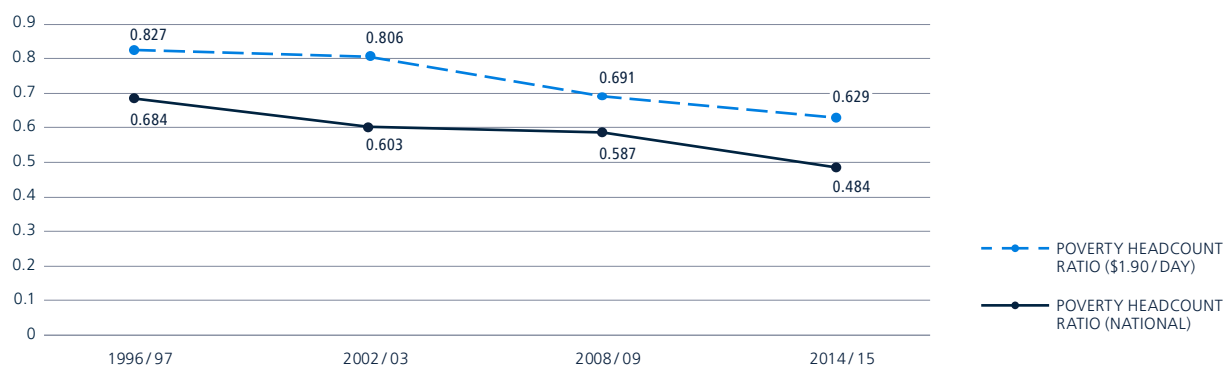
Figure 1.1
Mozambique: GDP growth rate and GDP per capita



Source: World Bank, World Development Indicators (version of June 30, 2016)

¹ The poverty gap [not shown here] also exhibited a similar decline, from 26.6 percent in 2002/03 to 23.1 percent in 2008/09, and 18.3 percent in 2014/15.

Figure 1.2
Mozambique: key poverty indicators



Source: Mozambique's Ministry of Economy and Finance and World Bank calculations using IOF data

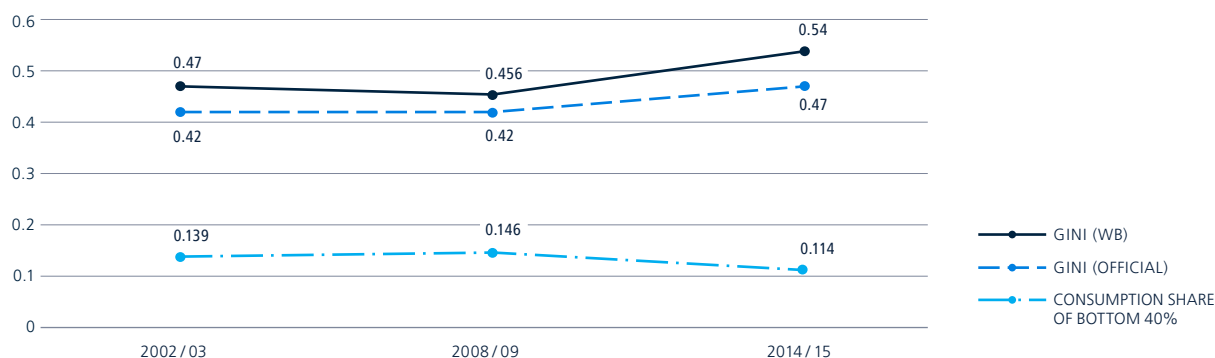
Note 1: The Poverty Headcount ratios using the National poverty line for the periods of 2002/03, 2008/09 and 2014/15 are taken from the 2017 Poverty Assessment, which in turn refers to the underlying IOF data as the primary data source. For the period 1996/97, the National Poverty Headcount figure represents an average of the "roughly 69 percent" figure referred to in the Country Partnership Framework (CPF) 2012 and the 68 percent referred to in the Systematic Country Diagnostic (SCD) 2016

Note 2: The Poverty Headcount ratios based on the \$1.90/day poverty line for all four periods are taken from the World Bank, World Development Indicators (March 2018)

Nor has service sector growth—including financial services, tourism, trade, transport, and the public sector—favored the poor. Except for wholesale and retail trade, formal service sector jobs tend to require more education and higher level skills. This effectively excludes most of the labor force, which remains trapped in low level skill self-employment. Public and private sector investment has fueled construction sector growth, which created low-end jobs, especially in Maputo. However, manufacturing, which has generated jobs transformations in many low-income developing countries (such as the "Asian Tigers"), has lagged behind the economy as a whole. This is striking, as Mozambique once had Africa's seventh largest manufacturing sector.

The pattern of extractives-based growth also carries the risk of compromising Mozambique's competitiveness through Dutch disease effects, as the gas sector begins to generate large export revenues. This refers to the real exchange rate appreciation induced by increased natural resource exports. It weakens the competitiveness of the non-resource tradable sectors (such as agriculture and manufacturing) and creates a vicious circle that renders the economy even more dependent on extractives. Mozambique does not yet appear to be experiencing significant Dutch disease problems, as it is still in the capitalization phase (funded mainly by foreign direct investment), but the risk will intensify as production comes on tap over the next decade.

Figure 1.3
Mozambique: evolution of inequality indexes



Source: Mozambique's Ministry of Economy and Finance and World Bank calculations using IOF data

Note 1: The Gini (WB) coefficient is from World Bank, World Development Indicators (June 2018)

Note 2: The Gini (Official) coefficient and the consumption shares of the bottom 40 percent are from World Bank, Mozambique: Poverty Assessment (draft September 22, 2017)

1.1 THE SECTORAL STRUCTURE OF JOBS

The non-inclusive pattern of economic growth reflects a disconnect between changes in the structure of output and the structure of jobs since the mid-1990s. Like most developing countries, Mozambique exhibits a declining share of agriculture in output, with a fall from 38 percent to 25 percent between 1996 and 2014. This was accompanied by an increasing output share of industry (up from 10 percent to 19 percent), mostly due to mining, and with most of the increase concentrated within the first decade. Mozambique also shows a declining share of jobs in agriculture. However, the relatively fast growth of industrial output did not translate into many more jobs. The share of jobs in industry only increased from 4.4 to 4.9 percent, and it declined slightly during the decade of fastest output growth.² Instead, there was a marked increase in service jobs. Although the output share of services changed little (hovering around 50 percent), its share of jobs ballooned, from 9 to 24 percent (Table 1.1).

Table 1.1
Mozambique: structural evolution of the economy; by sector

| | 1996 | 2003 | 2009 | 2014 |
|------------------------------|-------------|-------------|-------------|-------------|
| Sector shares of GDP | | | | |
| Agriculture | 38.1% | 31.4% | 30.5% | 25.5% |
| Industry | 10.2% | 21.1% | 19.7% | 18.8% |
| Services | 51.8% | 47.7% | 49.8% | 55.7% |
| Total | 100% | 100% | 100% | 100% |
| | 1996 | 2003 | 2009 | 2014 |
| Sector shares of jobs | | | | |
| Agriculture | 86.6% | 80.5% | 80.4% | 71.0% |
| Industry | 4.4% | 3.4% | 4.7% | 4.9% |
| Services | 9.0% | 16.1% | 15.0% | 24.0% |
| Total | 100% | 100% | 100% | 100% |

Source: World Bank Group, Jobs Cross-Cutting Solutions Area data file for Mozambique

² When disaggregating the Industry sector into Manufacturing and Mining, Jones and Tarp [2016] find that Manufacturing's share of output only increased by 1 percentage point during 1996–2014, while Mining's share tripled from 3 to 9 percent. At the same time, Manufacturing's share of employment rose from 3 to 4 percent, while Mining's share fell from 2 to 1 percent, leaving the combined employment share for Industry basically unchanged.

Over the last two decades, Mozambique’s per capita GDP growth has been almost entirely attributable to rising labor productivity. This can be observed by a growth accounting exercise that decomposes the growth of per capita GDP into its separate components:³

$$\% \Delta(Y/P) = \% \Delta(Y/E) + \% \Delta(E/LFP) + \% \Delta(LFP/WAP) + \% \Delta(WAP/P)$$

where:

- $\% \Delta$ stands for percentage change;
- Y refers to GDP;
- P refers to total population;
- E refers to total employment;
- LFP stands for labor force participants;
- WAP stands for working age population.

Table 1.2 shows the percentage change in each of these variables between 1996 and 2014. Over the entire period, per capita GDP growth averaged 4.85 percent, and the single greatest contributor to that growth rate has been productivity growth, with 5.36 percent annual growth. The impact of changes in the unemployment rate, labor force participation rates, and the ratio of working age to total population have been negligible by comparison.

Table 1.2
Decomposition of growth in per capita value added, Mozambique 1996–2014

| | 1996–2014 | 1996–2003 | 2003–2008 | 2008–2014 |
|--|-----------|-----------|-----------|-----------|
| Annual growth of GDP per capita | 4.85 | 5.41 | 5.30 | 3.83 |
| % Annual contribution to growth of: | | | | |
| Productivity (Y/E) | 5.36 | 5.01 | 6.30 | 4.89 |
| Employment rate (E/LFP) | –0.07 | 0.27 | –0.27 | –0.30 |
| Participation rate (LFP/WAP) | –0.34 | 0.28 | –0.49 | –0.87 |
| Demographic change (WAP/P) | –0.09 | –0.15 | –0.24 | 0.11 |

Source: World Bank Group, Jobs Cross-Cutting Solutions Area data file for Mozambique

Mozambique’s GDP growth rate appears to be gradually declining over time. It grew on average at over 5 percent between 1996 and 2008, but under 4 percent since 2008. This can be traced, in part, to a decline in labor productivity growth, but it also reflects declines in the employment and labor force participation rates. A countervailing influence has been the growth in the relative size of the WAP. Mozambique’s employment and labor force participation ratios are still very high by international standards. However, their declining trend is somewhat striking, and will be examined in Chapter 2 of this report.

The key to poverty reduction is better-paying jobs, and such jobs mainly depend on raising labor productivity. Broadly speaking, there are two ways in which increases in labor productivity take place. The first—known as “within-sector” productivity growth—is productivity growth in the sectors where workers are already deployed. This can be generated by capital deepening investments, which raise the capital-labor ratio.

³ By definition, $GDP/capita = Y/P = [Y/E] * [E/LFP] * [LFP/WAP] * [WAP/P]$. Differentiating both sides of this equation yields equation 1 in the main text.

It can also arise from increases in total factor productivity, due to technological progress rendering both workers and capital investments more productive. These two elements can be hard to distinguish as technological progress is often embodied in the same new investments which also raise the capital labor ratio. The other potential source of productivity growth—known as “between-sector” productivity growth—is the redeployment of workers from low productivity sectors towards sectors with higher productivity. The decomposition of changes in total labor productivity into these separate components offers useful insights into the structure of economic growth. It can be calculated via the following formula:

$$\Delta(Y/E) = \sum_i (S_i * \Delta W_i) + \sum_i (\Delta S_i * (W_i - W))$$

where:

- \sum_i denotes the sum across all sectors;
- S_i refers to the employment share of sector i ;
- W_i refers to the productivity level in sector i ;
- and W refers to the average labor productivity level in the economy-wide.

This equation shows that the change in total labor productivity is equal to the sum of sector productivity changes weighted by the sector employment ratios (within-sector productivity growth), plus the sum of changes in sector employment ratios weighted by the sector productivity rates (between-sector productivity growth).⁴

Table 1.3 presents the results from decomposing total labor productivity into sector-specific “within” and “between” effects. Over the entire period from 1996–2014, within-sector and between-sector productivity changes have contributed equally to total productivity growth. However, the role played by each sector has been very different: the industry sector’s contribution to total productivity growth has been almost exclusively through within-sector productivity growth (that is, high capital investments and innovation, mainly in mining), while the services sector contributed almost nothing by way of this channel. In contrast, the services sector has contributed the most to aggregate labor productivity growth by way of between-sector growth (that is, facilitating inter-sectoral shifts of labor out of the low-productivity agriculture sector into the more productive services sector), while industry contributed nothing in this regard. Only agriculture has made a somewhat balanced contribution through both channels.⁵

⁴ The mathematics behind this decomposition can be summarized as follows: since aggregate GDP [=Y] is the sum of sector value-added, $Y_{Ag} + Y_{In} + Y_{Se}$, we can write total labor productivity [Y/E] as a weighted sum of sector productivity levels:

$$Y/E = (Y_{Ag} + Y_{In} + Y_{Se})/E = S_A * W_A + S_I * W_I + S_S * W_S = \sum_i (S_i * W_i),$$

The change in total labor productivity can then be expressed as:

$$\Delta(Y/E) = \sum_i (S_i * \Delta W_i) + \sum_i (W_i * \Delta S_i) = \sum_i (S_i * \Delta W_i) + \sum_i (\Delta S_i * (W_i - W)).$$

The last term on the right, W , refers to the economy-wide average labor productivity level and, by definition, $\sum_i (\Delta S_i * W) = 0$; that is, the sum of changes in employment shares across all sectors must cancel out to zero. In regard to the between-sector effects given by the last term of this equation, note that if the productivity of sector i is greater than the average labor productivity, an increase in the sector i ’s employment contribute positively to raising overall productivity levels, while if sector i were less productive than the average, increasing sector i ’s employment share diminishes total productivity.

⁵ Sam Jones and Finn Tarp [2016] arrive at similar results using a slightly different decomposition analysis, which is discussed in Annex A.

Table 1.3

Mozambique: decomposition of total labor productivity change, 1996–2014

| | 1996–2014 | | 1996–2003 | | 2003–2008 | | 2008–2014 | |
|------------------------------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
| <i>Annual Average Growth of:</i> | % | % of total | % | % of total | % | % of total | % | % of total |
| Total Labor Productivity | 5.36 | 100% | 5.01 | 100% | 6.30 | 100% | 4.89 | 100% |
| Within-Sector Contribution | 2.60 | 49% | 1.76 | 35% | 5.73 | 91% | 1.03 | 21% |
| Agriculture | 1.30 | 24% | 1.12 | 22% | 1.77 | 28% | 1.10 | 22% |
| Industry | 1.20 | 22% | 3.07 | 61% | –0.30 | –5% | 0.60 | 12% |
| Services | 0.10 | 2% | –2.42 | –48% | 4.26 | 68% | –0.68 | –14% |
| Between-Sector Contribution | 2.76 | 51% | 3.24 | 65% | 0.57 | 9% | 3.86 | 79% |
| Agriculture | 0.59 | 11% | 0.53 | 11% | 0.02 | 0% | 1.01 | 21% |
| Industry | 0.08 | 1% | –0.53 | –11% | 1.05 | 17% | 0.14 | 3% |
| Services | 2.10 | 39% | 3.25 | 65% | –0.50 | –8% | 2.71 | 55% |

Source: World Bank calculations using data from World Bank Group, Jobs Cross-Cutting Solutions Area data file for Mozambique

Note: Calculations are based on the methodology in footnote 4

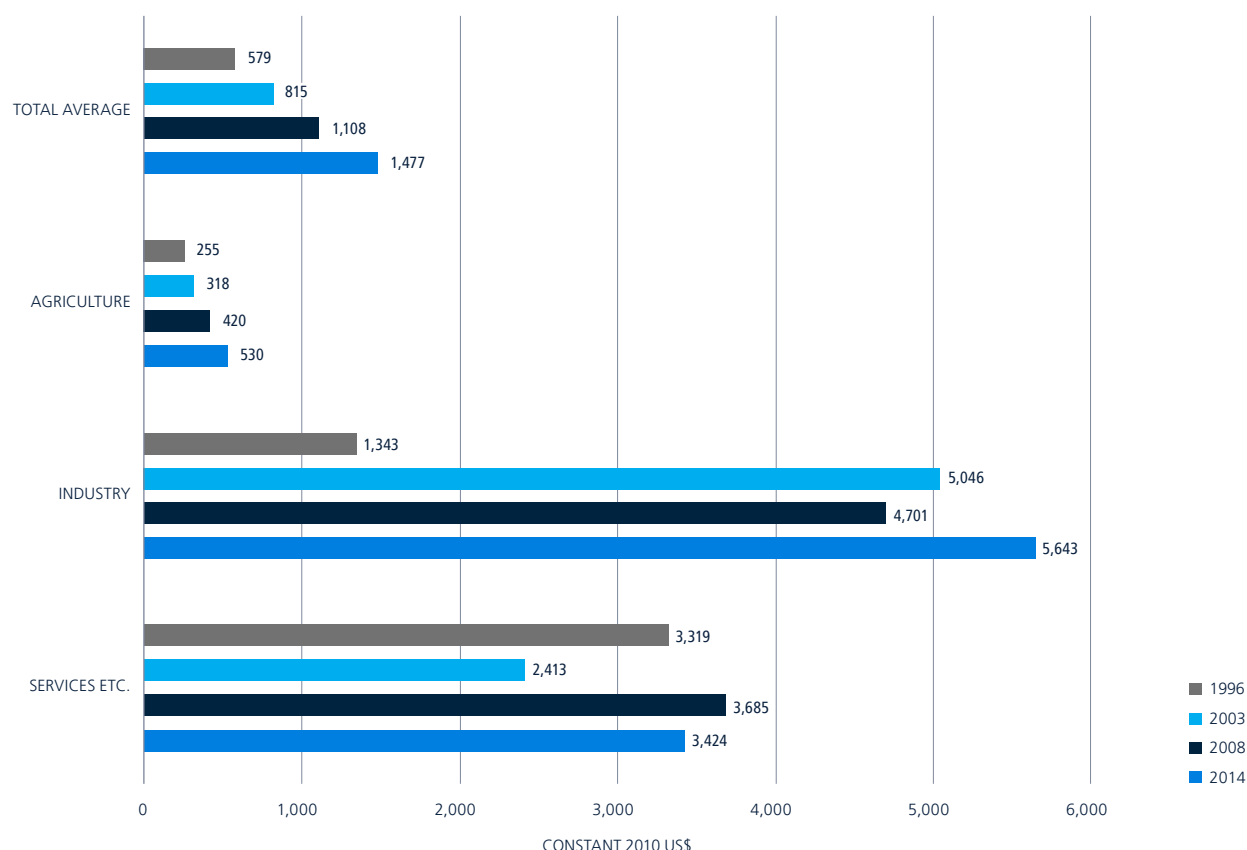
The prominent role played by the services sector in sustaining overall productivity growth in Mozambique is a source of concern, due to the relatively low and falling average productivity level of the new jobs. The shift from agriculture into services still generates productivity gains because agricultural productivity is even lower. So long as productivity levels in services are above the national average (which is pulled down by agriculture), inter-sectoral shifts into the services sector will continue to raise overall productivity. However, as more and more labor shifts from agriculture to services, in the absence of significant capital investments in services, within-sector productivity growth in services is bound to decline. Such a decline already appears to have begun during 2008–2014. This indicates that the marginal productivity of new workers entering the services sector is below the average productivity level in the sector, and may not be that much higher than average productivity in agriculture.⁶

The share of agriculture in total employment has been declining gradually since the mid-1990s, and agriculture for the first time also had an absolute decline in employment between 2008 and 2014. Nevertheless, agricultural output continued to increase, which suggests that the marginal productivity of those that exited the agriculture sector was close to zero.

Mozambique's large differences in sector productivity levels and earnings are indicative of barriers to labor mobility. This is typical of economies with segmented modern and traditional sectors; see, for example, Lewis (1954), Loewenstein and Bender (2017). Between 1996 and 2014, labor productivity growth averaged 5.4 percent per year for the entire economy. Labor productivity in agriculture grew more slowly, at 4.1 percent, while that of industry was significantly higher, averaging 8.3 percent. These disparate growth rates have resulted in large productivity gaps (Figure 1.4): agriculture's productivity level in 2014 was only approximately one-third of the economy-wide average, while that of industry was almost four times greater than the economy-wide average (with mining alone being 9 times more productive). Furthermore, there is little sign of convergence in productivity levels across sectors. Although productivity in agriculture has been steadily improving over time,

⁶ However, the evidence also suggests that not all the new jobs in services are low productivity informal jobs—the growth of the sector also includes a significant rise of formal sector wage jobs, with relatively high productivity. It is a bipolar distribution, with a declining mean.

Figure 1.4
Mozambique: average labor productivity by sector



Source: World Bank calculations using data from World Bank Group, Jobs Cross-Cutting Solutions Area data file for Mozambique

it still fell from 41 to 37 percent of average productivity, rather than rising toward the economy-wide level. Meanwhile, productivity levels in industry and services appear to have reached a plateau.

As Baldwin et al. (2017) point out, when large productivity gaps exist between sectors, as is the case in Mozambique, it follows that there are significant opportunities for structural shifts (that is, between-sector shifts) of labor to raise overall productivity. Since this is particularly common in low-income countries (LICs), a standard prediction is that low-income countries will focus on increasing productivity and improving jobs mainly by moving resources across sectors and away from agriculture. In contrast, at higher levels of income there would normally be fewer productivity differences to exploit through inter-sectoral shifts and increases in overall productivity would be mostly associated with allocative improvements within sectors.

However, in Mozambique, between-sector contributions to productivity growth and within-sector contributions have been roughly equal over the last two decades. What stands out most is that industry, which is the most productive sector, has made minimal contributions to productivity growth on both counts. This suggests that the standard paradigm is not playing out as expected and that it may also be important to focus on the structural gaps that can exist within each of the main sectors. Productivity gaps can be extremely large between traditional businesses—whether in farming or off-farm household enterprises (HEs)—and modern, well-capitalized activities operating at scale and with good market linkages.

1.2 THE STRUCTURE OF EMPLOYMENT BY JOB TYPE

There are significant differences in productivity across different activities within each of the broad categories of agriculture, industry, and services in Mozambique. The growth-enhancing impact of shifting jobs from agriculture toward industry is not an intrinsic feature of these sectors. Rather, it is the outcome of a shift from low-technology, traditional activities into modern, technologically more advanced activities. The growth dynamics that result from redeploying resources in this manner apply, independently of whether it takes place across sectors or within a particular sector. For example, growth can be generated by shifting resources (such as labor and land) from small-scale, subsistence farming to more productive commercial agriculture.

A look at job types is another way of capturing the employment transition from traditional economic activities toward more modern activities. In Mozambique, as in many other African countries, employment statistics distinguish between three broad job type categories. They are: wage-based employment, both in the private sector and the public sector; informal self-employment in agriculture, which includes self-employed smallholder farming and wage-work in agricultural, fishing and forestry activities; and informal self-employment in non-farm activities, rural or urban.

Using this classification, non-agricultural, wage-based jobs serve as a proxy for the modern, technologically advanced sectors of the economy, and are considered the most desirable, “good” jobs. In contrast, agriculture stands in for the more traditional, least mechanized activities, while the non-farm self-employment category—also often referred to as Household Enterprises (HEs)—captures those workers who have left agriculture and found informal work in the services and industry sectors. The top panel of Table 1.4 reports trends in employment shares by the normal sector categories; and the bottom panel reports trends in the structure of jobs in Mozambique using these categories of job type.

Table 1.4
Employment Shares by Sector and Job Type

| | 1996 | 2008 | 2014 |
|--------------------------------------|-------------|-------------|-------------|
| Employment Shares by Sector | | | |
| Agriculture | 86.6% | 80.4% | 71.0% |
| Industry | 4.4% | 4.7% | 4.9% |
| Services | 9.0% | 15.0% | 24.0% |
| Total | 100% | 100% | 100% |
| Employment Shares by Job Type | | | |
| Agriculture | 85.0% | 85.1% | 71.5% |
| Non-Farm Wage | 10.6% | 10.8% | 16.3% |
| o/w Private Sector | 4.2% | 7.5% | 12.2% |
| Public Sector | 6.4% | 3.3% | 4.1% |
| Non-Farm Self-Employment | 4.4% | 4.2% | 12.0% |
| Total | 100% | 100% | 100% |

Source: World Bank, based on data collected from IOF

Both employment classifications—by sector and by job type—show similar declines in the employment share of agriculture between 1996 and 2014. This is reflective of the structural transition typically observed in most developing countries. The share of jobs in agriculture declined by 13.5 percentage points over this period, and the share of public wage jobs declined by 2.3 percent. This reduction was redistributed among private sector wage jobs and non-farm self-employment activities in almost equal proportion (8 and 7.5 percentage points, respectively). Meanwhile, the decline of employment share in agriculture was almost entirely absorbed by increases in the employment share of services. It can be inferred that the increase in service sector employment over this period was evenly distributed among “good” private sector wage jobs and “poor” non-farm, largely informal, self-employment activities. This helps to explain why labor productivity in the services sector only fell by modest amounts despite the large influx of labor from agriculture. That is, even though about half of the labor released from agriculture was drawn into low-tech informal self-employment activities whose productivity levels are not likely to be significantly higher than those found in agriculture, the other half did find higher-quality, more productive jobs.⁷

1.3 GROWTH AND POVERTY REDUCTION IN MOZAMBIQUE

When labor productivity grows over 5 percent per annum, poverty headcount rates tend to decline, and Mozambique is no exception. In the two decades between 1996 and 2015, Mozambique’s poverty headcount ratio declined by an annual average of 1.54 percentage points applying the national poverty line and 1.60 percentage points applying the \$3.10 per day international poverty line. This compares favorably with the average pace of poverty reduction among all low-income countries and all Sub-Saharan African countries during this period, whose annual rate of poverty reduction averaged less than 1 percentage point.⁸ At first sight, this finding is somewhat puzzling, in view of Mozambique’s non-inclusive pattern of growth. The elasticity between GDP growth and poverty reduction usually tends to be lower when income distribution is more unequal. One clue to this puzzle is that Mozambique’s overall average productivity level remains extremely low, despite steady annual advances. In 2014 total labor productivity was estimated to be around US\$1,477, expressed in constant 2010 US Dollars. While this is three times higher than the US\$579 in 1996, it still translates into an annual income of only around \$500 per capita. This lies well below the international thresholds of \$1.90 per day for extreme poverty (\$694 per year) or the \$3.10 per day for poverty (\$1,132 per year).⁹

When the average per capita income is below the poverty threshold and incomes are evenly distributed, the vast majority of the population falls below the poverty line. This reality characterized Mozambique in the early 1990s, when 94 percent of the population was considered poor and 85 percent counted as extreme poor. When an economy begins to grow from such a low starting position, some households’ earnings rise faster than others. While this enables them to rise above the poverty line, it results in a more unequal income distribution.¹⁰ This yields the counterintuitive finding that there can be a positive association between

⁷ Unfortunately, the IOF database does not include data on output produced by job type, so it is not possible to compute labor productivity levels using that classification.

⁸ Mozambique’s record in reducing extreme poverty (using the \$1.90 per day threshold) compares less favorably, however, as the annual reduction only averaged 0.6 percentage points versus the 1.6 percentage points observed in the low-income and Sub-Saharan African countries overall.

⁹ The \$3.10 poverty threshold refers to constant 2011 US\$, and therefore would be a little lower when using constant 2010 US\$ figures, as done in this report. However, the difference is likely to be negligible. Also, according to the National Income Accounts, Mozambique’s Gross National Income (GNI) averaged around 97 percent of Gross Domestic Product (GDP) over the last decade, while Total Consumption averaged about 99 percent of GDP. In other words, the figure of \$500 per annum for per-capita GDP is also representative of average earnings and consumption.

¹⁰ This is essentially the story told by Deaton (2013) to explain the positive association between poverty reduction and increased inequality during the initial phases of a country’s development.

rising income inequality and poverty reduction.¹¹ However, this process of non-inclusive growth eventually loses momentum. Once the mean income level passes the poverty threshold, greater income inequality translates into more poverty. Further reductions in poverty are best achieved through a more inclusive growth path, where the focus is to increase the share of the bottom 40 percent of the income distribution.

The non-inclusive nature of Mozambique's recent growth raises concerns about its future sustainability.

The main driver of growth has been mining, which has attracted the most investment. However, it has been the least effective in generating jobs. Agriculture, where most poor people work, has had little investment and its productivity growth has been correspondingly slow. The main source of productivity growth over the last six years has been between-sector shifts, with workers exiting agriculture and entering urban services. This has reduced the overall poverty headcount ratio over the last decade, but raises questions about sustainability; in the absence of enough investment in the services sector to capitalize all the inflow of workers, its sector productivity growth has started to decline. If this is not corrected, future migrants will crowd increasingly into jobs with declining marginal productivity, which would result in the exchange of rural poverty for urban poverty.

1.4 CONCLUDING REMARKS

Mozambique's economy displays the classic problems of resource-rich economies in Sub-Saharan Africa.

These problems include: high capital intensity of investment in extractive sectors, where relatively few jobs are enhanced; low rates of private investment outside the extractive sectors; and slow development of higher value-added activities in non-extractives sectors, which results in low growth in productivity and incomes in the sectors where the poor work (that is, agriculture and low productivity services). If these trends continue, the prospects for inclusive growth and accelerated poverty reduction are poor.

To achieve inclusive growth, Mozambique needs better jobs for households in the bottom 40 percent of the income distribution. Mozambique's gross national income (GNI) is currently around US\$500 per person (Atlas method). This is below that of most neighboring countries and below the average for Sub-Saharan Africa. The fact that over 50 percent of its citizens live below the international poverty line is not surprising. Nevertheless, Mozambique's poverty rate is much higher than that of Uganda, which has a similar gross national income per capita. Uganda, Rwanda, and Bangladesh are examples of countries that have emerged from the ashes of conflict to deliver strong and relatively inclusive growth. This growth was achieved by investments in the sectors where poor households earn their living, especially in agriculture, and encouragement of private investment in labor-intensive firms, which creates new wage employment in urban areas. This growth pattern created productive employment, raised labor incomes, and allowed households to work their way out of poverty. The result was a virtuous cycle of investment, rising labor earnings, and poverty reduction. This is the growth pattern that Mozambique should aim to emulate.

Mozambique should invest more in labor-intensive activities in services, agriculture, and industry.

Investment in services would allow the sector to continue to absorb the surplus labor from agriculture without pushing down marginal productivity. Investment in agriculture is important to enhance the jobs of those who do not migrate from the sector. In this way, they can become more productive and see their earnings rise more quickly without having to migrate. In both sectors, Mozambique needs more jobs that are linked to modern productive systems that can generate higher wages, whether as wage jobs, or as independent suppliers of value chains. Additionally, it is important to revive the country's moribund manufacturing sector, which was once

¹¹ Technically speaking, we can explain the evolution of the poverty headcount ratio by (i) changes in the average income level, leaving income distribution the same, and (ii) changes in the income distribution, leaving average income the same. Increases in average per capita income or GDP without changing the distribution always result in a lower poverty headcount ratio [though with an elasticity that depends on the degree of inequality of income distribution]. In contrast, changes in the dispersion of the income distribution without changing the average income level either increase or decrease the poverty headcount ratio depending on where the poverty threshold lies in relation to the average income level. To see this, consider a mean-preserving spread of a typical income distribution. This has the effect of placing a greater proportion of households near the two extremes of the distribution and away from the mean. Now, if the poverty threshold lies above the mean income level, a greater proportion of households will end up above that threshold, which means that the poverty headcount ratio falls. Clearly, the opposite holds true when the poverty threshold lies below the mean income level. Insofar as Mozambique's average income per capita has still remained below the international [\$1.90 and \$3.10 per day] poverty lines, greater disparity in the income distribution would be expected to reinforce the poverty-reducing impact of rising average income.

important but has collapsed over the last two decades. This includes finding ways to leverage forwards and backwards linkages from the large investments that are planned in mining and extractives to generate better jobs in agriculture and more formal jobs in manufacturing and services.

The prospective development of new megaprojects linked to oil and gas in the north provide an opportunity for Mozambique to reorient its growth pattern. The megaprojects refer to the massive pipeline of gas-related investments. The International Monetary Fund (IMF) projects that GDP will double within the next decade, and gross domestic investment will increase from almost 50 percent of GDP in 2014 to over 100 percent in 2020. Most of these investments are projected to be in the form of private megaprojects and therefore likely to be largely concentrated in capital-intensive extractives sectors. The macroeconomic challenge facing the authorities in this context will be to avoid the Dutch disease effects associated with such large investment projects while also leveraging these investments to promote the country's structural transformation (see Box 2).

Mozambique's emerging demographic transition calls for a jobs-centered growth strategy.¹² Mozambique's WAP will grow rapidly for several decades while the dependency rate will decline sharply. This offers a potential demographic dividend. However, it brings with it the challenge of generating enough good jobs to absorb the inflow of new workers into the labor force. If that can be done, poverty reduction will accelerate. However, without enough good jobs, little will change. Chapter 2 presents a detailed analysis of demographic trends and the structure of the labor force, which highlights the corresponding challenges and opportunities.

BOX 2: THE DANGER OF DUTCH DISEASE

The origin of the term “Dutch disease” comes from an economic crisis in the Netherlands which followed the discovery of North Sea natural gas in the 1960s. It refers to the phenomenon where an increase of resource exports generates large inflows of foreign currency, which causes the exchange rate to appreciate. This, in turn, weakens the competitiveness of the non-resource tradable sectors, whose exports become more expensive in foreign markets, while they face cheaper imports in the domestic market. Higher revenues from resource exports raise the domestic demand for both tradable and non-tradable goods and services. This drives up the prices of non-traded goods relative to the prices of tradable goods, given that in a small open economy the prices of tradable goods are determined in the global market.

Therefore, the nominal exchange rate appreciation also translates into a real exchange rate appreciation. Investment in the extractive industries and the domestic non-tradables sector becomes more attractive and tends to crowd-out investment in other tradable sectors, whose costs have risen. This, in turn, damages the growth prospects of the non-resource tradable sectors, leaving the economy more dependent on the extraction of non-renewable resources.

Contrary to the common pattern among developing countries where this set of interactions occurs, Mozambique does not yet appear to be experiencing significant Dutch disease problems. Oftentimes these interactions stifle productivity growth in agriculture, where most of the poor work now, and dampen jobs growth in manufacturing. However, in Mozambique since 2008, exports have remained stable as a share of GDP. The main inflows of foreign currency have been in the form of foreign direct investment, and were used to finance equally large outflows to pay for import-intensive investments in extractive industries. However, as this investment phase comes to an end and net exports of gas and oil kick in toward the end of the decade, the risk of Dutch disease will increase.

There are several possible policies which could mitigate the impact of Dutch disease. They include keeping public spending under control; setting up a sovereign wealth fund to relieve the pressure on the exchange rate by partly offsetting the current account surplus with a capital account deficit; and promoting greater competitiveness in the non-resource tradables industries through sector reforms.

Source: World Bank [2016]. “Mozambique: Systematic Country Diagnostic.” The World Bank, Washington D.C.

For further information on productivity growth versus productivity change, see Annex A.

¹² World Bank [2016]. “Searching for the demographic dividend in Mozambique: an urgent agenda.” World Bank Group, Washington D.C. Available from: <http://hubs.worldbank.org/docs/ImageBank/Pages/DocProfile.aspx?nodeid=26519678>.





2. DEMOGRAPHICS, LABOR SUPPLY, AND JOBS OUTCOMES

Chapters 2 and 3 examine the obstacles to the transition from low to higher productivity jobs on, respectively, the supply side and demand side of the labor market. If not enough “better” jobs are being created in Mozambique, does the problem lie on the supply side, in the absence of adequate human capital and training in the workforce, preventing these workers from being recruited into more demanding jobs? Or does the problem lie in the absence of sufficient demand for workers in the modern sector and among formal sector firms in the economy? In seeking for clues to answer these questions, we will also look at barriers to worker mobility and exclusion factors that hinder some groups from participating in the labor market.¹³

Mozambique is in the early stages of its demographic transition. The country’s demographics reveal the importance of productive employment as a path out of poverty. On average, fertility is still 5.9 children per female. Fertility is increasingly unequal between rural and urban areas, and across socio-economic groups. Seventy percent of the population still lives in rural areas, where fertility is higher and living standards are lower. Currently, 45 percent of the population is under the age of 15. This indicates that the labor force will grow rapidly for the next several decades. The youth population (ages 15–24) represents 20 percent. Therefore, nearly two-thirds of the population is under the age of 25. This is not likely to change soon; United Nations projections show that in 2030, the share of the population under the age of 15 will still be 41.5 percent. As shown in Table 2.1, Mozambique’s WAP, as a share of the total population, is projected to increase from 51 percent in 2014 to 55 percent by 2030. Therefore, almost 500,000 people (net) will enter the labor force each year over the next decade—almost twice as many as over the last decade.

¹³ One issue not dealt with in this report is wage migration, which historically had been an important source of rural incomes in the Southern region of Mozambique. The role of migration and remittance flows has diminished significantly since the end of the civil war in the early 1990s. The stock of Mozambican migrants living abroad in 1990 was estimated at over two million people, or 17 percent of the total Mozambican population, mostly war refugees living in South Africa, Malawi, Zimbabwe, and Tanzania. This share declined to 2.5 percent in 2015. Remittance inflows also exhibited a major decline; from 2.8 percent of GDP in 1990 to 0.7 percent in 2012 [United Nations, 2014]. These figures reflect a decline in the net migration rate and a correspondingly lower impact on Mozambique’s labor force demographics. Based on United Nations projections, Mozambique’s total working age [15–64] population is projected to increase by 2.5 million persons between 2020–2025, of which about 20,000 are expected to emigrate, or less than 1 percent. While not insignificant, these figures attest to a modest impact at the national level. They do play an important role at the regional level, however, given that their impact is mostly concentrated in the South. Based on data from 1996–2004, de Vletter [2007] found that 55 percent of rural households in the southern region of Mozambique had at least one member with wage employment. The ratio was much lower in the Central [19 percent] and North [7 percent] regions. Furthermore, 53 percent of households in the South region that received wage income had a family member employed outside Mozambique; compared to 3 percent and 1 percent in the other regions. So around 20 percent of households in the southern region received foreign remittances, but hardly any households elsewhere, which helps explain why poverty is so much lower there than in the Central and North regions.

Table 2.1
Demographic and Labor Market Snapshot of Mozambique

| | Actual | | | Projected | |
|---|---------------|--------|-----------|---------------|--------|
| | 1996 | 2014 | 1996–2014 | 2020 | 2030 |
| | 1,000 persons | | % change | 1,000 persons | |
| 1 Population, total | 16,411 | 27,216 | 65.8% | 31,736 | 41,437 |
| 2 Working Age Population (WAP), ages 15–64 | 8,525 | 13,921 | 63.3% | 16,784 | 22,824 |
| 3 Dependent Population, <15 and 65+ | 7,886 | 13,295 | 68.6% | 14,952 | 18,613 |
| 4 Labor Force (LF) | 7,174 | 11,081 | 54.5% | | |
| 5 Out of Labor Force | 1,351 | 2,840 | 110.2% | | |
| 6 Employment | 7,126 | 10,679 | 49.9% | | |
| Key Labor Market Ratios | | | | | |
| Working Age Population, % of total Pop. (2/1) | 51.9% | 51.2% | | 52.9% | 55.1% |
| Labor Force Participation, % of WAP (4/2) | 84.2% | 79.6% | | | |
| Employment Rate, % of LF (6/4) | 99.3% | 96.4% | | | |
| Unemployment rate, % of LF ((4–6)/4) | 0.7% | 3.6% | | | |
| Dependency ratio (3/2) | 92.5% | 95.5% | | 89.1% | 81.6% |

Source: World Bank calculations, based on United Nations demographic data

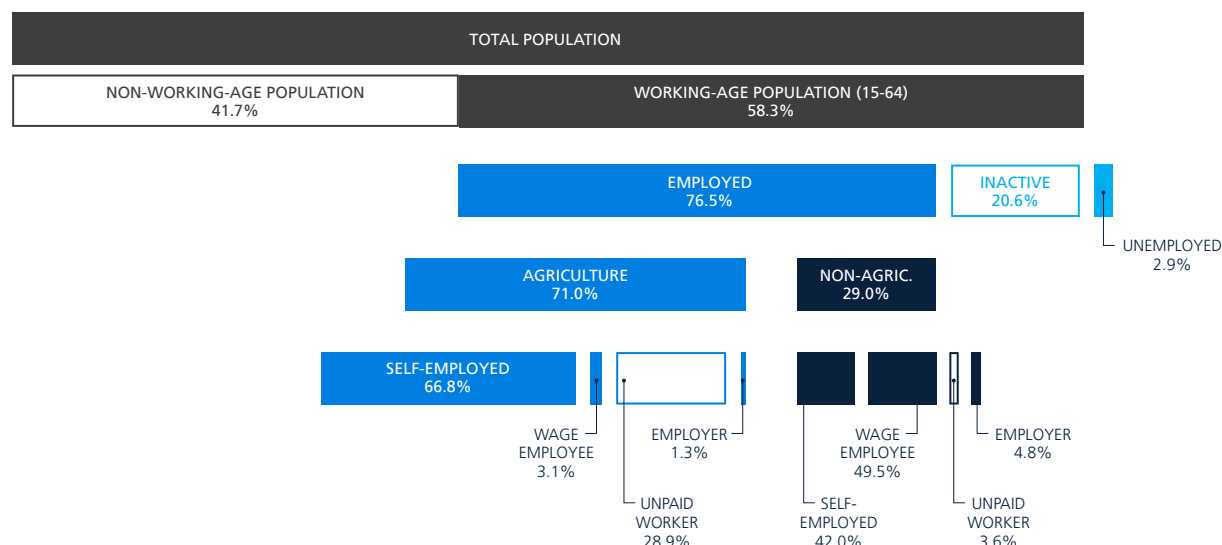
Note 1: The employment figures (Row 6) are estimates based on the IOF 1996 and IOF 2014 surveys

The rapid addition of young people into Mozambique’s labor force is both an opportunity and a challenge. In the right environment, a young, dynamic labor force can spur innovation and be an engine of growth, which drives up living standards. In addition, the rapid growth of the WAP implies a falling dependency ratio—from 96 percent in 2014 to 82 percent in 2030—so that for every salary earned, there are fewer mouths to feed. This also raises living standards. However, a rapidly growing young population challenges public services, such as education and health, which are necessary to develop the human capital needed for productive employment. At the same time, with so many people entering the labor force, large investments are needed to ensure the capital, infrastructure, and technology they need to be productive.

Mozambique’s emerging demographic transition raises the question of whether its economy can generate enough new jobs to employ the projected increase in the number of workers. From a macroeconomic perspective, Mozambique’s impressive growth performance over the last 18 years (averaging over 7 percent per annum) and low unemployment rates (under 3 percent) indicate that the economy has grown fast enough to outpace the growth of the labor force. Therefore, in principle, it should be capable of accommodating all new labor force entrants without entailing a fall in overall labor productivity. The more pertinent question, however, is whether the economy is capable of generating enough “good” jobs that can raise the jobholders’ prospects of escaping poverty in the foreseeable future. In this regard, Mozambique’s structural evolution over the last two decades raises concerns.

Mozambique’s jobs transition has been lagging the country’s output transition, which has resulted in great differences in labor productivity across sectors or job types. The economic sectors or job types that contributed most to Mozambique’s rapid economic growth in recent decades have not expanded their employment proportionally. Rather, most labor force entrants have been accommodated in the sectors or job types that exhibit the lowest productivity levels (that is, agriculture and non-farm informal services jobs), while relatively few labor force entrants have been able to gain access to jobs in industry or to wage-based service jobs with higher labor productivity. This slow transformation of jobs, if allowed to continue, is bound to create frustration and disappointment among youth.

Figure 2.1
The structure of the Mozambique labor force



Source: Data from the National Statistical Institute (INE), "National Household Income and Expenditure Survey" (IOF), 2014

2.1 LABOR FORCE PARTICIPATION AND EMPLOYMENT¹⁴

Figure 2.1 provides a snapshot of the structure of Mozambique's labor force. The WAP is 58.3 percent of the population. Of the WAP, 76.5 percent is employed in some sort of work (including wage work, subsistence occupations, and unpaid family labor), 2.9 percent is unemployed and 20.6 percent is economically inactive. Of the employed, 71 percent is in agriculture and 29 percent in other sectors. Within agriculture most people (66.8 percent) are self-employed; 28.9 percent are unpaid family laborers; 3.1 percent are wage employees, and 1.3 percent are employers. Outside agriculture, 49.5 percent are wage employees, 42 percent are self-employed, 3.6 percent are unpaid family labor, and 4.8 percent are employers.

Mozambique's labor force participation is generally high, at 80 percent for men and 79 percent for women (Table 2.2). This is largely because once Mozambicans finish school, they tend to enter the labor force. In rural areas, both men and women report particularly high labor force participation rates (92 percent) during prime working age (25 or more). There is little variation in these figures across provinces. The main variation is by age, rural/urban location, and gender. Mozambique's labor participation rate has declined significantly since the mid-1990s. Nonetheless, it remains well above the African average of 69 percent. For a benchmark of Mozambique's labor market outcomes against other African countries, see Box 3.

Table 2.2
Labor force participation rate by age, gender, and rural-urban location

| | All | All | | Age 15–24 | | | | Age 25+ | | | |
|---------------|------|------|--------|-----------|--------|-------|--------|---------|--------|-------|--------|
| | | | | Urban | | Rural | | Urban | | Rural | |
| (percentages) | | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| LFP rate | 79.4 | 80.1 | 78.7 | 50.4 | 39.5 | 69.7 | 78.0 | 88.9 | 77.2 | 92.1 | 92.4 |

Source: Data from the National Statistical Institute (INE), "National Household Income and Expenditure Survey" (IOF), 2014

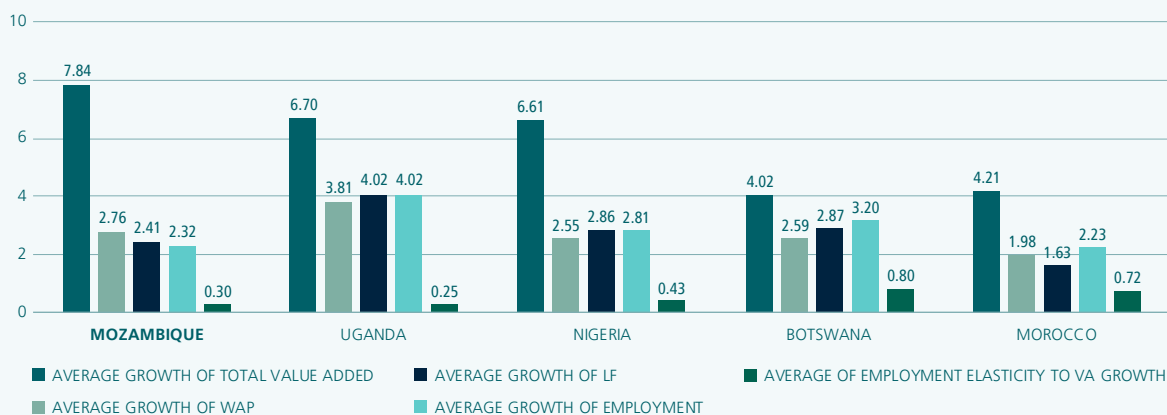
¹⁴ For details on data sources for this section, see Annex C.

BOX 3: BENCHMARKING MOZAMBIQUE'S LABOR MARKET OUTCOMES AGAINST OTHER AFRICAN COUNTRIES

Figure B3.1 compares selected labor market indicators across several African countries over the last two decades. As in many International Development Association (IDA) countries, Mozambique's labor force growth is driven by demographics. This includes the growth of the WAP and is weakly related to GDP growth. The average growth of the labor force (LF) and WAP in Mozambique is roughly in line with what occurs in Nigeria and Botswana, two other Sub-Saharan Africa countries. However, it is below that of Uganda and higher than that of Morocco. However, Mozambique's elasticity of employment growth to value added growth is relatively low. This primarily reflects the relatively high growth rate of value added, due to the impact of extractives exports.

Figure B3.1

Cross-country comparison on selected labor market indicators

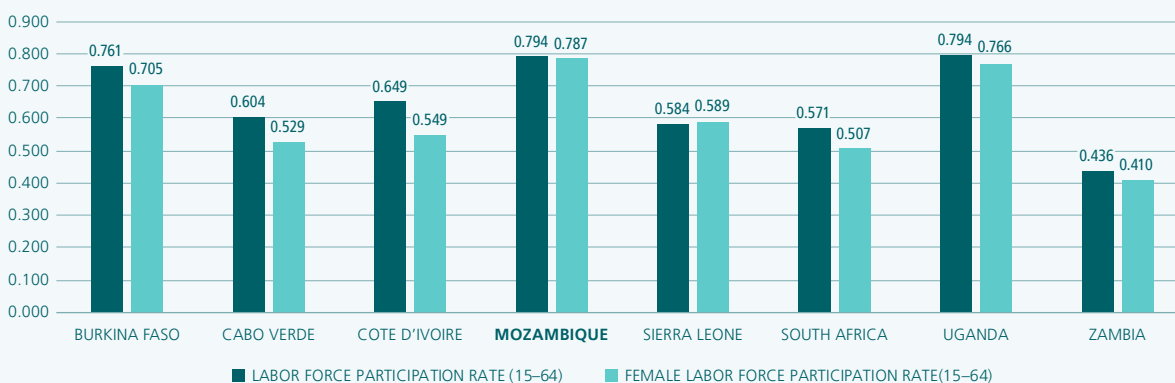


Source: Jobs Structure Global Comparison Tool using World Development Indicators and official statistics by country

Mozambique's 79 percent labor participation rate remains one of the highest in Africa. It is well above the Sub-Saharan Africa average of 69 percent, according to modeled ILO estimates. As illustrated in Figure B3.2, this difference is mostly due to Mozambique's higher labor force participation of women.

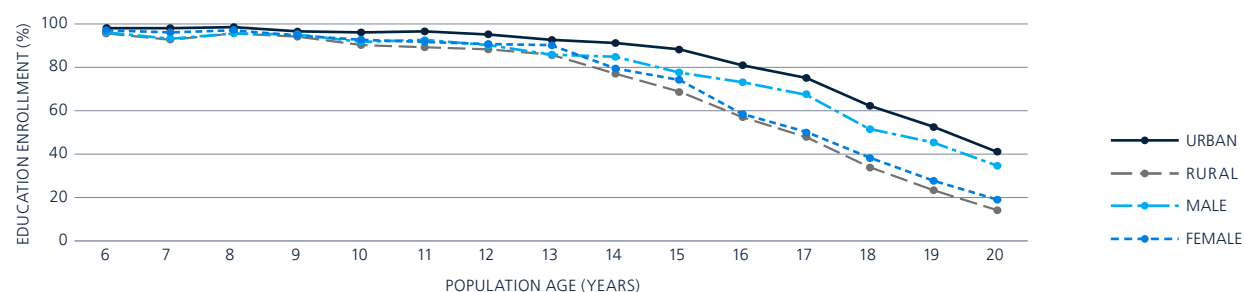
Figure B3.2

Labor force participation rate in Mozambique and other Sub-Saharan Africa countries



Source: Jobs Structure Global Comparison Tool using World Development Indicators and official statistics by country

Figure 2.2
Education enrollment by age, gender, and location



Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014

Young workers (aged 15–24) exhibit lower labor participation rates. One reason behind these lower rates is that Mozambican children start school late—often not until age eight in rural areas; see Fox et al. (2012). Another reason is the expansion of educational opportunities. This means that in both rural and urban areas, the majority of young people aged 15–16 are still in school. In urban areas, 40 percent of people at age 20 are still in school. They may be working as well (to help pay for school, among other reasons), but household surveys do register this information very well. Enrollment is lower for women and in rural areas; at peak enrollment age, only 80 percent of rural children report attending school. Rural children also leave school earlier (Figure 2.2).

As analyzed in Chapter 1, the process of jobs structural transformation has been slow with most jobs still in agriculture. Although the share of jobs in agriculture has been declining since 1997, most Mozambicans still work in agriculture, and most households have some agricultural income, either in cash or in kind.¹⁵ This is not surprising: most low-income countries (LICs) report high levels of participation in agriculture (Davis et al., 2014). For those over the age of 20, 88 percent of rural primary jobs and 31 percent of urban primary jobs were in agricultural self-employment. In both rural and urban areas, females are more likely to be in agriculture. It is the jobs of urban men that are responsible for most of Mozambique’s livelihood diversification (Table 2.3).

Table 2.3
Urban-rural and gender differences in employment by job type, 2014 (percentages)

| Type of Employment | All | Urban | Rural | Male | | Female | |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | Urban | Rural | Urban | Rural |
| Agriculture | 71.5 | 34.8 | 86.1 | 24.2 | 76.4 | 46.4 | 93.4 |
| Non-Farm Self-Employment | 12.2 | 27.1 | 6.3 | 25.2 | 10.1 | 29.4 | 3.2 |
| Non-Farm Wage Employment | | | | | | | |
| o/w: Private Sector | 12.2 | 27.8 | 6.0 | 38.3 | 10.6 | 16.1 | 2.2 |
| Public Sector | 4.1 | 10.2 | 1.7 | 12.0 | 2.9 | 8.1 | 0.7 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Sources: Data from the National Statistical Institute (INE), “Continuous Household Survey” (INCAF), 1996/97; the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF) 2008/09 and 2014/15

Note: Where the respondent has more than one job, the table reports primary jobs

- Agricultural employment: primarily farmers working on small holdings and consuming a significant share of their production, but including commercialized farmers, as well as wage work in Agriculture, Fishing and Forestry (collecting wood and other forest products)
- Non-farm self-employment, or “household enterprises”: employment in this category includes owners of informal businesses outside the Agriculture sector and anyone working in them (family or not)
- Wage employment: includes all labor force participants who report working outside the Agriculture sector and receiving payment for work from an unrelated individual. It includes the public and private sectors

¹⁵ The agriculture category includes both family farmers and wage employees in agriculture. Less than 3 percent of those who reported that their primary activity was in agriculture reported wage employment. However, wage employment as a secondary, seasonal activity is more common. See Cunguara et al. [2011a] and discussion below.

The next largest jobs categories in Mozambique are private wage-based activities and non-farm self-employment. Each of these categories accounts for 12 percent of overall jobs. Both have increased in importance since 2008. Most of the self-employed in non-farm activities are in retail trading. This refers to the operation of kiosks, market stalls or roadside stands which sell all kinds of goods: fruits, vegetables, starches, processed food and beverages, housewares, second-hand clothes, electronics, batteries, soaps and personal care products, medications, and powders, among others. The next largest category of non-farm self-employment is manufacturing. This is usually natural resource processing such as brewing beer, making charcoal, processing food, brickmaking, among other activities. About half of the non-farm self-employed are in urban areas (as is most of the wage employment), even though 65 percent of the population lives in rural areas. The urban non-farm self-employed tend to operate their HEs full-time, but for those in rural areas, part-year activity is more common.

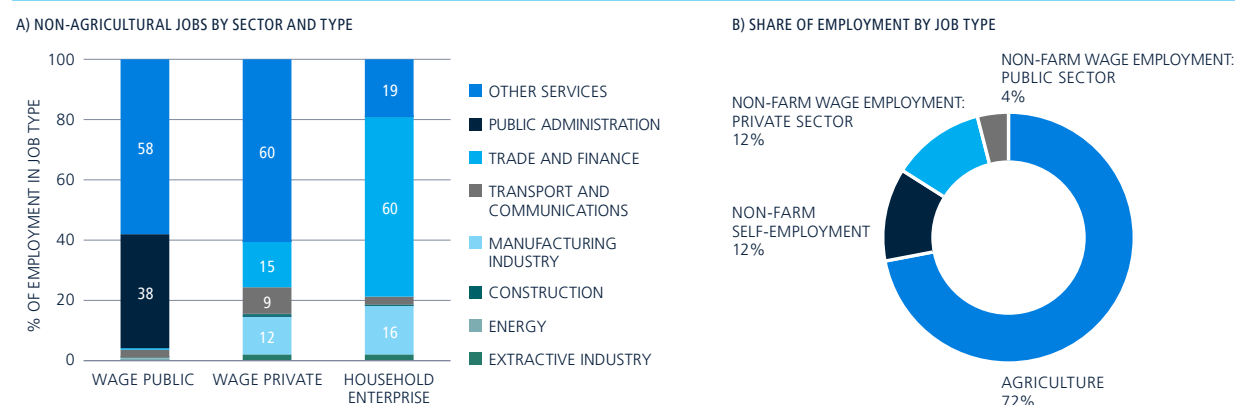
Non-farm self-employment, also often referred to as household enterprises (HEs), has distinct properties (La Porta and Schleifer, 2014; Filmer and Fox, 2014). In Sub-Saharan Africa, most HEs are family operations and do not employ anyone outside the family, even on a casual basis. Compared with small and medium-sized enterprise owners, people in HEs have less education and limited management skills. Therefore, they do not trust employees from outside the family. Many do not operate out of a fixed location and oftentimes they are not a full-time business, especially in rural areas. As a result, they are less likely to have a relationship with a bank and more likely to commingle household and business finances (Loening, Rijkers, and Söderbom, 2008; Fox and Sohnesen, 2012; La Porta and Schleifer, 2014). Compared to larger enterprises, their capital stock is minimal and their productivity is low (La Porta and Schleifer, 2014).

Research has also shown that very few HEs grow into microenterprises. A large body of evidence suggests that the HE sector grows through newly established enterprises, but few enterprises expand to become microenterprises.¹⁶ In 2005, 85 percent of Mozambican HE owners reported that they had no plans to expand their business at all (Fox and Sohnesen, 2013). Another contrast between small and medium business and HEs is that owners of HEs do not have to register with national authorities. A small minority of HE owners register with local authorities (Fox and Sohnesen, 2013).

Most of the growth in wage employment in Mozambique has been in the private sector. The share of those reporting wage employment as their primary activity grew by 63 percent over the six-year period. This increased the overall employment share by almost five percentage points. Nonetheless, private sector wage employment is still only 12 percent of total employment, and 28 percent of urban employment.

In the public sector, wage employment is almost all in “other services,” which includes education and health, and in public administration. Together, these constitute 97 percent of public wage employment. Most wage employment, public and private, is found in the service sectors (Figure 2.3, panels A and B).

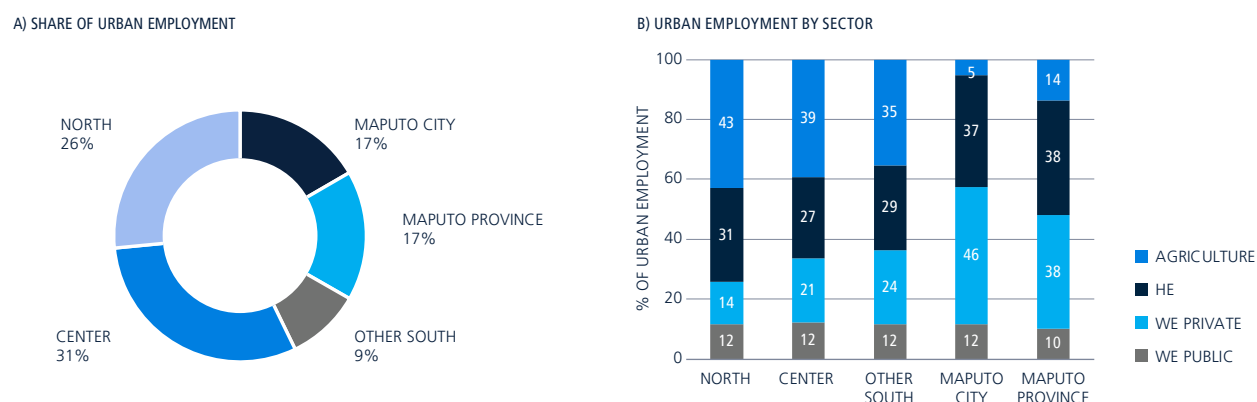
Figure 2.3
Jobs by sector and job type



Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014

¹⁶ Loening and Imru, 2009; Kinda and Loening, 2010; Grimm et al., 2011; Fajnzylber et al., 2006; Schoar, 2009; La Porta and Schleifer, 2014.

Figure 2.4
Urban employment by region and sector, 2014



Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014

The extractive sector employs a tiny share of the labor force, which reflects its capital intensity. Construction and manufacturing account for the largest shares of employment within the industrial sector, but they are still very small. Manufacturing wage employment (private) employs 12 percent of the labor force. This contrasts with the 6 percent figure in India, and a little over 4 percent in Malawi. In HEs, 60 percent of the labor force is employed in trade and finance, which points to the services sector’s expansion.

Regional analysis of urban employment shows that much of the jobs transformation is concentrated in Maputo (Figure 2.4, panels A and B). While patterns in rural areas are similar across provinces, urban employment patterns are quite heterogeneous. Employment in Maputo province has almost completely diversified out of agriculture—only about 14 percent of primary employment is reported to be in agriculture, while in the city it is only 5 percent. However, in other cities such as Beira and Nampula, agriculture remains important, accounting for approximately 40 percent of urban jobs. This is due to the farming activities on the *machambas* (fields) of urban families located in peri-urban areas. In the urban North, 43 percent of jobs are in agriculture. Maputo province—including Maputo City—accounts for 34 percent of all urban jobs and has almost 60 percent of the private wage jobs, and 42 percent of HE jobs. Public sector wage jobs are distributed in proportion to the labor force in each region. Commercial and financial activity is concentrated in Maputo, which is also the major port. Such regional employment concentration can lead to widening spatial inequality and suggests the need for a strong policy to support the development of secondary cities.

2.2 MULTIPLE ACTIVITIES AND UNDEREMPLOYMENT

Evidence from multiple sources indicates that many poor Mozambicans have more than one job, and some work very long hours. Nevertheless, there is also a high level of under-employment, especially among poor rural women. About 15 percent of the Continual Household Survey (*Inquérito Contínuo aos Agregados Familiares* (INCAF)) respondents over the age of 20 reported a secondary activity. The most common was running a HE (especially common for those whose primary activity was agriculture), followed by agriculture (Table 2.4).¹⁷ HEs are much more likely to be primary, full-time employment in urban areas than in rural areas, due to the seasonality of agricultural work and incomes (Fox and Sohnesen, 2013). A sizeable proportion of respondents report working on their farm or garden plot as a secondary activity.

¹⁷ Because agriculture includes other primary sector activities (fishing, forestry, for example), and both wage and self-employment in the primary sector, it is possible for someone to report agriculture as a primary and secondary activity.

Table 2.4
Secondary Activity Status; adults age 21+

| Primary/secondary | Agriculture | Non-Farm Self-Employ. | Wage, public | Wage, private | None | Total |
|--------------------------|-------------|-----------------------|--------------|---------------|-------------|------------|
| Agriculture | 2.5 | 10.6 | 0.3 | 2.0 | 84.6 | 100 |
| Non-Farm Self-Employment | 8.9 | 4.5 | 0.2 | 0.6 | 85.8 | 100 |
| Wage, public | 6.3 | 7.1 | 1.1 | 0.9 | 84.6 | 100 |
| Wage, private | 4.7 | 4.0 | 0.0 | 1.5 | 89.7 | 100 |
| All | 3.7 | 9.0 | 0.3 | 1.7 | 85.2 | 100 |

Source: Data from the National Statistical Institute (INE), “Continuous Household Survey” (INCAF), 2012

Note: “Non-farm self-employment” refers to household enterprise activities outside agriculture

The 2012 Continual Household Survey (*Inquérito Contínuo aos Agregados Familiares (INCAF)*) survey most likely underestimated secondary employment, especially in rural areas of Mozambique. Only 9 percent of respondents reported working in a HE as a secondary activity. However, research from other countries as well as Mozambique suggests that multiple income earning activities are more common than these data suggest. Several surveys of rural households show that even the poorest of households have multiple sources of income (Cunguara et al., 2011a; Jones and Tarp, 2012). Cunguara (2011a) reports that in 2008, almost 60 percent of rural households in Mozambique had at least one source of off-farm earned income (for example, agricultural or nonagricultural wage income or a HE). A recent study tracking income sources of 94 poor rural houses in Nampula province (Anderson and Ahmed, 2015) revealed that over a six-month period, households sold or bartered an average 4.5 agricultural products and had 3.5 non-agricultural income sources. These include unearned income, such as rental income or transfers from other households. In 2008 (when the recall period was longer), 20 percent of rural households and 12 percent of urban households reported a HE as a secondary activity (Fox and Sohnesen, 2013).

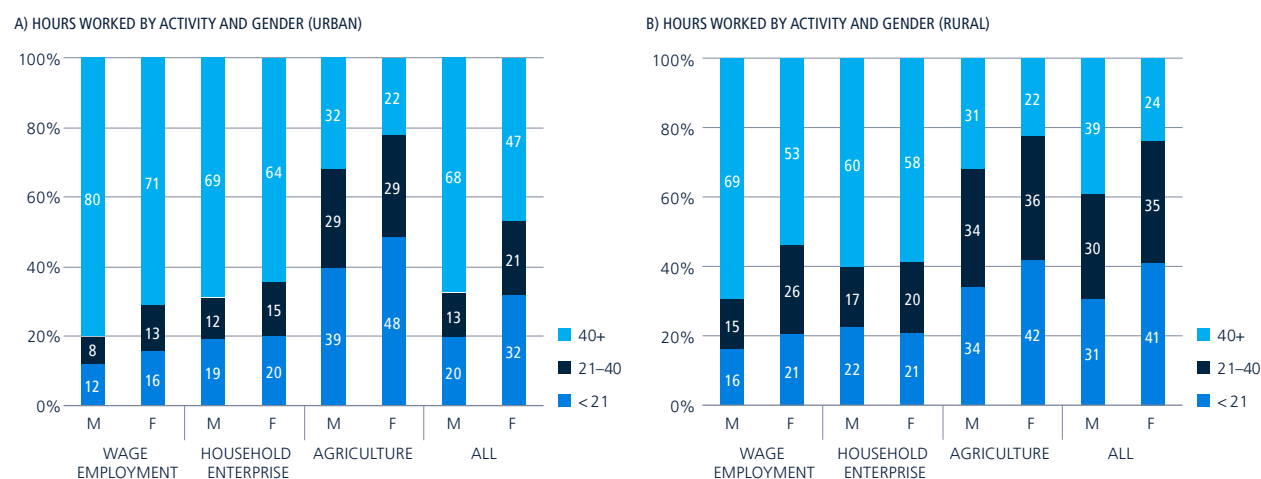
Agricultural wage income is not unusual in Mozambique, but tends to be seasonal and is unlikely to be reported as a primary activity. While less common in Sub-Saharan Africa than in Asia, Davis et al. (2014) find that 18 percent of rural households in African countries reported some agricultural wage employment over a 12-month period, and 44 percent reported some kind of non-farm earned income (wage or self-employment). In 2008, 9.5 percent of rural households reported agricultural wage income in the National Agricultural Survey (TIA survey).¹⁸ In the agricultural sector, about 61 percent in the Davis et al. (2014) sample of African households reported income from livestock. In the Nampula sample, livestock income was less common. Fewer households report owning livestock in Mozambique compared with poor households in rural Tanzania.

Figure 2.5, panels A and B, shows hours worked by men and women in all activities, including seasonal secondary activities. Urban men usually work long hours—exceeding 40 hours a week—in all their activities combined. In urban and rural areas, those whose primary activity is wage employment or running a HE report the highest number of hours.

Women who work in agriculture work the least, and overall those for whom agriculture is their main activity report fewer hours. This is a common trend in Sub-Saharan Africa. Using detailed data on household agricultural labor inputs, McCullough (2015) found that in Sub-Saharan Africa, seasonality is a key reason why annual labor productivity in agriculture tends to be lower than in other sectors. Underemployment is seen especially in the groups that worked less than 40 hours. Women in rural areas cite domestic tasks as the main reason why they do not work 40 hours a week, while in urban areas being on leave or holidays is also an important reason (Table 2.5). Lack of public services such as water supply, and low incomes, which make processed food unaffordable, mean that rural women must spend more time on household chores (Fox

¹⁸ Cunguara et al., 2011a.

Figure 2.5
Hours worked by men and women in all economic activities in rural and urban areas, 2014



Source: Data from the National Statistical Institute (INE), "National Household Income and Expenditure Survey" (IOF), 2014
Note: It covers labor force 21+

et al., 2008). They may work in agriculture because they need the flexibility to work fewer hours. Alternatively, they may work in agriculture because they lack the inputs to work in the non-farm economy. In rural areas, many workers cite unavailability of agricultural land plots as a reason for not working 40 hours. In urban areas, one-fourth of those working shorter hours say that their current job is normally part-time.

Table 2.5
Reason for not working full-time (adults 21+)

| | Urban | | | Rural | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| | Male | Female | Total | Male | Female | Total |
| Sick | 9.59 | 10.58 | 10.19 | 8.87 | 10.65 | 9.95 |
| Attended school or training | 1.59 | 1.05 | 1.26 | 0.65 | 0.35 | 0.47 |
| Was on leave, holiday | 21.96 | 18.24 | 19.70 | 15.06 | 14.64 | 14.81 |
| Did not want to work more hours | 6.23 | 5.78 | 5.95 | 14.40 | 7.70 | 10.36 |
| Domestic work | 4.98 | 17.82 | 12.80 | 14.77 | 34.23 | 26.51 |
| Could not find more work | 13.76 | 4.92 | 8.38 | 7.49 | 2.92 | 4.73 |
| Unavailability of agricultural land plots | 6.55 | 11.68 | 9.67 | 12.27 | 13.10 | 12.77 |
| Lack of materials, tools, and financial resources | 4.93 | 3.14 | 3.84 | 1.47 | 0.42 | 0.84 |
| Malfunctioning machines or electric tools | 0.80 | 0.14 | 0.40 | 0.08 | 0.04 | 0.06 |
| The enterprise closed | 0.42 | 0.26 | 0.32 | 0.06 | 0.08 | 0.08 |
| Natural disasters | 0.63 | 0.62 | 0.63 | 0.84 | 1.02 | 0.95 |
| Normal duration of work | 26.24 | 24.30 | 25.06 | 22.12 | 13.94 | 17.19 |
| Beginning or end of contract | 0.86 | 0.49 | 0.63 | 0.35 | 0.20 | 0.26 |
| Other | 1.48 | 0.98 | 1.18 | 1.55 | 0.71 | 1.04 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

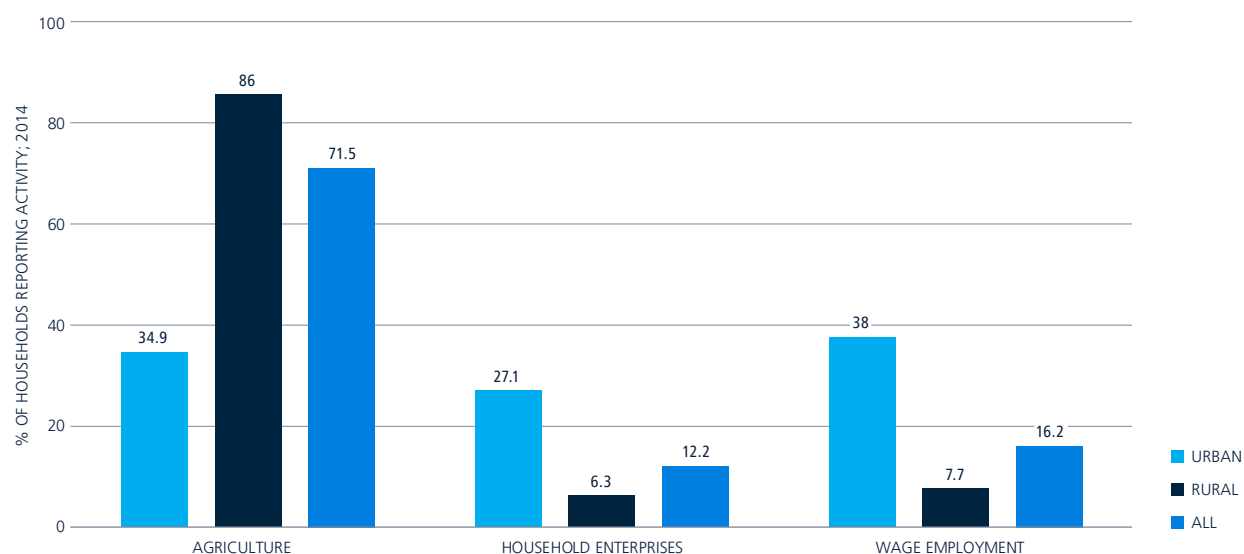
Source: Data from the National Statistical Institute (INE), "National Household Income and Expenditure Survey" (IOF), 2014/15

2.3 LIVELIHOOD PATTERNS AND THE DISTRIBUTION OF WORK

Almost all rural households and 40 percent of urban households depend on agriculture for at least some of their income. Figure 2.6 shows household livelihood patterns. After agriculture, HEs are the second most important source of jobs, but not of income. Non-farm wages are more important in urban areas, where almost 50 percent of households have them. Multiple types of income can be a risk reducing livelihood strategy and different jobs can complement one another. For example, wage income is helpful to households with HEs or small farms, as it can stabilize consumption over time and it can help in obtaining credit. But self-employment offers more flexibility. About half of urban households had two or more types of income in 2009, compared to only 40 percent in rural areas.¹⁹

Women are less likely to enter the higher paying non-agricultural sectors. Figure 2.7, panels A and B, illustrates this. Many reasons have been advanced for this. The most common is that domestic work stops women in low-income countries from working in paid jobs. Without time-saving infrastructure and assets such as water points, electricity or gas for cooking light, (among others), basic household chores are time-consuming. Child care is another reason. It is also time-consuming when families are large and it is easier to care for children while working in the fields or tending to livestock than in non-farm jobs. Even in urban areas, women are mainly concentrated in household-based jobs such as agriculture and HEs, not wage jobs. Private wage employment is skewed toward men, even though most of it is in the service sector and only 33 percent is in the traditionally male-dominated sectors of mining, manufacturing, and construction. Within the HE sector, segmentation by sector is common, with women typically concentrated in lower earning activities (e.g. sewing), (Fox and Sohnesen, 2012).

Figure 2.6
Household economic activities in rural and urban areas

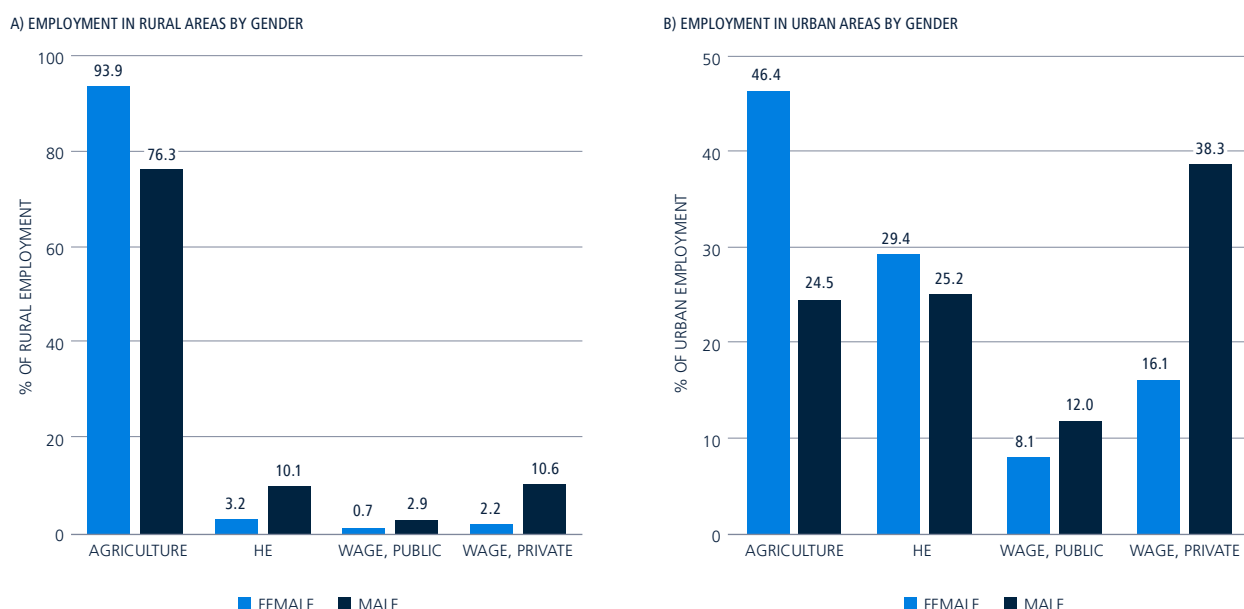


Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014/15

Note: Since households often have more than one employment type (non-farm wage, non-farm self-employment/HES, or agriculture), the bars in the graph add up to more than 100

¹⁹ See Fox and Sohnesen [2013], for analysis of this issue.

Figure 2.7
Employment by gender and location



Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014/15

2.4 EDUCATION AND SKILLS

Another reason women do not get wage jobs in urban areas is the unequal access to education; they enter the labor force with a skill disadvantage (Fox et al., 2012). Education policy has tried to improve girls’ access to education—and it has mostly succeeded in the first five grades of primary school—but women still tend to drop out of school at an earlier age than males.

Mozambique’s labor force is poorly educated compared with other countries in Sub-Saharan Africa.

Less than half of adults were estimated to be literate in 2010, compared with an average for Sub-Saharan Africa of 62 percent (World Bank, 2014). This is a legacy of the long civil war, when most of the post-independence generation was not able to attend school. However, in 2010, Mozambique’s youth literacy rate, estimated at 78 for males and 64 for females, was equal to the average for Sub-Saharan Africa. This indicates that Mozambique is catching up, especially in urban areas, where most of the opportunities for skilled employment are found. Only one-fourth of those over 30 employed in urban areas attended post-primary school, but one-half of the employed between ages 21–30 reported attending school past the primary level. Rural educational attainment is improving as well, but from a lower base; 47 percent of labor force participants over the age of 30 reported never attending school, compared with only 22 percent of those aged 21–30. With almost 100 percent primary enrollment and increasing levels of primary education completion, the rural primary education deficit is gradually being erased. It is encouraging that nearly 60 percent of Mozambique’s younger private sector wage workers in urban areas have now attended some post-primary education.

As in other developing countries, education levels are highly correlated with job type for both men and women (Table 2.6 and Table 2.7). In part, this relates to job requirements; subsistence agriculture does not require much education and therefore attracts those without it. Education can benefit those running a HE, and for all but the most physical labor wage jobs, some education is required (Filmer and Fox, 2014). Modern factory work requires basic literacy and numeracy of the type normally acquired by completion of primary. Increasingly, behavioral skills as well as more advanced cognitive skills are required to achieve global productivity and quality standards, even for light manufacturing goods. Tradable service jobs in sectors such as IT, financial and communication services, and tourism also require more education.

Table 2.6
Highest education level attained, by activity level and age group

| Highest education level attained | Ages 21–30 | | | | | Ages 30+ | | | | |
|----------------------------------|-------------|--------------|------------|------------|------------|-------------|--------------|------------|------------|------------|
| | Wage Public | Wage Private | HEs | Agric. | All | Wage Public | Wage Private | HEs | Agric. | All |
| None | 0.00 | 1.43 | 4.11 | 13.64 | 9.61 | 0.64 | 3.72 | 8.03 | 24.15 | 18.10 |
| Some primary | 1.09 | 15.10 | 22.72 | 48.85 | 37.26 | 5.85 | 32.46 | 43.50 | 60.31 | 51.31 |
| Completed primary | 2.30 | 18.26 | 21.34 | 21.20 | 19.89 | 7.13 | 25.36 | 24.90 | 11.20 | 14.40 |
| Some secondary | 11.69 | 35.03 | 31.54 | 12.41 | 18.87 | 16.87 | 20.01 | 15.49 | 3.50 | 7.86 |
| Completed secondary | 43.80 | 21.75 | 16.62 | 3.61 | 10.36 | 27.91 | 10.58 | 5.74 | 0.62 | 4.23 |
| Some technical | 17.66 | 2.68 | 1.47 | 0.20 | 1.61 | 10.93 | 1.76 | 1.17 | 0.15 | 1.19 |
| Higher education | 23.46 | 5.75 | 2.20 | 0.10 | 2.40 | 30.68 | 6.10 | 1.17 | 0.07 | 2.91 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014

Table 2.7
Highest education level attained, by activity level and gender (age: 21+)

| Highest education level attained | Male | | | | | Female | | | | |
|----------------------------------|-------------|--------------|--------------|--------------|------------|-------------|--------------|--------------|--------------|------------|
| | Wage Public | Wage Private | HEs | Agric. | Total | Wage Public | Wage Private | HEs | Agric. | Total |
| None | 0.58 | 5.05 | 9.69 | 84.69 | 100 | 0.05 | 0.99 | 5.54 | 93.43 | 100 |
| Some primary | 0.98 | 9.25 | 14.03 | 75.74 | 100 | 0.26 | 3.31 | 9.96 | 86.46 | 100 |
| Completed primary | 2.61 | 19.29 | 20.91 | 57.19 | 100 | 1.82 | 10.92 | 26.19 | 61.07 | 100 |
| Some secondary | 9.62 | 29.60 | 26.62 | 34.17 | 100 | 6.96 | 20.17 | 32.53 | 40.33 | 100 |
| Completed secondary | 31.06 | 30.05 | 23.59 | 15.30 | 100 | 34.73 | 24.14 | 23.21 | 17.91 | 100 |
| Some technical | 55.20 | 19.19 | 15.61 | 10.00 | 100 | 68.10 | 15.94 | 12.33 | 3.62 | 100 |
| Higher education | 64.34 | 23.90 | 9.54 | 2.22 | 100 | 66.17 | 26.52 | 6.02 | 1.29 | 100 |
| Total | 7.99 | 16.01 | 17.39 | 58.61 | 100 | 4.18 | 6.43 | 13.14 | 76.26 | 100 |

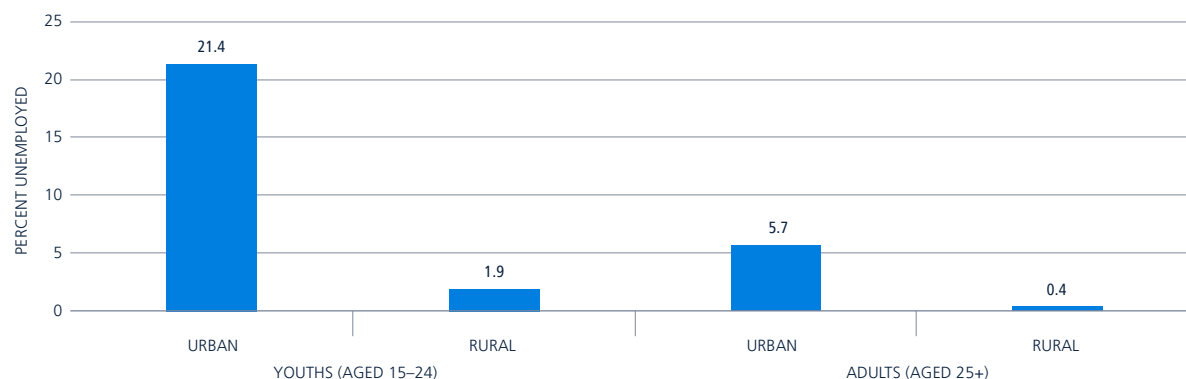
Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014

Secondary school graduates generally aspire to wage jobs in the private sector, but most cannot find jobs there. Although the share of secondary school leavers in private wage employment has expanded, the share of 21 to 30-year-olds with secondary education in the non-farm self-employed (HE) sector has expanded even faster, as has unemployment of secondary school leavers. This suggests that there is a much larger supply of labor for entry-level private enterprise wage jobs than there is demand in Mozambique. As Mozambique expands post-primary opportunities, the gap between the number of school leavers and the number of wage jobs available will only grow larger if current trends continue.

2.5 YOUTH UNEMPLOYMENT

While Mozambique’s overall unemployment rate is low (see Box 4), **the rising unemployment rate among urban youth is worrisome.** The overall unemployment rate has been gradually increasing since 1996, largely driven by youth unemployment, which greatly exceeds the adult unemployment rate. This is a common phenomenon (ILO, 2014): Mozambique’s demographic transition has just started, and the labor force is growing rapidly and getting younger. Although they are better educated, young workers often find themselves with similar jobs and livelihood prospects as their parents. In rural areas, youth are highly likely to enter farming when they leave school. They may not want to enter agriculture, but they have few options. In urban areas, a long job search is more common. This is in part because families have the resources to finance it (Filmer and Fox, 2014). As a result, almost all youth unemployment is concentrated in urban areas (Figure 2.8). IOF 2014 found that 21 percent of urban youth were unemployed²⁰ and actively searching for a job; two thirds of these had been unemployed for over one year. This is a significant increase from the 14.1 percent reported in IOF 2008.

Figure 2.8
Unemployment rate by age and location



Source: Data from the National Statistical Institute (INE), “National Household Income and Expenditure Survey” (IOF), 2014/15

²⁰ Unemployment is defined as not having worked in the last seven days and having actively searched for work in the last 30 days. In rural areas, most people who may not have had employment for seven days do not actively search for work either because it is not available (the off season) or they expect to return to working in agriculture or in their HE once the season changes.

BOX 4: MEASURING UNEMPLOYMENT IN MOZAMBIQUE

Mozambique's unemployment rate can appear either very high or very low, depending on which measure of unemployment is used.

- Under the narrower standard measure used by the ILO, the unemployed comprise all persons of working age (that is, between 15 and 64 years) that (i) were without any work during the reference period (typically one week), (ii) were available to work during that period, and (iii) have been actively seeking work. Based on this definition, the IOS 2014/15 household survey reports a very low unemployment rate of 3.6 percent for Mozambique.
- The World Development Indicators (WDI) reports unemployment data from Mozambique's National Statistical Office (NSO) of over 20 percent. This is based on a broader definition of the unemployment rate. This compares unfavorably with other countries in Sub-Saharan Africa, such as Malawi (6.4 percent), Zambia (7.6 percent), and Zimbabwe (5.1 percent).

This raises two questions. Firstly, what accounts for this large variation in Mozambique's unemployment rate? Secondly, which is the most appropriate measure?

The difference is mainly due to two modifications of the standard ILO measure made by the National Statistical Office.

One change is to count as unemployed idle workers that were either (i) unavailable for work during the reference period, but interested in working, or were (ii) available to work, but not actively seeking work. Under the standard ILO definition, these two categories of idle workers would have been classified as being out of the labor force. Reclassifying them as unemployed is meant to capture discouraged workers, as well as persons (often women) who need longer lead times to make new arrangements before starting to work. This change raises the calculated unemployment rate by about 3 percentage points.

The other change is to count as "unemployed" all workers who reported that, while they may have found work during the reference period, they considered their working arrangement "unsustainable." This category of respondents largely includes unpaid family workers in the informal and rural sectors. Their reclassification as "unemployed" reflects the vulnerability associated with those jobs, and has a similar rationale as the inclusion of under-employed workers, defined as employed persons working less than 35 hours a week and/or earning less than the minimum wage. This change raises the measured unemployment rate by a further 15 percentage points.

Neither measure is entirely appropriate. The unmodified (narrower) ILO measure is likely to be the most appropriate for international comparisons in the region. However, arguably, neither is a fully satisfactory measure of labor underutilization in very poor countries. Most people in these countries cannot afford to sit idle, but must engage in some activity to eke out a living, either as self-employed or unpaid workers.

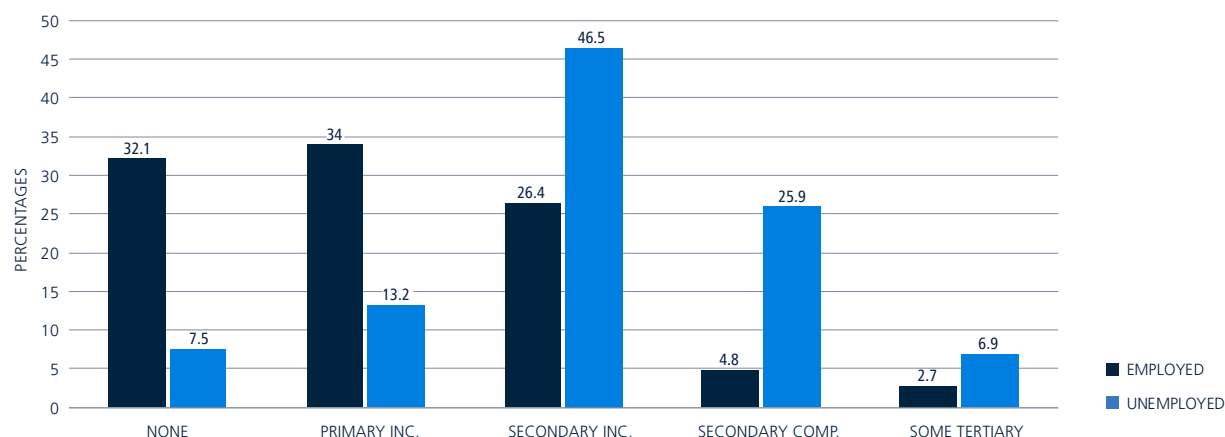
A focus on increasing the share of "good" jobs in the country is more pertinent than focusing on reducing unemployment. Mozambique's labor market statistics classify the employed population into four broad categories: wage-earners (public and private), unpaid workers, self-employed, and employers. Of these categories, only wage-earners (comprising 16.5 percent of the total workforce in 2014) and employers (comprising 2 percent) can be said to have "good" jobs capable of raising them above the poverty line. Of the remaining 80 percent, well over half involve jobs that do not permit an escape from poverty. In such circumstances, it is not useful to focus on reducing unemployment (even when broadly measured), but rather to focus on increasing the share of "good" jobs in the economy.

Source: World Bank, World Development Indicators, and ILOSTAT

In low-income countries such as Mozambique, unemployment tends to be concentrated among richer households and more educated youth. The opposite of this pattern occurs in richer countries, where unemployment is concentrated among poor and vulnerable households. In Mozambique, 79 percent of all unemployed workers have some post-primary education, compared with only 34 percent of the employed workers (Figure 2.9).²¹ The most educated youth, who should be best positioned to enter good jobs and achieve higher earnings, are apparently unable to do so without a long job search.

²¹ Recall that about one-third of youth in this age range are still in school.

Figure 2.9
Education attainment of employed and unemployed workers, 2014



Source: Data from the National Statistical Institute (INE), "National Household Income and Expenditure Survey" (IOF), 2014/15

The reasons for high unemployment among relatively well-educated urban youth are complex. The following factors are possible causes (Filmer and Fox, 2014):

- Youth lack adequate labor market information. They have little information on jobs and wage rates, and how to access them. Many students leave secondary or tertiary education without a clear idea of what opportunities are available and how these can be accessed.
- Youth normally rely on informal networks which can provide bad information and can be exclusive of those without the right connections. Most employers rely on referrals for new hires and do not use placement centers. Among youth, 55 percent contact friends and family. Few go to factories, look in the newspaper, or register at an employment center.
- Better educated youth often have high reservation wages. They aspire to well-paid wage jobs in the formal public and private sector and are prepared to wait to get them. Their families are more likely to be able to subsidize them while they wait to get such a job.
- Youth do not leave school job-ready. They lack the soft skills that employers value, including punctuality, flexibility, and the ability to work in teams. Nor do they have basic business skills such as bookkeeping and marketing, which makes it difficult for them to start a business.
- Post-secondary vocational training is expensive, there are few spots available to receive training, and the quality of the training varies.
- Opportunities to gain work experience are rare. Employers tend to prefer experienced applicants. However, it's hard to get that experience and some labor codes prohibit unpaid internships or on-the-job training which pays under the minimum wage.

2.6 CONCLUDING REMARKS

Mozambique's jobs structure is shifting gradually away from agriculture, but only partly into wage employment. Much of the transition thus far has taken place within the HE segment (that is, non-farm self-employment and family labor) and productivity and poverty reduction gains have been limited. The main benefits, especially in rural areas, have been less underemployment and a more diversified household income which is less vulnerable to the weather and price risks which characterize smallholder agriculture. Nonetheless, the jobs transitions registered to date are not taking full advantage of Mozambique's improved educational outcomes. Too often better educated youth find themselves following in the footsteps of their parents, for lack of an alternative.

A key factor in determining the possibility of better jobs outcomes will be the growth of businesses with access to capital, scale, and markets. However, the model of structural transformation which focuses solely on wage jobs and on manufacturing jobs is no longer current. Many of the better jobs created will not be wage jobs and many of them might be in modern agricultural value chains. The challenge is to expand good jobs of all sorts in all sectors, agriculture, industry, and services. The faster linkages to the modern economy can be expanded, the greater the opportunities will be for the workers who remain in the household segment to expand their businesses by selling services to people with incomes from outside the segment. Within the modern sector of the economy, an additional focus should be on the improvement of the efficiency of labor markets and shortening the school-to-work transition of urban educated youth. Chapter 3 of this report reviews the evidence on constraints to jobs growth in the modern sector.





3. FIRM GROWTH AND THE DEMAND FOR LABOR

Chapter 3 reviews the structure and evolution of jobs in the formal business sector based on data from the Mozambican Enterprise Censuses (CEMPREs) of 2003 and 2015-2016.²² CEMPRE only covers enterprises that are formally registered with the national, provincial, and municipal authorities. Therefore, it only represents a limited sub-set of jobs in Mozambique.²³ However, the formal sector plays an important role in non-farm wage employment, which represents the most promising source of good jobs in the long run.

Wage employment in the formal sector of the economy is determined by the entry and growth of firms. Profit-maximizing firms will only hire workers up to the point where their estimated marginal productivity equals marginal cost (wages and benefits). The existence of business opportunities and the ability of entrepreneurs and investors to finance investments and appropriate the returns are important determinants of these dynamics. Job growth will be hampered by distortions, both policy-induced and from market failures, which can lead to market segmentation or otherwise interfere with the efficiency of the labor market. Chapter 3 summarizes the evidence on business environment challenges and presents a detailed analysis of job creation by firms in the formal sector over the last 15 years, drawing on new empirical data from the CEMPRE firm census.

3.1 THE BUSINESS ENVIRONMENT IN MOZAMBIQUE

The business environment firms face in the formal sector was examined in the 2009 Investment Climate Assessment (ICA). The assessment characterized Mozambique as a small, relatively open economy, whose best hope for achieving sustained and inclusive growth was in leveraging its strategic location as a conduit for regional trade. The study found that low productivity prevented most Mozambican firms from competing at the global level. The businesses surveyed identified unfair competition from the informal sector as the top constraint on their operations and productivity. Access to finance was the second most cited obstacle, followed by a series of governance-related obstacles (that is, crime, tax rates, corruption) and then infrastructure-related obstacles (that is, electricity and transport). Interestingly, few firms pointed to labor regulations as a major depressant of the investment climate, even though such regulations are often a key determinant of informality. In addition, workforce education did not top the list of concerns for firms in Mozambique, despite the fact that human capital and training are correlated with greater profitability.

The low priority given to labor legislation as a binding constraint may reflect a low level of compliance with the rules and the high degree of informality prevailing in Mozambique. For example, social security only covers about 6 percent of the labor force. The firms surveyed are those that have adapted to or survived under the existing legal framework. Therefore, they are unlikely to regard it as constraining. With this in mind,

²² The CEMPRE census is carried out by the *Instituto Nacional de Estatística* (INE), covering 28,312 for-profit businesses in 2003 and 42,884 businesses in 2015-16. It only includes formal firms; that is, firms that are listed in the National Business Registry (FUE), federal tax rolls, or records provided by the provincial, district, and municipal authorities. In the breakdown of firms by sector in 2015-16, agriculture accounted for 1 percent of firms, mining/utilities/construction for 5.7 percent, manufacturing for 7.2 percent, commerce for 62.5 percent, and other services for 23.7 percent. The regional breakdown of firms focuses on Maputo City, the capital, and three regions that comprise the following provinces: the Central region consists of Manica, Sofala, and Tete provinces; the North region consists of Cabo Delgado, Nampula, Niassa, and Zambezia provinces; the South region consists of Gaza, Inhambane, and Maputo provinces.

²³ Jones and Tarp [2012] estimate that the formal sector at most covers 5 percent of the labor force in rural areas and up to 30 percent in urban areas. Beyond inclusion in the business registry, another common criterion for labor market formality is Social Security coverage. By that measure, the IOF 2014 indicates that only 5.5 percent of the total labor force in Mozambique is in the formal sector, including 8.5 percent of all men and 2.7 percent of all women. By sector, only 2 percent of the workforce in agriculture is formal, compared to 14 percent in industry and services.

it is more important for the sake of public policy to determine how many other firms did not survive or did not expand and how many jobs were not created because of these constraints.

Overall, Mozambique is lagging on the pace of the region's (and the world's) leading reformers. A more recent assessment of the business environment was provided by the 2017 Doing Business report. Represented by Maputo, Mozambique ranked 138th globally out of 190 economies. It scored 54 points on the Distance to Frontier (DTF) score in the 2018 Doing Business report. This score represents an improvement of 0.97 points compared to its previous position. This improvement is mainly due to reforms within the indicator sets Getting Electricity and Trading Across Borders of the report. Mozambique's overall ranking masks a large variation across the indicator sets. It is ranked 56th in Dealing with Construction Permits and 75th in Resolving Insolvency. However, performance could be improved on Enforcing Contracts and Getting Credit, where it ranks 184th and 159th respectively.

The Doing Business report does not rank countries on the quality of their labor regulations, but it reports indicators on regulations for hiring, working hours, and redundancy. In this regard, two regulations stand out in Mozambique. First, the very high minimum wage (equivalent to 140 percent of average value-added per worker).²⁴ Second, the high level of severance pay, which rises from 2.2 weeks' pay for workers with one year of tenure to 32 (65) weeks' pay for workers with 5 (10) years of tenure.²⁵ Such regulations tend to encourage informality.

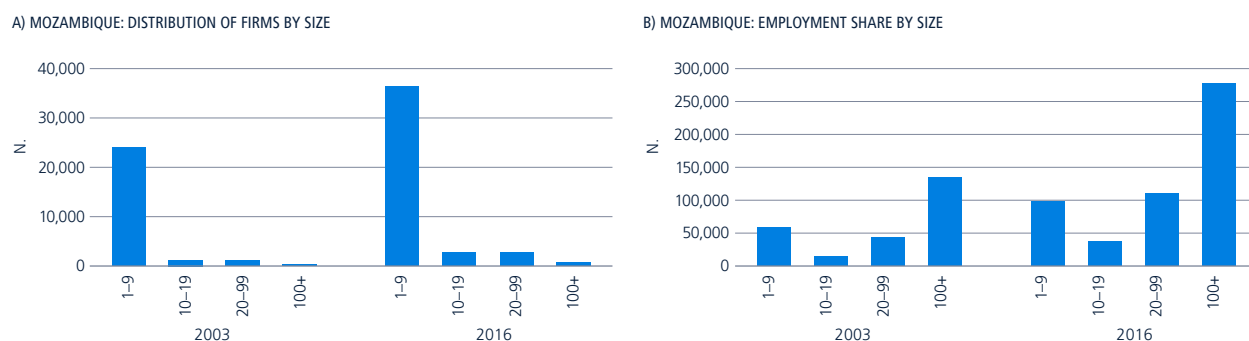
3.2 STRUCTURE OF EMPLOYMENT IN FIRMS

Mozambique has experienced healthy growth in the number of enterprises and formal sector jobs created over the last decade. The total number of registered firms increased from around 28,000 in 2003 to almost 43,000 in 2016, representing a growth rate of 3.7 percent per annum (see Annex B, Table B.1). Total employment in these firms increased even more rapidly, from 255,000 workers in 2003 to 525,000 in 2016, or 5.7 percent per annum, which exceeds Mozambique's WAP growth.

Regarding size distribution, the greatest number of firms, by far, in Mozambique are micro-sized, employing fewer than 10 workers (Figure 3.1). Micro enterprises accounted for 90 percent of all firms in 2003 and for 85 percent in 2016. In terms of employment, however, it is the largest firms in Mozambique (employing more than 100 workers) that are the largest source of employment. In 2016, these firms accounted for 53 percent of total employment. Even so, the fastest growth in jobs over this period took place in the mid-sized firms, employing between 10 and 100 workers.

Regarding age distribution, relatively young firms dominate the mix (Figure 3.2). Most firms in Mozambique are between two and five years old. However, workers are more evenly spread across firms aged between two and 20 years. The proportion of firms less than one year old has increased at the expense of all other age categories.

Figure 3.1
Mozambique: distribution of firms and employment by size, 2003 and 2016

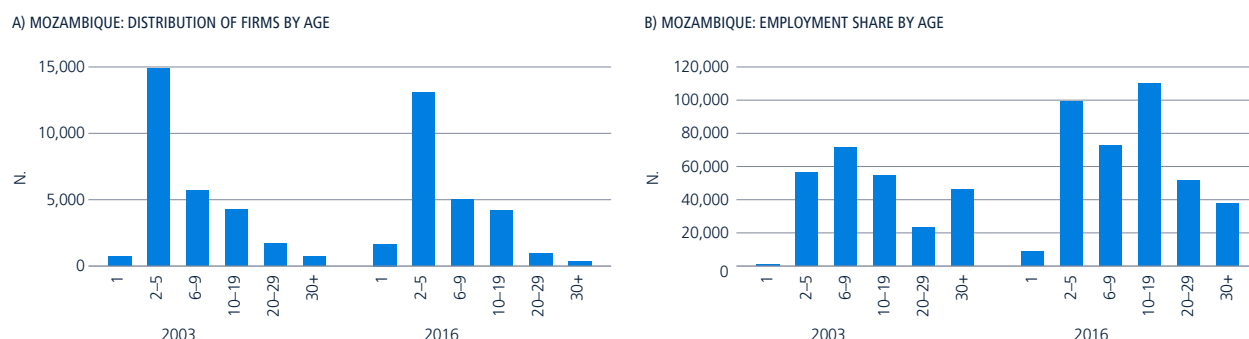


Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2003 and 2016

²⁴ This level of the minimum wage is twice as high as the average [70 percent] observed in other Sub-Saharan African countries that have minimum wages and three times as high as the world-wide average of countries that have them.

²⁵ The level of severance pay observed in Mozambique is very high by World standards, but on a par with the severance payment legislation observed elsewhere in Sub-Saharan Africa.

Figure 3.2
Mozambique: distribution of firms and employment by age, 2003 and 2016



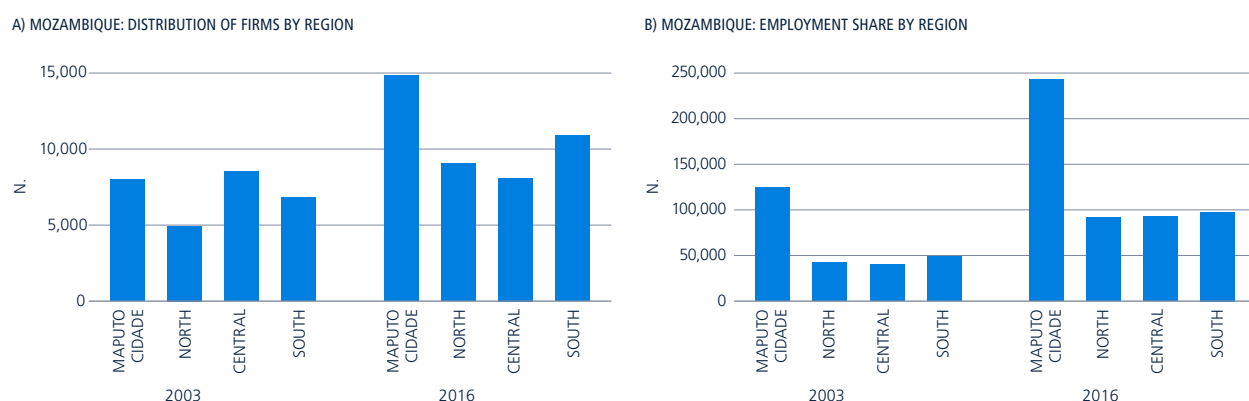
Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003 and 2016

The employment profile by age also shows that the greatest rate of growth (albeit from a very low base) has taken place in the youngest firms. This has been mostly at the expense of the oldest firms (30+ years), which have reduced their overall employment level. Both patterns point to a healthy level of new business entry and indicate that firms are beginning to “fill out the middle” of the firm size and age distribution (see Annex B, Figure B.1).

In terms of regional distribution, the largest increase in the number of firms between 2003 and 2016 occurred in the capital, Maputo City, and in the North region (Figure 3.3). The Central region, in contrast, exhibited a small decline in number of firms, which raises the concern that economic growth may be bypassing some of the poorest provinces.²⁶ However, the growth of employment was evenly distributed among all regions, including the Central region.

With respect to sector distribution, commerce, manufacturing and other services are the three largest sectors in Mozambique. They account for the highest number of formal sector jobs and firms (Figure 3.4). Commerce and other services are also among the most dynamic contributors to the growth of jobs and firms. The top five performers in terms of rate of growth of new jobs created between 2003 and 2016 have been mining/quarrying, utilities, other services, business/finance, and commerce (see Annex A, Table A.1). Of these sectors, mining/quarrying, utilities, and business/finance started out from a small base. In this way, the net addition of new jobs in these sectors has been modest, despite fast growth rates. In contrast, commerce and other services are among the largest employers, as well as among the most dynamic. While manufacturing is the second largest formal enterprise sector in Mozambique, it ranks among the least dynamic, both in terms of job growth and firm growth (see Box 5), and its share of total employment has declined in the referenced period (2003-16).

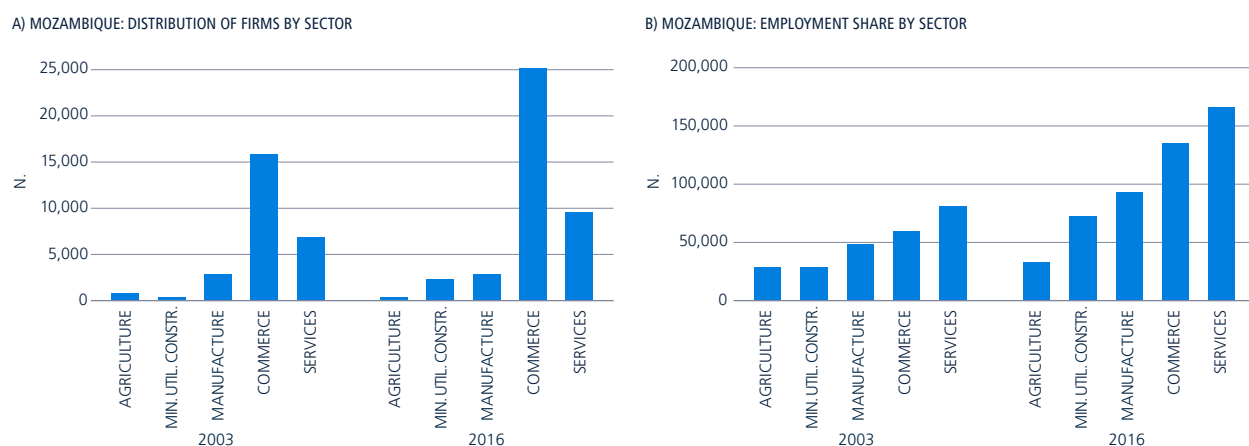
Figure 3.3
Mozambique: distribution of firms and employment by region, 2003 and 2016



Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003 and 2016

²⁶ In the 2014/15 household survey, Maputo City registered a poverty headcount ratio of 3.8 percent, while the provinces comprising the Central region exhibited headcount poverty rates ranging from 37.2 to 49.6 percent.

Figure 3.4
Mozambique: distribution of firms and employment by sector, 2003 and 2016



Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003 and 2016

The pattern of sector growth, reflected in the enterprise surveys, is consistent with the economy-wide evolution of employment observed in the household surveys. As noted in Chapter 1, the decline in agriculture’s share of total employment over the last two decades mostly translated into an increase in the employment share of the services sector, with proportionally very little increase in the industry sector. About half of the increase in the services’ share of total employment consisted of wage-based (“good”) jobs in the formal sector. Unfortunately, labor productivity in services has been among the slowest (see Annex B, Table B.2). While the average rate of productivity growth among all firms sampled was 1.7 percent, it only grew by 1.5 percent in commerce, and fell by –1.1 percent in other services, and by –6.0 percent in business/finance. This raises questions about the service sectors’ capacity to sustain its job creating capacity in the future.

There are no significant differences in regards to the correlates of employment (jobs per firm) across regions. In a regression analysis of the correlates of employment, all the firm-age-related independent variables exhibit positive, ascending and statistically significant coefficients across all equation specifications (Table 3.1). Since the data are cross sectional, it is difficult to draw causal inferences. It may be that firms that survive longer tend to grow more due to “learning by doing.” It may also be that firms that start off bigger are more likely to survive. Firms in commerce tend to be smaller than manufacturing firms. Foreign-owned firms tend to be larger than local, privately owned firms, but public firms are the largest. Regression analysis shows a strong correlation between the age and size of firms. From the specification in Equation 4, we also find that firm size appears to be correlated with greater labor productivity. That is, the firms in the second or third tercile of the productivity distribution tend to be smaller than the most productive firms.

BOX 5: MOZAMBIQUE'S MISSING MANUFACTURING SECTOR

The importance of the development of a manufacturing sector has long been recognized in the transition to sustainable middle income, emerging market status. Although employment in this sector rarely reaches over 20 percent of total employment, and in recent years tends to peak at 15 percent, the development of this sector brings long-term benefits that extend well beyond those who work in the sector [Rodrik, 2015]. One reason is that most manufactured goods are tradable, and thus must be produced at or near global standards to be accepted. Reaching this standard of production implies importing and adapting technology, learning management techniques, and developing a skilled labor force. It also means improvement of productivity “outside the plant”—in the energy, transport, and logistics sectors, and in the development of market linkages with those who sell the final product to the customer. A private sector development strategy that attracts manufacturing investment thus has benefits that go well beyond the employee and the owner of the firm; the technology and skills transfer into other sectors, raising their productivity as well [World Bank, Jobs [2012]. “World Development Report 2013”].

As is confirmed in the new CEMPRE data, Mozambique's manufacturing sector is small, underdeveloped, and not growing. These data confirm that the findings of a 2012 Government of Mozambique study remain valid. That study showed that most Mozambican manufacturing companies are very small [less than 10 employees], produce relatively homogeneous products using basic technology, and sell mostly to private individuals in the same locality as the firm, indicating low linkages. Outside the major cities, the manufacturing sector is not very diversified and remains very concentrated in a few sub-sectors. The largest sub-sectors are food, fabricated metal products, and furniture, which, together with apparel, wood, and nonmetallic mineral products, account for 90 percent of manufacturing firms. Three-fourths of the firms have less than 10 employees, which is of concern since larger enterprises are more likely to provide “good jobs,” with better pay, benefits, and more permanent employment. Most large firms are foreign-owned, which indicates a very underdeveloped local manufacturing sector.

Employment in manufacturing has been weak. In firms that survived between 2006 and 2012, average employment growth was negative. In all firm size categories, there was limited or no employment growth, but the decline was largest among the smallest firms. These were also the ones most likely to fail [exit]. This suggests that manufacturing employment growth happened primarily through the creation of new firms. Growing sub-sectors included wood and paper; publishing and printing; chemicals; food processing; and nonmetallic mineral sectors. Sub-sectors which did not face strong competition from imports [for example, bakeries and grain mills] tended to do better, or those that were targeted at the export market, such as metals, machinery, and apparel. Veritably, only 3 percent of firms are exporters. A comprehensive policy to support labor-intensive manufacturing enterprises with strong linkages with the local economy is an essential part of a Jobs Strategy.

Source: Government of Mozambique [2013]

Table 3.1
Employment regressions

| | Dependent variable = firm employment | | | |
|----------------------|--------------------------------------|------------|------------|------------|
| | Equation 1 | Equation 2 | Equation 3 | Equation 4 |
| Age of Firm | | | | |
| Age 6–9 | 0.227*** | 0.317*** | 0.325*** | 0.317*** |
| Age 10–19 | 0.364*** | 0.586*** | 0.615*** | 0.586*** |
| Age 20–29 | 0.520*** | 0.876*** | 0.917*** | 0.877*** |
| Age 30+ | 0.780*** | 0.845*** | 0.924*** | 0.852*** |
| Foreign | | 0.274*** | 0.307*** | 0.276*** |
| Public | | 1.680*** | 1.946*** | 1.635*** |
| Regional Dummies | | | | |
| North | | –0.375 | | |
| Central | | –0.305 | | |
| South | | –0.357 | | |
| Sector Dummies | | | | |
| Agriculture | | | 0.592 | |
| Min./Util./Const. | | | –0.052 | |
| Commerce | | | –1.042*** | |
| Services | | | –0.423 | |
| Productivity Dummies | | | | |
| 2nd Prod. Tercile | | | | –0.498*** |
| 3rd Prod. Tercile | | | | –0.603*** |
| Constant | 1.817*** | 3.160*** | 2.470*** | 3.694*** |
| No. Observations | 49,053 | 9,642 | 9,642 | 9,642 |
| R-squared | 0.34 | 0.34 | 0.26 | 0.34 |

Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003 and 2016

Note: *** denotes statistical significance at 1 percent. Equation 1 uses the joint sample data from CEMPRE 2003 and 2016, while Equations 2 and 3 only use the data from CEMPRE 2016

The strong link between age and size of firms persists across various other specifications. For example, the concentration of workers in a sector (as measured by the Herfindahl-Hirschman Index) is positively associated with firm size, as would be expected, and with a larger portion of sector sales, though to a lesser extent.²⁷ Box 6 highlights where Mozambique stands compared with other similar countries in the pattern of formal sector labor demand.

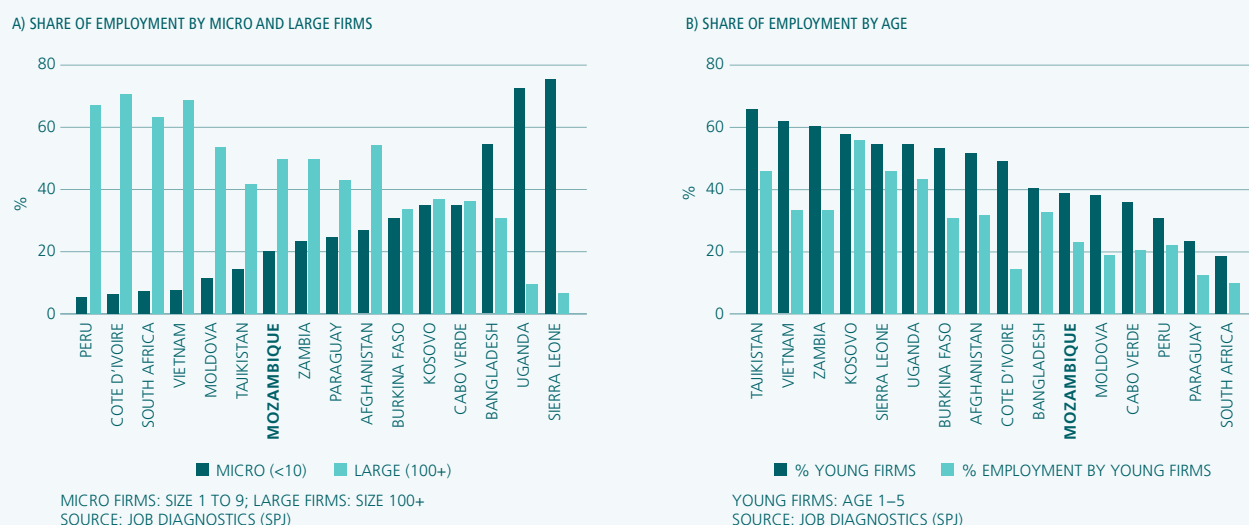
²⁷ Interestingly, the presence of a majority of female workers tends to be associated with a smaller firm size. But when regressed jointly with foreign and public ownership, a mostly female workforce is positively associated with firm size.

BOX 6: BENCHMARKING THE PATTERN OF FORMAL SECTOR LABOR DEMAND IN MOZAMBIQUE

Mozambique stands in the middle range of countries in terms of concentration of jobs by firm size. About 50 percent of formal jobs are found in large firms and 20 percent in micro firms (Figure B6.1, panel A). This pattern is very similar to that observed in Zambia, Paraguay, and Tajikistan. It has a smaller share of jobs in large firms than South Africa and Côte D'Ivoire, but many more than Burkina Faso, Uganda, and Sierra Leone, where jobs in micro firms predominate.

The employment profile of young firms in Mozambique is similar to that of Bangladesh, Moldova and Cape Verde. About 40 percent of all formal firms in Mozambique are aged five years or less (Figure B6.1, panel B). They account for around 25 percent of all the jobs in formal firms. In Zambia, Sierra Leone, Uganda, and Burkina Faso, the shares of young firms in total firms and the shares of jobs in young firms are both considerably higher.

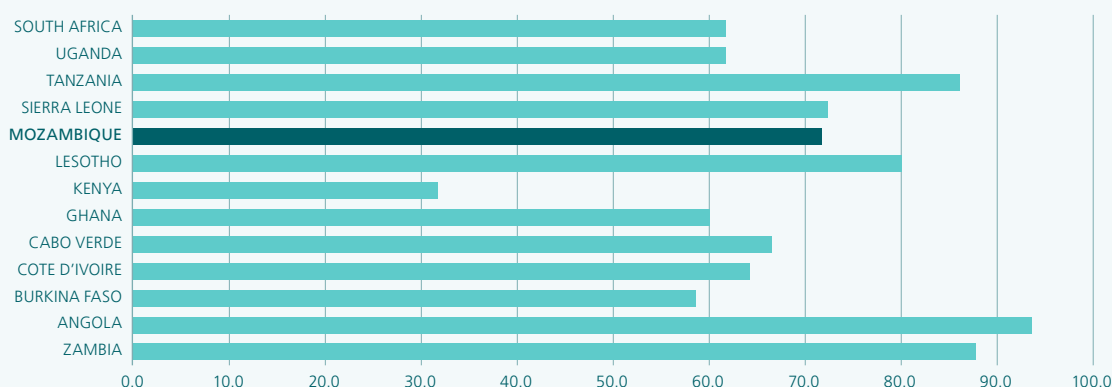
Figure B6.1
Firms by size and age



Source: Merotto, Weber, Aterido (2018) Jobs Diagnostics: Facts and Findings using official Firm Level data. Forthcoming

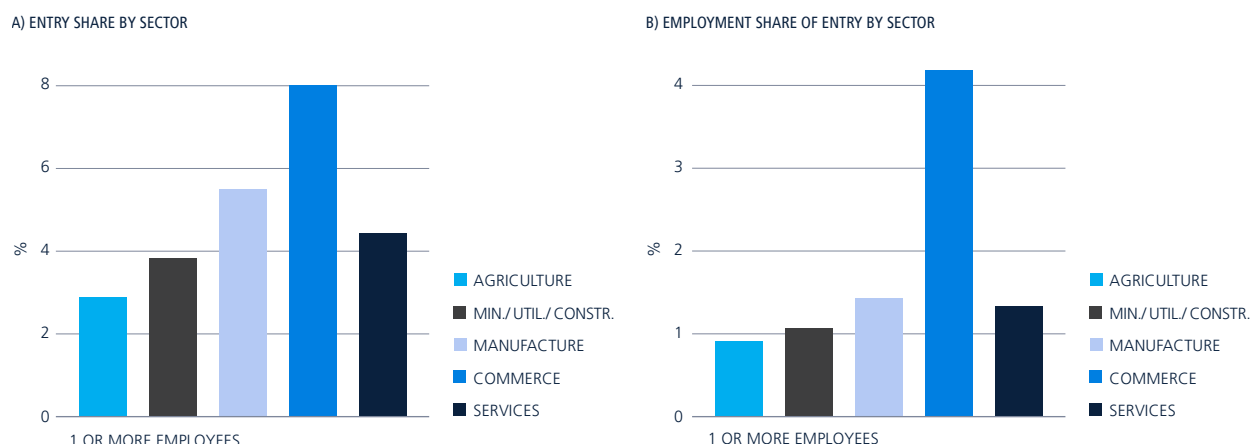
Mozambique exhibits a market concentration ratio above the regional average. The 1 percent of largest firms [by turnover] in Mozambique receive around 70 percent of revenues (Figure B6.2). This ratio is similar to that of Sierra Leone, and only Angola, Lesotho, Tanzania, and Zambia report significantly higher ratios. The other countries in the region exhibit lower concentration ratios, which suggests a more competitive market environment.

Figure B6.2
Share of revenue, top 1 percent largest firms



Source: Merotto, Weber, Aterido (2018) Jobs Diagnostics: Facts and Findings using official Firm Level data. Forthcoming

Figure 3.5
Mozambique: new firm entry and employment shares by sector, 2016



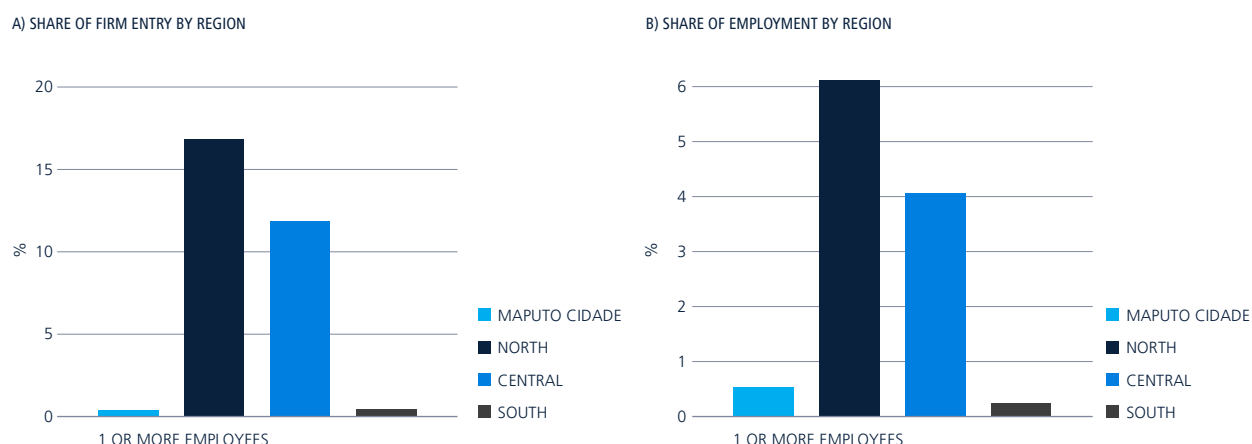
Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2016

3.3 ROLE OF ENTRANT FIRMS

In Mozambique, young firms are contributing to the growth in number of firms and workers, but not as much as in the more dynamic comparator countries. The share of new firms in total firms and the share of jobs that are in new firms are indicators of the ease of entry into markets, which is important for generating competition for established firms, limiting market power, and fostering well-functioning markets. In Mozambique, the sector which exhibits the largest share of new firms (those less than one year old) is commerce, where entrant firms comprised 8 percent of all firms and 4 percent of all employment (Figure 3.5). The predominance of commerce among entrant firms is also observed among other comparator countries, such as Uganda and Zambia. However, there are also important differences between the patterns observed in Mozambique and neighboring countries. In Uganda and Zambia, entrants comprise a greater proportion of all firms and there have been smaller increases in the proportion of agricultural firms. Consequently, the sector transition out of agriculture appears to be taking place more quickly.

The North and Central regions have seen the largest gain in new firms—16 and 11 percent—whereas the contribution made by entrants in the South region and Maputo City has been minuscule (Figure 3.6, panels A and B). The North and Central regions comprise the largest pockets of poverty in Mozambique. Strong

Figure 3.6
Mozambique: new firm entry and employment shares by region, 2016



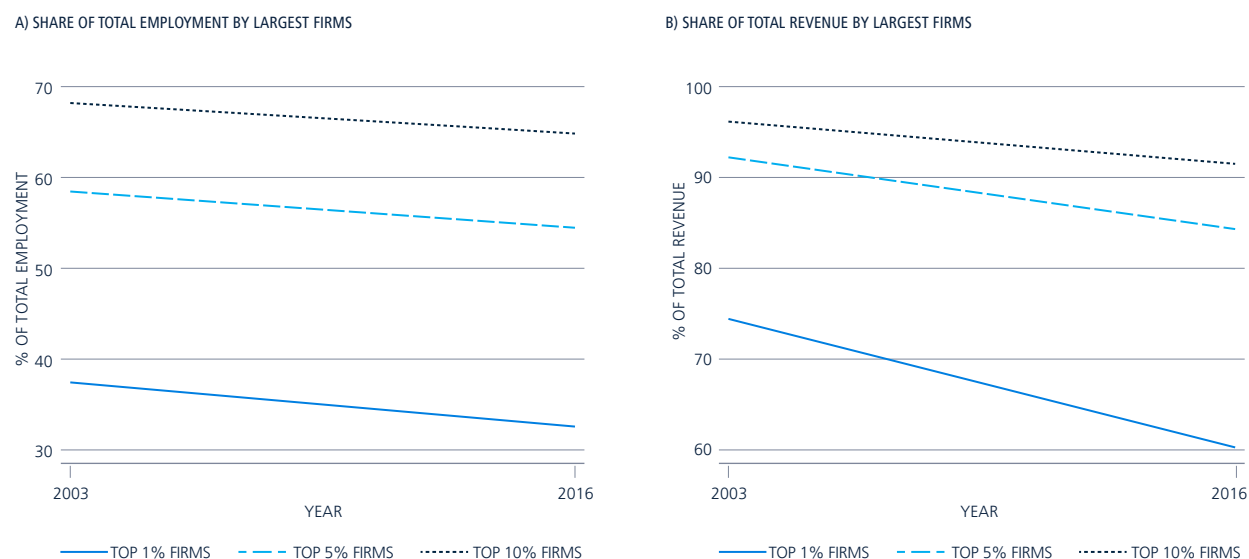
Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2016

entry of new firms as a sign of economic dynamism is therefore particularly welcome in those two regions. While this counts as a positive sign, it is also important to consider that, in absolute numbers, new entrants in the North and Center only accounted for 6 and 4 percent of the total employment in those two regions, which reflects the small size of entrants compared to established firms. This pattern is likely to change significantly over the coming years as the oil and gas development unfolds.

Though the economy remains highly reliant on the largest firms for most jobs, new firms are on the rise, and revenue concentration among the largest firms has declined. The largest 1 percent of firms employs around 35 percent of all workers. Nevertheless, the presence of a larger number of firms has also brought about a decrease in concentration of revenues (sales): the top 1 percent of firms received 75 percent of total revenues in 2003 but only 65 percent in 2016 (Figure 3.7, panels A and B). The same finding also emerges from looking at the top five industry sub-sectors (using industry classification ISIC level 2) in terms of highest revenues earned in 2003. In all but one of these five sub-sectors, the revenues earned in 2016 represent a smaller share of sector revenues than in 2003, and the revenue concentrated in the top four firms is lower in 2016.

Labor concentration also appears to have diminished, together with revenue concentration. Looking at the sub-sectors (defined by industry classification ISIC level 2) that reported the largest number of employees in 2003, in nearly all cases they accounted for a smaller share of total sector employment in 2016, even though their absolute employment figures increased. This suggests that (i) the country's overall business structure is becoming less concentrated and, thus, more competitive, and (ii) that labor now has more opportunities than before. The same finding is also reflected in Figure 3.8, panels A and B, which compares the Herfindahl-Hirschman Index (HHI) of concentration of employment and firm sales in 2016 and 2003. In both Employment and Sales, most sectors fall beneath the diagonal line, which signifies a smaller value of the concentration index in 2016 than in 2003.

Figure 3.7
Concentration of Firm Employment and Revenue Shares, 2003 and 2016



Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2003 and 2016

Figure 3.8
Changes in market concentration of firms' employment and sales by sector, 2003 and 2016



Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2003 and 2016

3.4 CORRELATES OF LABOR PRODUCTIVITY

In the presence of economies of scale and limited access to credit markets, a positive relation between firm size and productivity is expected. The regression coefficients shown in Table 3.2 indicate that the relation between firm size (employment) and labor productivity (sales per worker) remains fairly consistent over different equation specifications, but has very limited explanatory power.²⁸ It suggests that the mid-sized enterprises, which employ between 50 and 500 workers, are most efficient, while the smallest (<50 workers) and the largest (500+) enterprises are less efficient. That the smallest firms are less productive is to be expected in the presence of economies of scale. However, that the group of largest firms also turns out less efficient is puzzling. One possible explanation of their sub-standard performance is that this group of firms is also dominated by public utilities and firms with significant market power that can avoid being penalized for inefficient behavior.

²⁸ That is, the coefficient signs remain the same across the different equations in Table 3.2, and maintain a similar order of magnitude, but most of the coefficients are statistically insignificant, and R-squared is almost 0 in equation 1.

Table 3.2
Labor productivity regression coefficients

| | Dependent variable = Log (Output / Employment) | | | |
|-------------------|--|------------|------------|------------|
| | Equation 1 | Equation 2 | Equation 3 | Equation 4 |
| No. of Employees | | | | |
| Size 20–49 | –0.055 | –0.146* | –0.156*** | –0.157** |
| Size 50–249 | 0.074 | 0.015 | 0.019 | 0.075 |
| Size 250–499 | 0.037 | 0.059 | 0.035 | 0.037 |
| Size 500+ | 0.291 | –0.291 | –0.297 | –0.454 |
| Age of Firm | | | | |
| Age 6–9 | | 0.139** | 0.126** | 0.160*** |
| Age 10–19 | | 0.348*** | 0.298*** | 0.311*** |
| Age 20–29 | | 0.524*** | 0.428*** | 0.410*** |
| Age 30+ | | 0.580*** | 0.505*** | |
| Region | | | | |
| North | | | –0.493*** | |
| Central | | | –0.319*** | |
| South | | | –0.138* | |
| Sector Dummies | | | | |
| Agriculture | | | | –0.383*** |
| Min./Util./Const. | | | | 0.164 |
| Commerce | | | | 0.179* |
| Services | | | | 0.024 |
| Constant | 5.409*** | 4.618*** | 4.943*** | 5.357*** |
| No. Observations | 5,697 | 4,428 | 4,428 | 4,428 |
| R-squared | 0.002 | 0.093 | 0.108 | 0.057 |

Source: World Bank Jobs Diagnostics calculations using data using a restricted data sample from CEMPRE 2016 that excludes firms less than 10 and of less than 2 years of age

Note: Asterisks denote increasing statistical significance: *p<0.1, **p<0.05, ***p<0.01

The relation between labor productivity and firm age appears much more robust. All age-related coefficients are consistently positive and statistically significant. As mentioned, this relation could suggest that productivity reflects a significant “learning by doing” component, with older firms having had more time to hone their production skills. However, it may also be that firms that are created larger, survive longer. Longitudinal (panel) data would be needed to unravel this reality further.

The regression findings also indicate that there is a productivity advantage to urban agglomeration. All the regional dummy variables exhibit a significantly negative influence on productivity, compared with the reference region of Maputo. At sector level, there is a negative association between productivity and agriculture and a positive association with the services sector. This result is consistent with the productivity divide across sectors examined in Chapter 1. It is likely an important motivating force behind the migration of agriculture workers into the services sector.

Figure 3.9
Labor productivity and firm employment by sector, 2003 and 2016



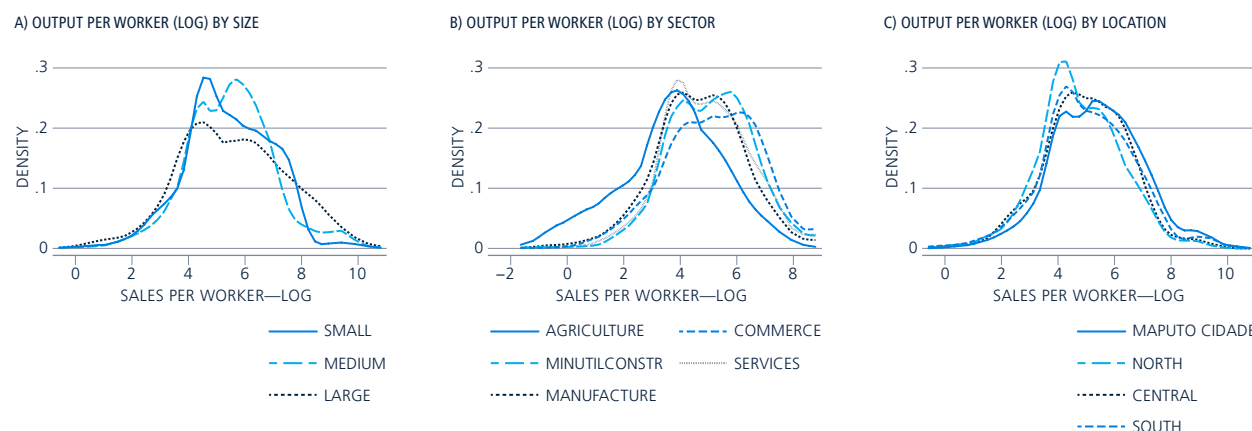
Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003 and 2016

The positive relation between labor productivity and firm size is also broadly reflected in Figure 3.9.

It plots the log of output per worker against the log of employment for all firms and by sector in 2003 and 2016. For 2003, it shows that for most sectors, labor productivity initially rises with higher employment but then eventually falls. This may reflect the same inefficiencies of large publicly owned firms and monopolistic private firms. The same plot in 2016 shows a similar pattern in most sectors as in 2003, except for agriculture, which (somewhat puzzlingly) shows a decline in productivity throughout the entire plot.

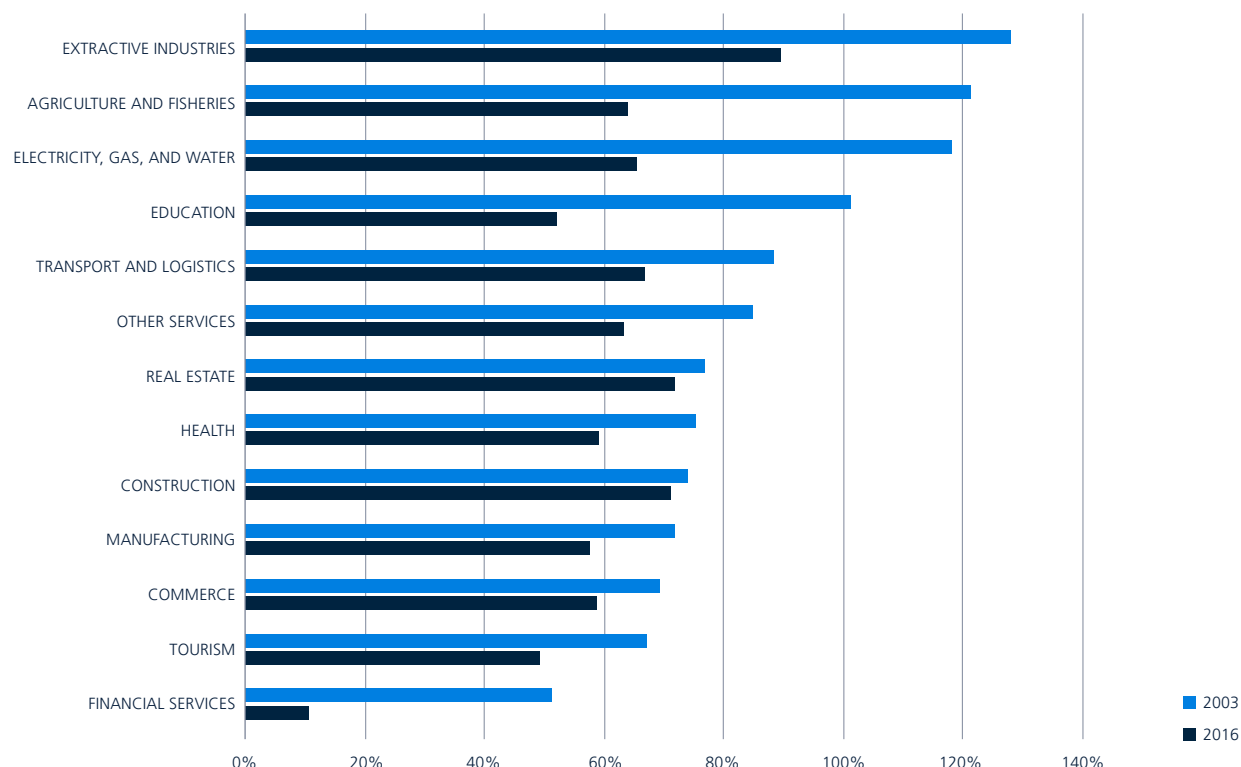
The preceding chapters have pointed toward an important productivity divide across sectors in Mozambique. As seen in Figure 3.10, which reports kernel density plots for the distribution of productivity, there are large productivity divides within groups of similar-sized firms, within sectors, and within regions in Mozambique. The large range of productivity observed within each sector reinforces the message of Chapter 1: that there is scope to improve jobs outcomes by shifting labor towards better functioning firms within each

Figure 3.10
Mozambique: distribution of worker productivity by firm size, sector and location, 2003



Source: Data from the National Statistical Institute (INE), “Mozambican Enterprise Census (CEMPRE),” 2003

Figure 3.11
Percentage difference in labor productivity by sector



Source: Data from the National Statistical Institute (INE), "Mozambican Enterprise Census (CEMPRE)," 2003

Note: Top 90th percentile of firms to the bottom 10th percentile, 2003

sector. Structural transformation does not necessarily imply inter-sectoral shifts. Some of these plots are also suggestive of bimodal distributions, which might signal dual economy features where market failures permit inefficient firms to coexist with more efficient ones. One possible explanation is that some formally registered firms may be able to offset lower productivity by not contributing to social security for some or all of their workforce.

Since 2003, there has been a convergence in productivity rates within sectors. This is reflected in Figure 3.11, which compares the productivity level of the top 90th percentile of firms in each sector to the bottom 10th percentile of firms. In all sectors, these ratios are uniformly lower in 2016 than they were in 2003. This suggests the advent of greater competition within sectors. This is consistent with the earlier observation of a decline in the concentration of firm employment and firm revenues between 2003 and 2016. It also provides grounds for optimism in regards to the growth prospects of the formal enterprise sector. Nevertheless, the differences remain quite large.

3.5 CONCLUDING REMARKS

Mozambique has made significant progress since the early 2000s in expanding the size of its formal enterprise sector, which is the most important source of wage-based formal employment in the country. As noted in Chapter 1, private wage-based employment expanded from around 4 percent of total employment in 2003 to around 12 percent in 2014. This is a considerable gain, considering that total employment was also growing rapidly through this period (in line with the expansion of the labor force). Wage-based jobs are generally the most sought-after jobs in Mozambique, and represent the best prospect to escape poverty in a sustained manner.

The number of firms and jobs has been growing at a healthy pace since 2003, and most formal sector jobs growth is linked to larger firms. Although the number of small firms (with under 10 jobs) has grown faster than the number of large firms, the growth of jobs has come mainly through hires by the largest firms. Startups have been contributing to the growth in the number of firms and jobs in Mozambique, but less so than in more dynamic comparator countries. There is room for improvement.

A successful Jobs Strategy will need to ensure that workers from the less affluent North and Central regions also participate in the expansion of good jobs. Most of the increase in the number of firms and jobs between 2003 and 2016 occurred in Maputo, which started out as the most affluent region in Mozambique. Although growth rates in jobs have been higher outside the capital city, they started from a very low base and therefore, contributed less to the growth of the number of firms and jobs.

Mozambique has a productivity problem. The greatest growth in jobs and firms has been in the commerce and other services sectors, which had the slowest productivity growth between 2003 and 2016. This casts doubt on their ability to continue absorbing workers into better jobs.

The concentration of jobs and sales have decreased since 2003, albeit modestly. This likely signals a decline in the market power of large firms, which would be conducive to a more competitive market environment and faster growth. There has also been a significant convergence in productivity within all sectors, which may also signal a more competitive economy.





4. ELEMENTS OF A JOBS STRATEGY FOR MOZAMBIQUE

Mozambique has untapped potential to grow and create inclusive jobs. Several studies have identified this potential and addressed the challenges Mozambique faces in this area (Baldwin et al., 2017; Cohen et al., 2014; Jones and Tarp, 2012; World Bank, 2012; Government of Mozambique, 2013). Constraints identified by existing entrepreneurs include: bureaucracy, red tape and corruption; poor infrastructure and logistics; access to and cost of credit; access to land; and crime, theft, and disorder. Previous reform programs have brought about some improvements in areas such as macroeconomic stability, labor regulations, the cost and reliability of telecommunications and electricity, and tax rates, per surveys of private sector employers.²⁹ However, others have risen in importance, such as access to land.

The World Bank's 2016 Systematic Country Diagnostic (SCD) analysis assessed sectoral growth prospects to identify binding constraints and develop priorities; several sectors currently show good prospects.³⁰ The agribusiness/forestry sector offers promise—through value chain developments in forestry, sesame, banana, cashew, among others. So does the construction sector.³¹ Mozambique is fortunate to have a long coastline, beneficial for fishing, fish processing industry, and tourism. It has a natural deep-water port in the North of the country, which, if developed and managed, would be an asset to attract labor-intensive light manufacturing for export. The key is to use the country's natural resource wealth for investments in economic and social infrastructure that crowd in private sector investments. A dynamic, labor-intensive private enterprise sector has the potential to create economic spillovers in other sectors by supporting diffusion of learning and technology, creating wage jobs, and increasing domestic demand for agricultural production and informal services.

In recognition of a need for change, the Government of Mozambique announced its five-year plan, which focuses on inclusive growth. The five-year plan “PQG,” the Portuguese acronym for *Programa Quinquenal do Governo*, is for the period 2015–2019.³² It contains five strategic priorities. One of these priorities is the promotion of employment, productivity, and competitiveness. To achieve this goal, the plan lays out the following objectives:

- Increase production and productivity in all sectors with emphasis on agriculture
- Promote industrialization to modernize the economy and increase exports
- Create jobs and reform labor laws
- Promote the value chain of the national primary products, ensuring integration of local content.

The plan expresses a strong commitment to market-oriented agriculture to increase food security and expand exports, as well as to develop a domestic private sector to generate jobs and income. The Government's ability to realize these objectives within the indicated time frame will depend on how effective public policy is in raising the opportunities and earnings in three major livelihood segments: private sector wage jobs (including in the commercial farming sector), HEs, and family farming.

²⁹ See Government of Mozambique, [2013], Table 3.9 for trends between 2003 and 2012.

³⁰ World Bank, 2015b.

³¹ Baldwin et al. [2017] also discuss several alternative development or transformation models for Mozambique, in addition to the Agro/Fisheries based model. These include a natural resource cum diversification development model, a manufacturing diversification model, and a services-led development model. All involve a targeted push to industrialize, involving an accelerated shift of labor and other resources out of low-productivity agricultural activities into higher productivity agro-industry or manufacturing. The Let's Work Program contemplates a series of separate reports to discuss prospects in these potential sectors in detail.

³² The PQG—a five-year plan is based on the manifesto of the party elected to lead the country (FRELIMO), and incorporates actions that will guide the government during its mandate. It was passed into law under resolution 12/2015. Extracted from: <http://www.mpd.gov.mz/index.php/documentos/instrumentos-de-gestao/programa-quinquenal-do-governo-pqg>

4.1 RAISING LABOR PRODUCTIVITY IN AGRICULTURE AND NON-FARM SELF-EMPLOYMENT

With the rapid growth of the labor force and small wage employment sector, most Mozambicans will work in the household farms and non-farm self-employment (HEs) for the foreseeable future.

Simulations in Jones and Tarp (2012) suggest that even if the number of non-agricultural wage jobs increases at double the rate of growth of the labor force through 2050, the number of people working in non-wage jobs (household farms and firms) will still double over this period. It is helpful to consider these two sectors together, as in rural areas they represent a joint livelihood strategy—one of the best available to many households (Fox and Sohnesen, 2012; Davis et al., 2014). In both sectors, the objective of jobs policy should be on increasing opportunities and productivity.

A coherent strategy to raise the productivity of smallholder farmers is critical. As in most Sub-Saharan African countries, the smallholder agricultural sector in Mozambique continues to underperform. Land is not scarce, and the average farm size even in poor households is high compared with some East and West African countries—about 1.5 hectares for the bottom 40 percent of rural households (Cunguara et al., 2011a). However, incomes are still low, and hours-related underemployment is rife—a common phenomenon in economies based on rain fed agriculture. Use of inputs is low, in part because of lack of market access (Cunguara et al., 2011b). Only 33 percent of farmers live within two kilometers of a rural road (World Bank, 2015b). Use of animal power for farming has increased slightly, but the share of households with land under irrigation has lagged (Jones and Tarp, 2012). Thus, in 2012, only 18 percent of farmers sold maize, and only 13 percent sold rice (World Bank, 2015b).

There is a strong case for public support to transition smallholders into productive activities that are linked to the modern economy, where productivity and earnings will be much higher. The resulting earnings gains for the smallholders are a labor externality. Therefore, without public support, private investment in such transitions will tend to be socially sub-optimal (Robalino and Walker, 2017). However, the Government's strategy for raising the productivity of smallholder farmers is still underdeveloped (Jones and Tarp, 2012). Programs to improve smallholder productivity, such as developing higher value crops, livestock production, commercial farming, and private investment in agro-processing to improve market channels are all plausible strategies for creating better farm jobs. A coherent strategy could include infrastructure investments to provide market access, transparent land concessions for commercial farms, and support to the expansion of contract grower schemes for smallholder farmers, which can also be an effective way to improve extension services for smallholders. Jones and Tarp (2012) argue that this support could be provided through public-private partnerships and NGOs, using public funds for performance-based subsidies. Explicit links between the level of public support and the related jobs transformations should be considered.

There is a growing consensus among development agencies that “aggregator” models offer a potential way to resolve the market and coordination failures inherent to smallholder agriculture. Let's Work is carrying out a pilot program to study the jobs impact of agricultural aggregation models in Mozambique (see World Bank, 2017). These models aim to meet the demands of commercial markets by combining smallholders into groups and linking them to larger businesses that can provide them with capital and technological packages that allow productivity to increase. Such models exist in many variants. Some are based on producer associations. Others are promoted by anchor buyers, and in other cases, intermediaries take the lead in creating linkages between farmers and purchasers. Nonetheless, all modalities aim to facilitate the production of cash crops and to support the adoption of technologies that increase productivity and meet market standards.³³

Income diversification to reduce exclusive dependence on crop income should also be encouraged.

Where adequate market channels exist, diversification into livestock activities can help rural households move out of poverty. Diversification has been correlated with higher rural household consumption and lower poverty in Mozambique (Fox et al., 2008; Fox and Sohnesen, 2013; Cunguara, 2011a; Jones and Tarp, 2012). Using panel

³³ Some Mozambican crops already have relatively well-developed aggregation arrangements, which date back to the colonial economy. These include industrial crops such as cotton [200,000 growers, linked to 14 ginning companies] and tobacco [120,000 growers linked to Mozambique Leaf Tobacco in Tete]. Other crops that have developed “out-grower” arrangements more recently include sugar, soy, and maize; high value, quality sensitive products such as horticulture, cashew and litchi; and perishable animal products such as poultry and dairy production.

data, Fox and Sohnesen (2013) show that in rural areas of Mozambique, adding a HE to the income portfolio helped push households out of poverty. Households that made the HE the primary activity of at least one household member were especially likely to move out of poverty. 44 percent of rural households that reported non-farm self-employment as the primary activity of at least one member in 2008, but not in 2003, moved out of poverty, while only 15 percent moved into poverty; another 24 percent were never poor during this period.

Rural transportation infrastructure has an important role to play in Mozambique's evolution. Access to markets is a common problem for farm and non-farm household production alike. Cunguara et al. (2011b) found that living near a tarred road is essential for households to benefit from improved technologies, such as improved seeds or tractors. The quality of market infrastructure has been found in other countries to be related to adoption of technology.³⁴ Rural HE owners listed road quality, distance to markets, and road access as severe obstacles to running a business in 2010. Access to and reliability of electricity was also listed as an obstacle.

Well-targeted cash transfers (CTs) can support a Jobs Strategy in rural areas because they stimulate demand and generate local economy multipliers in beneficiary communities. They can also help to finance the development of HEs (Filmer and Fox, 2014). At the community level, they increase households' consumption, which helps to build a market for the products and services of local HEs. They can also help households to invest in a business and to tide the household over while waiting for the return on an investment. Furthermore, well-targeted cash transfers can help to cushion households from shocks, so productive assets do not have to be sold off at low prices in times of crisis. Lastly, they are usually cheaper than public works programs and do not displace labor from productive tasks.

4.2 GENERATING MORE WAGE JOBS IN THE FORMAL SECTOR

The creation of more wage employment is critical for the employment transition as it represents the main engine for growth, development, and poverty reduction. In addition to benefiting the workers who get formal jobs, this process produces multiplier effects beyond the formal sector. This is because wage employees tend to buy goods and services from the HE sector, especially in urban areas. In this context, the growth in private sector wage employment observed in Mozambique since 1996 gives grounds for hope. Such jobs do not need to be in manufacturing; they can also be in services and agriculture. What's more, the evidence presented in this report has shown that services sector has the best recent dynamism in the creation of good jobs, while manufacturing and agriculture have both lagged.

If Mozambique wants to rapidly create more wage jobs in private enterprises, it needs more private investment in labor-intensive production. Asian countries have achieved major expansion by attracting foreign direct investment in labor-intensive production of export goods, building an export-oriented manufacturing sector. However, shifting trends in the global pattern of technological change and demand growth might make it hard for countries like Mozambique to replicate this experience. Fortunately, manufacturing does not need to be for export. Processing domestic agricultural production for the growing urban population (for example, grain milling, oil seed pressing, dairy, butchering, among others) and to supply a growing construction sector have also helped create wage jobs in Asia, transforming the structure of employment (Fox et al., 2013; Tschirley et al., 2015). Such transformations are viable options for Mozambique, where imports of food products and construction materials are very high.

The natural resource sector, if developed strategically, could offer a tremendous opportunity for Mozambique to sustainably increase economic growth. Mozambique began exporting coal in 2011 from Tete. In 2012, four of the world's five largest natural gas discoveries were made in Mozambique's offshore Rovuma Basin (Columbia University, 2013). Within five years, coal and gas projects could double their contribution to GDP. Mineral discoveries have also led to substantial foreign direct investment. With over a thousand prospecting and exploration licenses in place, the metals and minerals sector could potentially contribute an additional 8 percent to GDP.

³⁴ See Cunguara et al. 2011b for a discussion.

Nonetheless, the development of these sectors will create few direct jobs, and job creation linkages to the local economy remain weak. In 2012, mining accounted for about 15,000 direct jobs, of which 10,000 were in Tete's coal mines (Columbia University, SIPA, 2013). Direct employment in extractive industry is usually small, but mining and gas could generate four to five times more jobs through indirect employment (World Bank, 2012a). For this to happen, strong linkages should be developed between the large foreign direct investment investors and smaller domestic enterprises. Backwards and linkages to megaprojects are an opportunity for the private sector. However, realizing this potential requires policies to increase the competitiveness and productivity of local firms so that they will be able to supply at the scale and quality required by foreign investors.

Although formal sector wage employment is constrained by firms' demand for labor, Mozambique has advanced over the last decade in this regard. Formal sector employment and the number of firms has doubled between 2003 and 2015. While the greatest increase in firms took place in the greater Maputo area, the poorer Central and North regions also exhibited a healthy increase in new firms. Most firm growth took place in the services sector. Even in manufacturing, formal wage employment has increased substantially.

Despite this progress, output remains concentrated in the largest, oldest firms, calling for measures to reduce barriers to entry and stimulate competition. The top 5 percent of firms in Mozambique produced 70 percent of total value added in 2015. While this is lower than the 90 percent recorded in 2003, it still represents a very high degree of industry concentration. The bimodal distribution of labor productivity observed across firms separated by size, sector, and region suggests a market segmentation that permits inefficient firms to coexist with efficient ones.

National economic and regulatory policies can help or hinder jobs growth. A good business environment and stable macroeconomic framework are essential for attracting private investment to create and expand formal sector firms that offer wage jobs. Trade offers significant potential to accelerate growth and create jobs, but the development of export industries is constrained by several factors. The high cost of trade and the poor logistics environment deters new investment, especially foreign direct investment. As noted in Chapter 3, customs regulation and corruption are cited by trading firms as major constraints. Well-connected markets are a prerequisite for spillover effects of industrial development, especially in the natural resource sector; many firms state lack of market knowledge as the reason why they do not export. To improve the institutional environment for doing business, it is also necessary to address governance problems related to contract enforcement and the protection of minority investor rights. In urban areas, protecting formal firms from unfair competition by informal agents and HEs requires a clear legal framework and planning strategy to accommodate both parties.

Labor market policies, rules, and regulations also play an important role in the generation of more wage jobs in the formal sector. Overly protective labor market legislation—especially in minimum wages and severance pay—can hamper formal jobs growth. There is no magic formula to get the correct balance between the level of worker protection and the growth of formal jobs, but policy makers should keep a close eye on the relationship between labor costs and labor productivity. Taxes on formal jobs are another problem. If the Government wants to stimulate the demand for formal jobs, it makes little sense to tax them. It should consider options to replace taxes on jobs, such as payroll taxes, with more neutral instruments, such as sales or income taxes.

Skill shortage is a constraint to formal jobs growth in Mozambique, but traditional programs have been ineffective. The well-known market failures linked to private investments in training (including externalities and capital market constraints facing households) likely reduce investment in skills training below the optimal level. Although less than 25 percent of manufacturing firms report not having a sufficiently skilled workforce for their type of production and technology, this might reflect the bias inherent in surveying existing firms (and not the ones which failed, due to skill shortage or that might have chosen other technologies, if the skills existed to run them).

In construction, the lack of specialized skills—both managerial and technical—are reported to be an important constraint (Nhabinde et al., 2012). Most technical construction skills are learned on the job, but putting in place such a system requires management of apprentices and experienced workers. This is not an easy

task for a medium-sized business. A program of business services support in this sector with foreign construction companies to provide the training to potential subcontractors might be an effective approach.

However, the traditional publicly-delivered, supply driven approach of the Mozambican Institute for Employment and Vocational Training (INEFP) has not produced good results. Mozambique is now implementing a major reform program in the state vocational training sector which can potentially address these failings. The most successful programs are likely to have private delivery mechanisms and strong links to firms' demand (that is, by targeting the placement of trainees in paid jobs as a test of market relevance). A flexible labor code can stimulate training by allowing apprentices to pay part of the cost of training through lower wages. A probationary period before termination benefits come into effect is also a possibility to improve the vocational training.

The high reservation wages observed among recent school graduates are due, in part, to poor knowledge of the job market. Therefore, work experience programs for graduating students to acquaint them with the labor market and get them "job-ready" could help reduce Mozambique's youth unemployment rate.

In the face of skills shortages that constrain the growth of firms, it is difficult to see the case for limiting the movement of skilled workers. Local and foreign firms face a shortage of experienced and skilled labor such as accountants, engineers, mechanics, and managers, as well as experienced, semi-skilled labor in some trades (that is, plumbing, welding, electrical components, among others). Limitations on importing skilled labor that aim to stimulate the creation of skilled Mozambicans can have the opposite effect of preventing the development of the industries that might hire and train them, especially by hampering the development of new foreign direct investment funded projects.

Mozambique also needs to focus on regional and sectoral initiatives to accelerate jobs transitions in high potential labor-intensive industries. Beyond improving the macroeconomic and business climate and the functioning of the labor market via regulation reform and training policies improvement, this is essential. These jobs transformations might be in agriculture, in manufacturing or in services. But wherever they are, private investors will need to mobilize capital to equip the firms and create productive jobs.

The metric to determine the level of public support of jobs transformations should be the number of improved jobs. Improved jobs are those that absorb workers from traditional jobs in low productivity smallholder agriculture and HEs. The specific form of support should be designed with the principles of efficiency (minimizing the public subsidy cost of triggering the investment) and sustainability (ensuring that the new jobs will be viable without the need for ongoing subsidy). They should also reflect careful analysis of the problem. In some cases, infrastructure might be the most binding constraint. In others, finding a way to cushion investors from arbitrary administrative and regulatory rules or helping small and medium-sized enterprises overcome capital constraints and providing them with business development training could be the way to go.

4.3 CONCLUDING REMARKS

The process of shifting the mass of Mozambique's labor force into formal jobs will be long and many workers, especially from the poorest households, will never make the transition. Therefore, Mozambique's Jobs Strategy needs both to promote formal jobs growth in large firms and small and medium-sized enterprises and support workers in informal household businesses to maximize their productivity. It is positive that, partly due to new options for efficient market interactions created by information technology, there are growing opportunities for generating more good quality jobs outside the formal wage sector, above all, by linking small producers to modern markets.

Jobs programs and policies should both address the same target problem of how to maximize income gains for poor people through jobs transformations. Jobs programs and policies should not be segmented into two sets of unrelated interventions (modern private sector and for the ultra-poor). Private sector development programs that do not support a significant number of jobs transitions for poor households should not be considered part of a jobs strategy. Nor should programs for poor households which do not improve their productivity and earnings on a sustainable basis.

There is neither a silver bullet solution to promote the growth of wage jobs in formal firms nor for productivity growth in smallholder farms or HEs. In both segments, the opportunities and constraints can be complex. Policymakers must study the options carefully. Program design in both segments should aim to maximize the jobs transitions generated with an available budget. A critical test for the viability of any program will include the existence of a market that makes a job sustainable without ongoing subsidy.

Jobs programs and policies should also aim to catalyze the linkages from formal sector jobs growth to improved incomes for smallholder farmers and non-farm HEs. These linkages can come through supplier relationships in value chains. For example, where a smallholder diversifies into a more productive cash crop with support from an aggregator firm. They can also come through demand effects, such as when formal sector wage incomes spillover into spending on services produced by informal HEs. Such effects can be particularly powerful on the periphery of urban concentrations, but local economy multiplier effects can also be generated by redistributive transfer programs in remote rural regions.

Many of the recommendations in this report on constraints to private sector development in Mozambique are not new. They can be found in multiple government strategy and policy statements and in donor reports. However, approaches which highlight all the possible problems and solutions are sometimes unhelpful. Policy makers need guidance on where to prioritize their efforts. This report proposes making jobs metrics the central determinant of such policy choices.

There are three main challenges to the development of a successful Jobs Strategy for Mozambique. The first challenge is to identify the sectors and regions with greatest potential for jobs. Secondly, it will require political courage to reform the public policies that are likely constraining better jobs outcomes. Lastly, preparation to shift budgetary resources into efficient programs to catalyze the corresponding transformations will be key. The next phase of Let's Work Mozambique Country Pilot will build on the diagnostics presented in this report. It will work with the Government and Let's Work partners to develop an action plan that highlights a limited and viable set of proposals to trigger qualitative shifts in jobs outcomes for poor households.



REFERENCES

- Abrahamson, David, Elizabeth Herb, Justin Jee-Zen Lin, Leena Khan, Alexander LaBua, James Meisenheimer, Maree Newson, Carlona Ocampo-Maya, Paloma Ruiz Gonzalez, Bettina Strickler, and WEI WEI. 2013. "Mozambique mobilizing extractive resources for development." Capstone report. The School of International and Public Affairs (SIPA), Columbia University. Available from: <https://sipa.columbia.edu/file/3258/download?token=C9Sxljsr>
- Alfani, Federica, Carlo Azzarri, Marco D'Errico, and Vasco Molini. 2012. "Poverty in Mozambique: New Evidence from Recent Household Surveys." World Bank Policy Research Working Paper No. 6217. Washington D.C.
- Anderson, Jaime, and Wajiha Ahmed. 2015. "Early Insights from Diaries of Smallholder Households." CGAP Focus Note 102. Washington D.C.
- Baldwin, Neil, Peter Coughlin, Phyllis Papedavid, Dirk Willem de Velde, and Kasper Vrolijk. 2017. "Economic Transformation and Job Creation in Mozambique." Synthesis Paper prepared under the auspices of ODI's Supporting Economic Transformation (SET) Program.
- Bandiera, Oriana, Robin Burgess, Narayan Das, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2013. "Can Basic Entrepreneurship Transform the Lives of the Poor?" International Growth Centre Working Paper. Available from: <https://ideas.repec.org>
- Bandiera, Oriana, Niklas Buehren, Robin Burgess, Markus Goldstein, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2014. "Women's Empowerment in Action: Evidence from a Randomized Control Trial in Africa." LSE Working Paper.
- Bannerjee, Abhijit V. 2013. "Microcredit Under the Microscope: What Have We Learned in the Past Two Decades, and What Do We Need to Know?" The Annual Review of Economics. Available from: <https://pdfs.semanticscholar.org/e7f4/249967c0786aa2b8aa2444bbac193861a459.pdf>
- Bloom, Nicholas, Christos Genakos, Rafaella Sadun, and John Van Reenen. 2012. "Management practices across firms and countries." The Academy of Management Perspectives, 26 (1). 12–33.
- Bloom, Nicholas, Gregory Fischer, Imran Rasul, Andres Rodriguez-Clare, Tavneet Suri, Christopher Udry, Eric Verhoogen, Christopher Woodruff, and Giulia Zane. 2014. "Firm Capabilities and Economic Growth." Evidence Paper, International Growth Centre. Available from: <https://www.theigc.org/wp-content/uploads/2014/09/IGCEvidencePaperFirms.pdf>
- Bridges, Sarah, Louise Fox, Alessio Gaggero, and Trudy Owens. 2013. "Labour Market Entry and Earnings: Evidence from Tanzanian Retrospective Data." Presented at the CSAE Conference on Economic Development in Africa, Oxford University.
- Cohen, Elin, Thomas Selemane, and Mariam Umarji. 2014. "The State's Engagement in Business in Mozambique." Report prepared for SPEED program, USAID. Washington D.C.
- Cunguara, Benedito, and Ika Darnhofer. 2011. "Assessing the impact of improved agricultural technologies on household income in rural Mozambique." Food Policy 36 (2011) 378–390.
- Cunguara, Benedito, Augustine Langyintuoc, and Ika Darnhofer. 2011. "The role of nonfarm income in coping with the effects of drought in southern Mozambique." Agricultural Economics 00 (2011) 1–13.
- Davis, Benjamin, Stefania Di Giuseppe, and Alberto Zezza. 2014. "Income Diversification Patterns in Rural Sub-Saharan Africa: Reassessing the Evidence." World Bank Policy Research Working Paper no. WPS 7108.
- De Vletter, Fion. 2007. "Migration and development in Mozambique: poverty, inequality and survival." Development Southern Africa, Vol. 24, pp. 137–153.
- Deaton, Angus. 2013. The Great Escape: Health, Wealth and the Origins of Inequality. Princeton University Press. Princeton, NJ.

- Dihn, Hihn T., Vincent Palmade, Vandana Chandra, and Frances Cossar. 2012. "Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs." World Bank, Washington D.C.
- Filmer, Deon, and Louise Fox. 2014. "Youth Employment in Sub-Saharan Africa." World Bank, Washington D.C.
- Fox, Louise. 2008. "Beating the Odds: Sustaining Inclusion in Mozambique's Growing Economy." World Bank, Washington D.C.
- Fox, Louise, and Obert Pimhidzai. 2013. "Different Dreams, Same Bed: Collecting, Using, and Interpreting Employment Statistics in Sub-Saharan Africa—The Case of Uganda." Policy Research Working Paper No. 6436. World Bank, Washington D.C.
- Fox, Louise, and Thomas P. Sohnesen. 2012. "Household Enterprise in Sub-Saharan Africa—Why they matter for growth, jobs and livelihoods." World Bank Policy Research Working Paper no. 6184. World Bank, Washington D.C.
- . 2013. "Household Enterprise in Mozambique: Key to Poverty Reduction but not on the Development Agenda?" Policy Research working paper no. WPS 6570. World Bank, Washington D.C.
- Fox, Louise, Lucrecia Santibañez, Vy Nguyen, and Pierre André. 2012. "Education Reform in Mozambique: Lessons and Challenges." World Bank, Washington D.C.
- Fox, Louise, Alun Thomas, Cleary Haines, and Jorge Huerta Munoz. 2013. "Africa's Got Work to Do: Employment Prospects in the New Century." IMF Working Paper. International Monetary Fund, Washington D.C.
- Government of Mozambique. 2013. "2012 Survey of Mozambican Manufacturing Firms—Descriptive Report." Maputo: National Directorate of Studies and Policy Analysis.
- Grosh, Margaret, Carlo del Ninno, Emil Tesliuc, and Azedine Ouerghi. 2008. "For Protection and Promotion: The Design and Implementation of Effective Safety Nets." World Bank, Washington D.C.
- ILO (International Labor Organization). 2011. "Global Employment Trends 2011: The Challenges of a jobs recovery." International Labor Organization, Geneva.
- Jones, Sam, and Finn Tarp. 2012. "Jobs and Welfare in Mozambique: Country Case Study for the 2013 World Development Report." Background Paper.
- . 2015. "Understanding Mozambique's growth experience through an employment lens." UNU-WIDER Working Paper 2015/109. The World Institute for Development Economics Research, United Nations. Helsinki, Finland.
- Kweka, Josaphat, and Louise Fox. 2011. "The Household Enterprise Sector in Tanzania: why it matters and who cares." Policy Research Working Paper Series no. 5882. World Bank, Washington D.C.
- La Porta, Rafael, and Andrei Shleifer. 2014. "Informality and Development." *Journal of Economic Perspectives*, 28 (3): 109–26. Available from: <https://www.aeaweb.org/articles?id=10.1257/jep.28.3.109>
- Lewis, W. Arthur. 1954. "Economic Development with Unlimited Supplies of Labour." *The Manchester School of Economics and Social Studies*.
- Loening, Josef, Bob Rijkers, and Måns Söderbom. 2008. "Nonfarm Microenterprise Performance and the Investment Climate : Evidence from Rural Ethiopia." Policy Research Working Paper; No. 4577. World Bank, Washington D.C.
- Loewenstein, Wilhelm, and Dieter Bender. 2017. "Labor market failure, capital accumulation, growth and poverty dynamics in partially formalized economies: Why developing countries' growth patterns are different." Manuscript.
- McCullough, Ellen B. 2015. "Labor Productivity and Employment Gaps in Sub-Saharan Africa." World Bank Policy Research Working Paper no. 7234. World Bank, Washington D.C.
- Mikhaylova, Ekaterina. 2018. Disclosable Version of the ISR—"Mozambique Mining and Gas Technical Assistance Project." P129847—Sequence No: 10. World Bank, Washington D.C.

- Mwanza, P. 2012. "Mozambique Business Linkages Review: An Overview of Key Experience, Issues and Lessons." USAID, Maputo, Mozambique.
- Nhabinde, Vasco, Constantino P. Marrengula, and Amso Ubisse. 2012. "The Challenges and Way Forward for the Construction Industry in Mozambique." International Growth Center, Mozambique.
- Robalino, David, and Ian Walker. 2017. "Economic Analysis of Jobs Investment Projects: Guidance Note." Jobs Working Paper, Issue No. 7. World Bank, Washington D.C.
- Rodrik, Dani. 2015. "Premature Deindustrialization." NBER Working Paper No. 20935. National Bureau of Economic Research, Cambridge, MA.
- Salinger, Lynn, and Caroline Ennis. 2014. "Mozambican Labor Markets in the face of a Natural Resource Boom: What Potential Impacts of Dutch Disease?" USAID, Washington D.C.
- Söderbom, Måns, and Francis Teal. 2001. "Firm size and human capital as determinants of productivity and earnings." CSAE Working Paper Series 2001–09. Centre for the Study of African Economies, University of Oxford.
- Trust, Finmark. 2012. "FinScope MSME Survey Mozambique 2012." FinMark Trust, Maputo, Mozambique.
- Tschirley, David L., J. Snyder, M. Dolislager, T. Reardon, S. Haggblade, J. Goeb, L. Traub, F. Ejobi, F. Meyer. 2015. "Africa's Unfolding Diet Transformation: Implications for Agrifood System Employment." *Journal Agribusiness in Developing and Emerging Economies*, Vol. 5 Iss: 2.
- UN (United Nations). 2014. DESA-Population Division and UNICEF. Migration Profiles—Common Set of Indicators. Available from: <https://esa.un.org/migmgmprofiles/indicators/indicators.htm>
- Valerio, Alexandria, Brent Parton, and Alicia Robb. 2014. "Entrepreneurship Education and Training Programs around the World: Dimensions for Success." World Bank, Washington D.C.
- WB (World Bank). 2008. "Developing SMEs through business linkages: a manual for practitioners based on the MozLink mentorship experience in Mozambique." Business linkages practice notes. World Bank, Washington D.C.
- . 2010. "Mozambique Country Economic Memorandum: Reshaping Growth and Creating Jobs through Trade and Regional Integration." World Bank, Washington D.C.
- . 2012a. "Adolescent girls employment initiative: Nepal baseline summary report 2010–2012." Adolescent Girls Initiative (AGI). World Bank, Washington D.C.
- . 2012b. "World Development Report 2013: Jobs." World Bank, Washington D.C.
- . 2014. "World Development Indicators." World Bank, Washington D.C. Available from: <https://data.worldbank.org/products/wdi>
- . 2015. "Mozambique service delivery indicators: Education." World Bank, Washington D.C.
- . 2016. "Mozambique a Systematic Country Diagnostic." World Bank, Washington D.C.
- . 2017. "Mozambique: Agricultural Aggregator Pilot Study." Terms of Reference, Jobs Global Practice. World Bank, Washington D.C.

ANNEX A: DECOMPOSING PRODUCTIVITY GROWTH VERSUS PRODUCTIVITY CHANGE

A recent paper by Sam Jones and Finn Tarp³⁵ investigates the disconnect between GDP growth and changes in household well-being (that is, poverty reduction) in Mozambique through a labor market productivity decomposition analysis. Their decomposition method differs from the approach used in this Jobs Diagnostic (JD) in two ways:

- Sector disaggregation—JD analysis disaggregates the economy into three sectors (Agriculture, Industry and Services), while Jones and Tarp disaggregate the economy into four sectors, where the industry sector is separated into manufacturing and mining.
- Object of decomposition: The JD analysis decomposes the change in productivity over different periods of time, while Jones and Tarp decompose the rate of growth of productivity over the same periods of time.

The greater sector disaggregation by Jones and Tarp has the advantage of highlighting the divergent structural evolution of manufacturing and mining during the last two decades, allowing for a richer sub-sector analysis. The focus on productivity growth rates, rather than productivity changes, introduces complications into the decomposition analysis that render Jones' and Tarp's calculations. Rather than decomposing overall labor productivity change into within-sector and between-sector effects, their analysis decomposes productivity growth into the contributions made by (i) sector-specific productivity growth (while keeping sector output shares constant), (ii) the reallocation of labor across sectors (while holding sector productivities constant), and (iii) a cross-multiple term that captures the interaction of variations in sector productivities and employment shares.³⁶ Jones and Tarp (2016) denote these three components as the Intra-sectoral productivity effect (INTRA), the static reallocation effect (SRE) and the dynamic reallocation effect (DRE).

Table A.1 shows the productivity decomposition outcomes as calculated by Jones and Tarp using data from the four household surveys carried out between 1997 and 2014. They show, for example, that during the most recent period, 2009–2014, total labor productivity grew by an average of 4.21 percent per annum, with most of that productivity growth (3.4 percent) attributable to sector-specific productivity increases (INTRA). Among the sectors, services made the largest net contribution to productivity growth in this period, mostly on account of static reallocation effects. Meanwhile, the negative value exhibited by the dynamic reallocation effect over this period (–0.82 percent) indicates that labor has on balance shifted toward sectors with declining productivity or away from sectors with rising productivity.

³⁵ Sam Jones and Finn Tarp [2016]. "Understanding Mozambique's Growth Experience through an Employment Lens." UNU-WIDER Project on Macroeconomic Management.

³⁶ Using mathematical notation, this decomposition process can be summarized as follows: denote the economy's total labor productivity at time t as $P_t = Y_t/L_t$, where Y refers to total GDP and L refers to the total labor force. Using subscript i to denote sectors, we can express the aggregate labor productivity as a weighted sum of sector-specific productivities: $P_t = \sum_i (Y_{i,t})/L_t = \sum_i (Y_{i,t} * \omega_{i,t}^L)$, where $\omega_{i,t}^L$ refers to the i th sector's employment share of total employment. Changes in total productivity can now be expressed as,

$$\Delta P_t = P_t - P_{t-1} = \sum_i (\omega_{i,t-1}^L * (P_{i,t-1} - P_{i,t-1})) + P_{i,t} * (\omega_{i,t}^L - \omega_{i,t-1}^L),$$

which is the same as Expression 2 in the main text. Dividing both sides of this expression by P_{t-1} --- and with some manipulation, we finally arrive at an expression for the rate of aggregate productivity growth as:

$$g_t^P = \Delta P_t / P_{t-1} = \sum_i (g_{i,t}^P * \omega_{i,t-1}^Y) + (\Delta \omega_{i,t}^L * \omega_{i,t-1}^P) + (\Delta \omega_{i,t}^L * \omega_{i,t-1}^P * g_{i,t-1}^P).$$

In this last expression, the three terms on the right represent the INTRA, SRE and DRE effects described in the text. One important point to note is that the INTRA effect calculated here is not based on the same formula as (and thus not comparable to) the within-sector effect derived under the World Bank decomposition analysis calculated in Table 1.3. The same applies to the other, labor reallocation effects.

Table A.1
Mozambique: decomposition of aggregate labor productivity growth, by period

| | Contribution to Total Labor Productivity Growth (percentages) | | | |
|---------------|---|-------------|--------------|--------------|
| | <i>INTRA</i> | <i>SRE</i> | <i>DRE</i> | <i>Total</i> |
| 1996–2003 | | | | |
| Agriculture | 1.40 | –0.29 | –0.01 | 1.10 |
| Manufacturing | 0.06 | 1.94 | –0.01 | 2.00 |
| Mining | 0.67 | 0.06 | 0.01 | 0.73 |
| Services | 2.15 | 0.32 | 0.01 | 2.48 |
| Total | 4.28 | 2.04 | 0.00 | 6.32 |
| 2003–2008 | | | | |
| Agriculture | 1.15 | –0.08 | 0.00 | 1.06 |
| Manufacturing | 2.04 | –1.44 | –0.21 | 0.39 |
| Mining | 0.66 | –0.07 | –0.01 | 0.58 |
| Services | 0.19 | 1.94 | 0.00 | 2.13 |
| Total | 4.04 | 0.35 | –0.22 | 4.17 |
| 2008–2014 | | | | |
| Agriculture | 1.02 | –0.44 | –0.02 | 0.56 |
| Manufacturing | –0.20 | 0.49 | –0.08 | 0.20 |
| Mining | 2.97 | –1.57 | –0.69 | 0.71 |
| Services | –0.39 | 3.16 | –0.03 | 2.74 |
| Total | 3.40 | 1.64 | –0.82 | 4.21 |

Source: Jones and Tarp (2016), Table 4

The main findings derived from Table A.1 have several elements in common with the earlier findings of this JD analysis. Jones and Tarp (2016) identify the following four main findings from their labor productivity decomposition analysis:

- a) Labor reallocation effects have made a relatively small contribution to productivity growth over the entire period, and made their largest relative contribution in the immediate reconstruction period (1997–2002).
 - This finding is not fully corroborated by the JD analysis in that the latter yields a more balanced picture of the relative importance of the within-sector and between-sector (labor reallocation) contributions to total productivity growth. In line with Jones’ and Tarp’s findings, however, the JD analysis also finds that the influence of between-sector effects is strongest in the immediate reconstruction period, as well as in the last period, and least influential in the middle period (2003–2008).
- b) The composition of labor reallocation effects has altered over time. The dynamic structural reallocation effects have become increasingly negative, reflecting the point that sectors with the fastest rates of growth in employment (primarily services) show falling levels of relative productivity.

- Dynamic reallocation effects are not directly captured in the JD analysis. Nevertheless, the JD analysis also shows that the sector with the highest between-sector contribution to growth in recent years (Services)—a reflection of net labor inflows -- is exhibiting declining within-sector productivity growth.
- c) The INTRA component remains a predominant overall contributor to productivity growth, yet is highly uneven across sectors. Except for mining, sector-specific INTRA productivity growth has been falling over time and even become negative in services and manufacturing.
- This finding is partly corroborated by the JD analysis: although within-sector productivity growth does not turn out to be quite as dominant a contributor to overall productivity growth, the JD analysis also finds that the within-sector productivity growth is highly uneven across sectors. While significant in agriculture and industry, it has been mostly absent in the services sector (except in the second period, 2003–2008). The JD findings also show that the contribution made by within-sector productivity growth is lowest in the most recent period, and has become negative in Services.
- d) Aggregate productivity growth appears to be increasingly dependent on the services sector. Despite large investments in mining and related industries, this has not translated into large aggregate labor productivity benefits due to the weak contribution of these new activities to employment.
- This finding is corroborated by the JD analysis, which also finds that the services sector has been increasingly responsible for sustaining productivity growth in Mozambique, while the contribution of the industry sector has been progressively declining in spite of large investments in mining.

ANNEX B: STRUCTURE OF FORMAL SECTOR FIRMS AND JOBS IN MOZAMBIQUE, 2003 AND 2016

Table B.1

Structure of formal sector firms and jobs in Mozambique, 2003–2016 (full sample)

| | Number of Firms | | | | Number of Jobs | | | | Annualized compound growth rates, 2003–2016 | |
|-----------------------|-----------------|-------|--------|-------|----------------|-------|---------|-------|---|------|
| | 2003 | % | 2016 | % | 2003 | % | 2016 | % | Firms | Jobs |
| Firm Size | | | | | | | | | | |
| 1–9 | 24,085 | 90.2 | 36,533 | 85.2 | 59,262 | 23.2 | 98,307 | 18.7 | 3.3 | 4.0 |
| 10–19 | 1,222 | 4.6 | 2,852 | 6.7 | 15,982 | 6.3 | 37,830 | 7.2 | 6.7 | 6.9 |
| 20–99 | 1,111 | 4.2 | 2,832 | 6.6 | 43,997 | 17.3 | 110,464 | 21.0 | 7.5 | 7.3 |
| 100+ | 288 | 1.1 | 667 | 1.6 | 135,769 | 53.2 | 278,790 | 53.1 | 6.7 | 5.7 |
| Total | 26,706 | 100.0 | 42,884 | 100.0 | 255,010 | 100.0 | 525,391 | 100.0 | 3.7 | 5.7 |
| Firm Age | | | | | | | | | | |
| 1 | 747 | 2.6 | 1,670 | 6.6 | 886 | 0.3 | 8,954 | 2.3 | 6.4 | 19.5 |
| 2–5 | 14,935 | 52.8 | 13,140 | 51.8 | 56,586 | 22.2 | 99,665 | 26.1 | –1.0 | 4.5 |
| 6–9 | 5,734 | 20.3 | 5,024 | 19.8 | 71,891 | 28.2 | 72,896 | 19.1 | –1.0 | 0.1 |
| 10–19 | 4,308 | 15.2 | 4,221 | 16.6 | 55,124 | 21.7 | 110,654 | 29.0 | –0.2 | 5.5 |
| 20–29 | 1,782 | 6.3 | 941 | 3.7 | 23,522 | 9.2 | 52,046 | 13.6 | –4.8 | 6.3 |
| 30+ | 787 | 2.8 | 361 | 1.4 | 46,535 | 18.3 | 37,947 | 9.9 | –5.8 | –1.6 |
| Total | 28,293 | 100.0 | 25,357 | 100.0 | 254,544 | 100.0 | 382,162 | 100.0 | –0.8 | 3.2 |
| Region | | | | | | | | | | |
| Maputo | 8,011 | 28.3 | 14,837 | 34.6 | 124,393 | 48.8 | 243,045 | 46.3 | 4.9 | 5.3 |
| North | 4,948 | 17.5 | 9,065 | 21.1 | 41,958 | 16.5 | 91,724 | 17.5 | 4.8 | 6.2 |
| Central | 8,523 | 30.1 | 8,096 | 18.9 | 39,741 | 15.6 | 92,954 | 17.7 | –0.4 | 6.8 |
| South | 6,830 | 24.1 | 10,886 | 25.4 | 48,918 | 19.2 | 97,668 | 18.6 | 3.7 | 5.5 |
| Total | 28,312 | 100.0 | 42,884 | 100.0 | 255,010 | 100.0 | 525,391 | 100.0 | 3.2 | 5.7 |
| Sector | | | | | | | | | | |
| Agriculture | 791 | 3.0 | 399 | 1.0 | 29,318 | 11.8 | 33,134 | 6.6 | –5.1 | 0.9 |
| Mining and quarrying | 49 | 0.2 | 165 | 0.4 | 1,971 | 0.8 | 8,485 | 1.7 | 9.8 | 11.9 |
| Manufacturing | 2,833 | 10.6 | 2,893 | 7.2 | 48,637 | 19.6 | 92,973 | 18.6 | 0.2 | 5.1 |
| Utilities | 33 | 0.1 | 172 | 0.4 | 2,845 | 1.1 | 11,037 | 2.2 | 13.5 | 11.0 |
| Construction | 274 | 1.0 | 1,948 | 4.8 | 23,815 | 9.6 | 52,621 | 10.5 | 16.3 | 6.3 |
| Commerce | 15,890 | 59.4 | 25,215 | 62.4 | 60,029 | 24.2 | 135,171 | 27.0 | 3.6 | 6.4 |
| Transport and storage | 442 | 1.7 | 1,417 | 3.5 | 31,437 | 12.7 | 51,397 | 10.3 | 9.4 | 3.9 |
| Hotel and restaurant | 5,774 | 21.6 | 4,136 | 10.2 | 22,775 | 9.2 | 38,845 | 7.8 | –2.5 | 4.2 |
| Business and finance | 78 | 0.3 | 467 | 1.2 | 5,653 | 2.3 | 14,201 | 2.8 | 14.8 | 7.3 |
| Services and others | 594 | 2.2 | 3,565 | 8.8 | 21,277 | 8.6 | 61,853 | 12.4 | 14.8 | 8.6 |
| Total | 26,758 | 100.0 | 40,377 | 100.0 | 247,757 | 100.0 | 499,716 | 100.0 | 3.2 | 5.5 |

Source: World Bank, based on data collected from CEMPRE 2003 and 2016

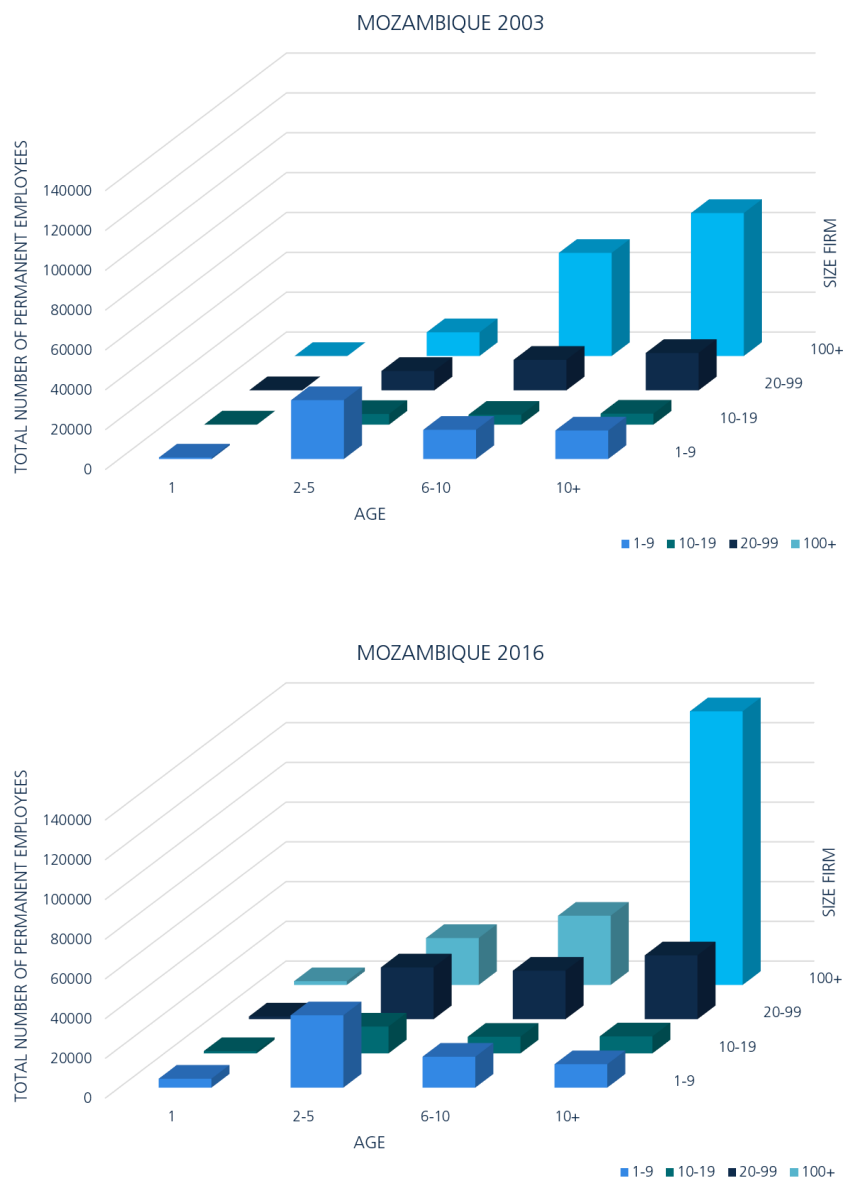
Table B.2
Structure of formal sector firms and jobs in Mozambique, 2003–2016 (restricted sample)

| | Number of Firms | | | | Number of Jobs | | | | Average Sales per Worker (thousands) | | Compound annual growth rate of: | | |
|-----------------------|-----------------|-------|-------|-------|----------------|-------|---------|-------|--------------------------------------|------|---------------------------------|------|------------------|
| | 2003 | % | 2016 | % | 2003 | % | 2016 | % | 2003 | 2016 | Firms | Jobs | Sales per Worker |
| Firm Size | | | | | | | | | | | | | |
| 10–19 | 1,217 | 46.6 | 2,763 | 44.5 | 15,918 | 8.1 | 36,658 | 8.7 | 335 | 479 | 6.5 | 6.6 | 2.8 |
| 20–99 | 1,108 | 42.4 | 2,794 | 45.0 | 43,913 | 22.5 | 109,082 | 25.8 | 503 | 518 | 7.4 | 7.3 | 0.2 |
| 100+ | 288 | 11.0 | 658 | 10.6 | 135,769 | 69.4 | 276,887 | 65.5 | 596 | 961 | 6.6 | 5.6 | 3.7 |
| Total | 2,613 | 100.0 | 6,215 | 100.0 | 195,600 | 100.0 | 422,627 | 100.0 | 436 | 546 | 6.9 | 6.1 | 1.7 |
| Firm Age | | | | | | | | | | | | | |
| 2–5 | 1,922 | 48.9 | 1,824 | 37.3 | 27,037 | 13.9 | 63,250 | 20.4 | 268 | 397 | –0.4 | 6.8 | 3.1 |
| 6–9 | 744 | 18.9 | 1,164 | 23.8 | 59,105 | 30.3 | 59,149 | 19.1 | 668 | 502 | 3.5 | 0.0 | –2.2 |
| 10–19 | 716 | 18.2 | 1,340 | 27.4 | 45,367 | 23.2 | 99,920 | 32.3 | 403 | 582 | 4.9 | 6.3 | 2.9 |
| 20–29 | 293 | 7.4 | 422 | 8.6 | 18,954 | 9.7 | 50,026 | 16.2 | 397 | 668 | 2.8 | 7.8 | 4.1 |
| 30+ | 258 | 6.6 | 134 | 2.7 | 44,699 | 22.9 | 37,089 | 12.0 | 343 | 812 | –4.9 | –1.4 | 6.9 |
| Total | 3,933 | 100.0 | 4,884 | 100.0 | 195,162 | 100.0 | 309,434 | 100.0 | 437 | 506 | 1.7 | 3.6 | 1.1 |
| Region | | | | | | | | | | | | | |
| Maputo | 1,428 | 36.2 | 2,525 | 40.6 | 105,845 | 54.1 | 208,065 | 49.2 | 542 | 704 | 4.5 | 5.3 | 2.0 |
| North | 429 | 10.9 | 2,078 | 17.3 | 30,833 | 15.8 | 68,409 | 16.2 | 264 | 353 | 7.3 | 6.3 | 2.3 |
| Central | 1,473 | 37.3 | 1,212 | 19.5 | 25,363 | 13.0 | 73,594 | 17.4 | 355 | 440 | –1.5 | 8.5 | 1.7 |
| South | 616 | 15.6 | 1,400 | 22.5 | 33,559 | 17.2 | 72,559 | 17.2 | 295 | 509 | 6.5 | 6.1 | 4.3 |
| Total | 3,946 | 100.0 | 6,215 | 100.0 | 195,600 | 100.0 | 422,627 | 100.0 | 436 | 546 | 3.6 | 6.1 | 1.7 |
| Sector | | | | | | | | | | | | | |
| Agriculture | 249 | 6.6 | 205 | 3.5 | 27,311 | 14.2 | 32,299 | 8.0 | 144 | 276 | –1.5 | 1.3 | 5.1 |
| Mining and quarrying | 38 | 1.0 | 76 | 1.3 | 1,917 | 1.0 | 8,205 | 2.0 | 230 | 802 | 5.5 | 11.8 | 10.1 |
| Manufacturing | 674 | 18.0 | 983 | 17.0 | 41,795 | 21.8 | 85,754 | 21.3 | 306 | 464 | 2.9 | 5.7 | 3.2 |
| Utilities | 25 | 0.7 | 64 | 1.1 | 2,811 | 1.5 | 10,626 | 2.6 | 1,859 | 564 | 7.9 | 10.8 | –8.8 |
| Construction | 196 | 5.2 | 588 | 10.2 | 23,414 | 12.2 | 48,180 | 11.9 | 418 | 555 | 8.8 | 5.7 | 2.2 |
| Commerce | 1,540 | 41.1 | 1,881 | 32.6 | 28,464 | 14.8 | 76,058 | 18.9 | 548 | 664 | 1.6 | 7.9 | 1.5 |
| Transport and storage | 189 | 5.0 | 422 | 7.3 | 30,543 | 15.9 | 47,999 | 11.9 | 822 | 899 | 6.4 | 3.5 | 0.7 |
| Hotel and restaurant | 633 | 16.9 | 909 | 15.7 | 10,372 | 5.4 | 27,809 | 6.9 | 196 | 293 | 2.8 | 7.9 | 3.1 |
| Business and finance | 31 | 0.8 | 68 | 1.2 | 5,427 | 2.8 | 13,690 | 3.4 | 1,712 | 761 | 6.2 | 7.4 | –6.0 |
| Services and others | 170 | 4.5 | 582 | 10.1 | 19,715 | 10.3 | 52,617 | 13.0 | 742 | 640 | 9.9 | 7.8 | –1.1 |
| Total | 3,745 | 100.0 | 5,778 | 100.0 | 191,769 | 100.0 | 403,237 | 100.0 | 450 | 562 | 3.4 | 5.9 | 1.7 |

Source: World Bank using data from CEMPRE 2003 and 2016

Note: These figures are based on a sub-sample of the enterprise census that excludes all firms with less than 10 workers and all firms aged less than two years.

Figure B.1
Distribution of employees by firm size and age, 2003–2016



Source: World Bank Jobs Diagnostics using data from CEMPRE 2003 and 2016

ANNEX C: DATA SOURCES

CEMPRE 2015–16. The *Censo de Empresas (CEMPRE)* is the most recent national enterprise census. It had been scheduled for 2014–15, but was delayed for a year and carried out from September 2015 to October 2016. The last enterprise census before that was conducted in 2003.

IOF 2008–09. The *Inquérito aos Orcamentos Familiares (IOF)* is the third national household income and expenditure survey, conducted from October 2008 to July 2009. It included a detailed expenditure module (diary format), an income module (one month recall), as well as questions on assets, employment, education, health, demographics, etc. In this survey, the employment questions cover both primary and secondary employment with no specified recall period. Other comparable household surveys were carried out in **1996–97, 2003–04, and 2014–15.**

Inquérito Contínuo aos Agregados Familiares (INCAF). INCAF was implemented by the Mozambican national statistics office in the period July–September 2012. The sample size was much smaller than the IOF; it was designed as a national monitoring survey. It covered many of the same topics of the IOF but with abbreviated modules. For example, it used a 7-day recall period for employment, and much shorter expenditure and asset modules. As a result, the data are not comparable to the IOF data.

National Agricultural Survey (*Trabalho de Inquérito Agrícola* or *TIA*). This nationally representative survey included has been implemented about every three years by the Ministry of Agriculture with support from Michigan State University. TIA collects data on the following income sources: net crop income, livestock sales, off-farm self-employment such as income from natural resource extraction or from a small-business, off-farm wage income, and remittances.



Address: 1776 G St NW, Washington, DC 20006

Website: <http://www.worldbank.org/en/topic/jobsanddevelopment>

Twitter: @WBG_Jobs

Blog: <http://blogs.worldbank.org/jobs>