

UNLOCKING THE POTENTIAL OF LESOTHO'S PRIVATE SECTOR:

A FOCUS ON APPAREL, HORTICULTURE, AND ICT



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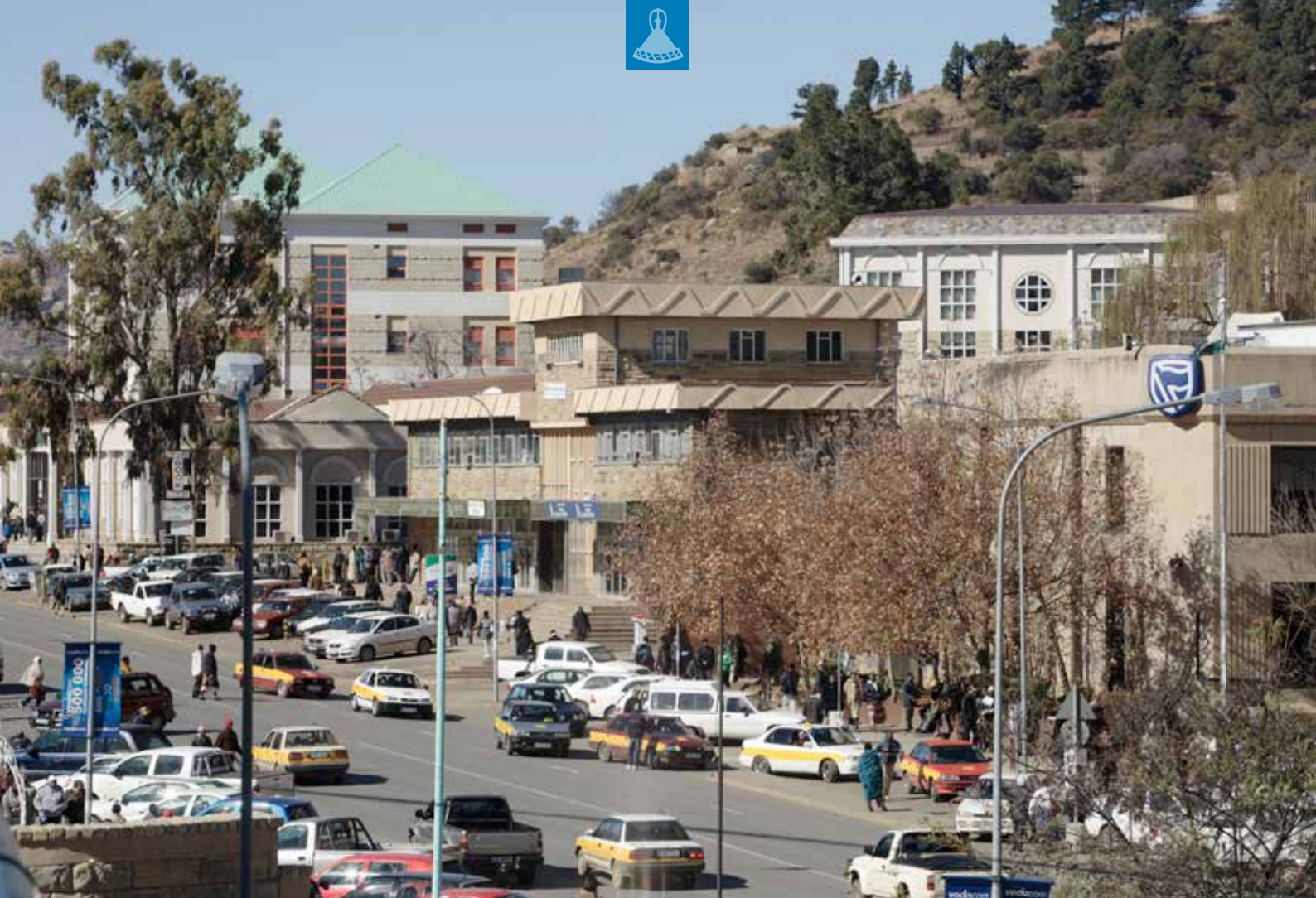
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ABBREVIATIONS AND ACRONYMS

AGOA	African Growth and Opportunity Act	MoE	Ministry of Education
CBL	Central Bank of Lesotho	MoF	Ministry of Finance
EASSy	East Africa Submarine Cable System	MoSBDCM	Ministry of Small Business Development, Cooperatives and Marketing
FAO	Food and Agriculture Organization	MoW	Ministry of Water Affairs
FDI	Foreign direct investment	MPWT	Ministry of Public Works and Transport
FOB	Free-on-board	MTI	Ministry of Trade and Industry
GDP	Gross domestic product	NUL	National University of Lesotho
GDS	Global Development Solutions	OAG	Office of the Attorney General
ICTs	Information and communication technologies	PCG	Partial credit guarantee
IFPRI	International Food Policy Research Institute	PSCEDP	Private Sector Competitiveness and Economic Diversification Project
IMF	International Monetary Fund	SACU	Southern African Customs Union
ISP	Internet service provider	SADC	Southern African Development Community
IT	Information technology	SARS	South African Revenue Service
LAA	Land Administration Authority	SDP	Supplier development program
LCA	Lesotho Communications Authority	SMEs	Small and medium-size enterprises
LEC	Lesotho Electricity Company	SMICs	Small and Middle-Income Countries
LECC	LEC Communications	SSA	Sub-Saharan Africa
LICP	Lesotho Investment Climate Project	USF	Universal Service Fund
LNDC	Lesotho National Development Corporation	VAT	Value-added tax
LRA	Lesotho Revenue Authority	VMNOs	Virtual mobile network operators
MDP	Ministry of Development Planning	WASCO	Water and Sewerage Company
MLCA	Ministry of Law and Constitutional Affairs	WIOCC	West Indian Ocean Cable Company
MoA	Ministry of Agriculture and Food Security		
MoCST	Ministry of Communications, Science and Technology		



EXECUTIVE SUMMARY

BACKGROUND

Job creation and private sector growth are at the heart of Lesotho's development agenda. Indeed, despite continuous economic growth during the past decade, over a quarter of the population is unemployed and more than half lives below the national poverty line. Lesotho's growth model is driven by public spending, which is dependent on Southern African Customs Union revenues. Strengthening the competitiveness of Lesotho's traditional industries, such as apparel, as well as developing new, export-oriented sectors has long been a government priority.

This report aims to fill the knowledge gaps on the characteristics of the private sector and identify growth opportunities in the key sectors of Lesotho's economy. Specifically, the report aims to (1) shed light on the characteristics of the private sector, (2) identify opportunities for increasing competitiveness in the apparel and horticulture industries, and (3) discuss mechanisms for using information and communications technology (ICT) more effectively to increase productivity and reduce the costs of regulatory compliance for the private sector. The objective of the report is to inform the World Bank Group's programs in Lesotho as well as the government's reform priorities.

Sector selection was underpinned by several criteria: (1) potential to create jobs, (2) government priorities, and (3) feasibility to improve sector performance within a relatively short period (within the next five years). Apparel was selected because of its current role in exports and employment as well as its loss of market share in its main export destination, the United States, necessitating the need for better understanding global trends in this industry and developing a strategy for strengthening competitiveness. Agriculture is an important source of livelihoods in Lesotho, where 70 percent of the population lives in rural areas. Transitioning from subsistence cultivation of cereal crops to commercial production of fruits and vegetables can transform the rural economy, improve incomes, and generate new jobs. The report discusses the key constraints to such transformation and identifies interventions to unlock the growth of the sector. Lastly, ICT is an important enabler for private sector competitiveness. All three sectors are prioritized in the upcoming National Strategic Development Plan.

In 2017, Lesotho elected a new, four-party coalition government, which prioritized measures to increase investment and create jobs. The budget speech for the 2018/19 fiscal year prioritizes actions to increase foreign and domestic investment, expand access to finance for domestic businesses, attract private property developers to increase

the availability of industrial infrastructure, and strengthen vocational institutions to improve skills availability, among other measures. The government's upcoming National Strategic Development Plan identifies four priority sectors: (1) manufacturing (measures include strengthening the competitiveness of the garment industry and attracting investment in other industries), (2) commercial agriculture (including livestock, deciduous fruit, and other high-value crops), (3) technology, and (4) tourism and creative industries. This report offers a comprehensive analysis of three of the four priority sectors and provides recommendations on improving horizontal policies that affect all firms in the economy. Data collection for the report was undertaken during November 2017-March 2018.

WHERE ARE THE JOBS IN LESOTHO?

Employment in Lesotho is concentrated in a few economic activities and most jobs are in Maseru and Leribe. Nearly all firms are small. The report analyzes the newly released Business Registry data collected by the Bureau of Statistics, which covers all sectors except agriculture. Employment is concentrated in apparel and wholesale and retail trade, which account for 84 percent of all jobs in manufacturing and services. Nearly all firms (97 percent) are micro or small with fewer than 20 employees. Large firms (with more than 100 employees) account for less than 1 percent of all firms but more than half of employment. Maseru and Leribe districts account for 46 percent of firms but nearly 80 percent of employment. This is likely due to the large share of manufacturing employment in the industrial zones of these districts.

Lesotho has a healthy share of young firms (age five years or younger). In 2015, 48 percent of firms were age five years or younger, compared with 13 percent in South Africa. In many economies, new and young firms are the primary drivers of job creation and economic dynamism, increasing competition and spurring innovation. The presence of many young firms in Lesotho may be indicative of the ease of entry. However, given that most young firms are small and in commerce, the large presence of new firms may be indicative of job scarcity in the economy rather than vibrant entrepreneurship.

Older firms are larger than younger firms and productivity tends to improve with firm size and age. The same type of firm is likely to be larger if it is older. Findings from multivariate analysis show that firms that survive and grow tend to be more productive. This is a good sign, indicating that resources are allocated toward better performing firms.



FINDINGS FROM SECTORAL ANALYSIS

Apparel: An Established Industry at a Crossroads

Apparel accounts for most of the jobs and exports in manufacturing. The industry has grown over the past decade, but its further development is under pressure.

Lesotho's garment industry was established in the late 1980s, and exports have grown rapidly after the introduction of the African Growth and Opportunity Act (AGOA), which has given the country preferential access to the U.S. market. Although Lesotho is the second largest garment exporter to the United States in Africa, exports to this market have been falling over the past decade, due to the expiration of the Multi Fibre Arrangement and Lesotho's struggle to compete with other low-cost producers. However, exports to South Africa have more than tripled since 2010 and helped mitigate the decline in exports to the United States. Exports to the European Union have been low despite duty-free access to this market. The industry shows several vulnerabilities: (1) concentration of production in manufacturing of basic apparel with low value added; (2) weak localization, with few local exporters, low representation of Basotho in management positions, and lack of local suppliers; and (3) declining competitiveness in the U.S. market, which accounts for 60 percent of exports.

The U.S. market will likely remain lucrative for Lesotho's producers in the short term; however, the regional market may offer greater opportunities in the longer term. Lesotho's manufacturers exporting to the U.S. market are in the low-margin, high-volume business and face fierce competition from other low-cost producers. Long-term prospects depend on trade preferences, as AGOA is set to expire in 2025. Furthermore, a global trend toward fast fashion would disadvantage Lesotho and other African producers. Indeed, many traditional U.S. retailers have been losing market share to fast fashion brands such as Zara, H&M, and Forever 21 as well as online platforms such as Amazon. However, the trend toward fast fashion strengthens Lesotho's position in the South African and regional market, where it can benefit from proximity to buyers. South Africa's imports of garments from countries in the Southern African Development Community increased significantly over the past decade, while imports from China declined. Interviews with South African retailers reveal an increased focus on local and regional sourcing to reduce time-to-market.

What can be done to increase the competitiveness of Lesotho's garment industry? It will be important to address the shortage of factory shells by involving the private sector in construction and management of industrial estates. This is the most important measure to facilitate new investment in the industry. To strengthen the productivity of existing enterprises and support localization of the industry, the government's interventions could focus on addressing skills

shortages, particularly for machine repair and management, and introducing a supplier development program. Improving cross-border trade logistics, through closer cooperation with South African Customs and addressing water shortages in Maputsoe, is another important priority. Lastly, the government may consider targeted foreign direct investment (FDI) attraction from South Africa, raising awareness about opportunities in the South African market among exporters, and building stronger relationships with South African buyers to increase exports to the region. Given the importance of the U.S. market, continuous dialogue with the United States over the post-AGOA trade regime will be important to avoid the collapse of exports and massive job losses after the expiration of the agreement.

Horticulture: An Emerging Industry with Potential for Growth

Commercial horticulture offers opportunities to transform the rural economy by increasing incomes and creating jobs. Crop farming in Lesotho is based on subsistence cultivation of cereal crops, which contributes to low incomes and widespread poverty in rural areas. Transitioning to commercial cultivation of fruits and vegetables can significantly increase farm incomes. Lesotho's climate is favorable to production of many vegetables and deciduous fruits. Thanks to the country's high altitude, Lesotho's fruit can be harvested two to three weeks earlier than that in South Africa's Western Cape province (the main center for fruit production), resulting in price premiums. Lesotho can also build on its proximity to South Africa, which is a leading global exporter of fruit and has advanced research institutions, export infrastructure, and market intelligence. Lesotho's access to water resources can make it an attractive investment destination for fruit companies from the water-scarce Western Cape Province if the irrigation infrastructure is developed.

Commercial horticulture is a new industry in Lesotho and has not yet realized its potential. Over 80 percent of fresh fruits and vegetables are imported (based on interviews with supermarkets). Fruits and vegetables in Lesotho are grown primarily by smallholders for subsistence consumption; skills and productivity are low. About 300 fruit and vegetable farmers produce mostly for the market (Bureau of Statistics 2016); but fewer than 10 have regular contracts with supermarkets. There are no aggregators or commercial packing and processing facilities; all inputs are imported. The most significant challenges faced by the sector are lack of a functioning land market (only 232 farmers have land titles) and irrigation, poor productivity of smallholders, and weak linkages within the value chain.

Unlocking the potential of the sector requires significant public intervention and private investment. Improving the functioning of the land market and availability of serviced



land (with access to irrigation and road infrastructure) is the main priority to encourage foreign and large-scale domestic investment in commercial farming. To increase the productivity of smallholders, who constitute the majority of farmers in Lesotho, the government may consider incentivizing private investment in aggregators, supporting productive alliances between farmer groups and potential buyers, and establishing an SMS-based market information system, possibly through a partnership with the international service provider. Given the capital and skill intensity of fruit farming as well as lack of such experience in Lesotho, targeted FDI attraction from South Africa could facilitate knowledge transfer and support development of the industry.

ICT as an Enabler for Private Sector Development

ICTs are increasingly important for private sector competitiveness. Digital technologies are facilitating the inclusion of new and young firms in the global economy (notably through e-commerce and social media platforms) and enhancing the efficiency of production. Furthermore, e-government applications can reduce regulatory compliance costs for firms. Global apparel sourcing and manufacturing processes are significantly affected by digitization. Big data analysis can help make accurate predictions about batch sizes and replenishment sourcing based on real-time data from the demand and supply sides, and if digitization is undertaken in collaboration with suppliers (for example, through system integration), it can enable automatic ordering (McKinsey & Company 2017a). Furthermore, 3D design and automation are improving the efficiency of apparel manufacturing. Agriculture is also becoming increasingly hi-tech. Technology is used to provide farmers with real-time information on prices, connect them with traders, and provide weather forecasts and extension services.

Lesotho is not yet fully benefitting from global technological advancements. Weak competition in the ICT market, which results in high prices, is at the core of the problem. Only 15 percent of formal firms have a website and 45 percent use e-mail, which is much lower than the average for Sub-Saharan Africa. Furthermore, only 27 percent of the population uses the Internet. Although mobile penetration is high by regional standards, fixed broadband penetration in Lesotho is around 0.2 percent, one of the lowest in Southern Africa. According to BDRC Continental, a 2 Mbit/s fixed broadband connection in Lesotho in December 2017 would have cost more than US\$100 per month, which is almost twice that in South Africa. Despite the best efforts of the Lesotho Communications Authority, two service providers, Vodacom and Econet, still control most of the market, and weak competition contributes to high prices. The government encouraged the emergence of a third player, a communication subsidiary of the Lesotho Electricity

Company (LEC), but it has not yet had a noticeable impact on the market. In addition, relatively high interconnection costs and government levies increase the prices of communication services. The development of digital economy is further constrained by the low penetration of smartphones and grid electricity, and low digital literacy among the population, slow development of e-government services, low number of ICT graduates, and a small local IT industry.

Increasing competition among service providers to improve the quality and affordability of services is the most important measure to enhance Lesotho's participation in the digital economy. One way to increase competition in the market is to bring in a private sector partner for LEC Communications (LECC) and provide LECC with a full, unified services license. Competition can also be strengthened through (1) regulation of wholesale data prices and introduction of a sender-keeps-all arrangement for mobile interconnection (that is, zero fees for mobile call termination), (2) introduction of a specialized tower company, and (3) privatization of the government's stake in telecommunications companies. Other measures the government may consider to support the growth of the digital economy include (1) strengthening the security of electronic transactions and development of e-government (through the adoption of laws on cybersecurity and e-commerce, and ensuring interoperability between digital ID and the government systems), (2) investing a higher share of the Universal Service Fund's resources in digital literacy programs, and (3) exploring the feasibility of partnerships with the corporate sector to co-fund a specialized incubation program for the ICT startups.

WHAT ARE THE MAIN HORIZONTAL CONSTRAINTS TO PRIVATE SECTOR GROWTH IN LESOTHO?

Lesotho's business climate has improved in recent years.

Lesotho ranks 104th globally in the World Bank's Doing Business 2018 Report, with a distance to the frontier score of 60.42 on a 0–100 scale (World Bank 2017b). It ranks eighth on the Ease of Doing Business in Sub-Saharan Africa (World Bank 2017b). Several positive developments were recorded in recent years, including the opening of the One-Stop Business Facilitation Center and the establishment of the Credit Bureau. Furthermore, the process of obtaining construction permits was streamlined, with the introduction of electronic systems in August 2017.

However, red tape and weak access to finance remain obstacles for private sector development. The process of receiving business licenses and permits remains cumbersome, and adoption of the Business Legislation and Licensing Bill has been delayed. Furthermore, regulatory compliance costs are high. For example, firms need to spend



29 days just to start a business, 43 days to register property, and 114 days to obtain an electricity connection (World Bank 2017b). Access to finance is considered a major constraint to firm operation by 35 percent of domestic firms (World Bank 2016a), and bank credit to the private sector is much lower than in comparator economies.

Skills mismatches and lack of entrepreneurship programs for growth-oriented businesses limit the competitiveness of Lesotho's private sector. The interviews carried out with firms as part of the sectoral analysis revealed that lack of specialized skills and skills mismatches are important constraints for the Basotho businesses. For example, no institution in the country offers training in sewing machine repair, which is a skill in high demand by the apparel industry; local universities do not offer degrees in horticulture (an industry prioritized by the government); and of the approximately 1,800 students enrolled at the National University of Lesotho, only about 40 major in ICT-related fields (although ICT graduates tend to experience lower unemployment rates compared with graduates majoring in other fields). Furthermore, although several government ministries run entrepreneurship support programs, they do not address the needs of growth-oriented businesses.

Several legislative reforms can increase access to finance for small and medium-size enterprises (SMEs). Lending to SMEs can be facilitated through adoption of the Insolvency Bill and the Security in Movable Interest Bill, both of which have been drafted. In addition, adoption of the Law on Financial Cooperatives, which has also been drafted, as well as development and enactment of the Law on Financial Consumer Protection can support the development of microfinance institutions and financial cooperatives and increase access to finance for small firms.

The government may also consider reform of partial credit guarantee (PCG) schemes to improve design, differentiate the market segments served by the Lesotho National Development Corporation (LNDC) and the Ministry of Small Business Development, and reduce turnaround times. The PCG scheme administered by the Ministry of Small Business Development would benefit from: (1) defining clear eligibility criteria for borrowers and lenders, (2) determining the appropriate guarantee coverage ratio in a manner that credit risk is appropriately shared among the PCG Fund

and lenders, (3) streamlining claim payout criteria and final settlement procedure, and (4) ensuring sustainability by introducing an optimal fee structure. For the LNDC-administered scheme, it is important to (1) streamline the approval process by moving to electronic systems, and (2) introduce monitoring and evaluation to assess the impact of the scheme. Furthermore, it will be useful to conduct training for banks on cashflow-based SME lending and SME risk assessment.

The government may consider introducing targeted entrepreneurship and skills development programs to improve firm capabilities. One way to do this is through introducing a supplier development program aimed at enhancing the capacity of local SMEs to become subcontractors or suppliers for FDI firms. Given the small size of the Lesotho economy, such a program could be open to all sectors. It will also be important to partner with the private sector to address skills constraints as well as raise awareness about the existing tax incentive for training.

Pursuing deeper regional integration and continuous trade dialogue with the United States over the post-AGOA regime will also be important for the growth of Lesotho's private sector. Lesotho's proximity to South Africa provides access to a large consumer market as well as opportunities to build on its neighbor's advanced logistic capabilities, export infrastructure, and support institutions (business associations, metrology agencies, incubators, and universities) to strengthen local businesses. Lesotho's lower labor costs and more stable labor relations have already helped the country attract South African investment in the apparel industry. A targeted investment promotion campaign can help Lesotho attract more South African FDI into apparel-related activities as well as other labor-intensive industries. Given the large dependence on the U.S. market, negotiations with the U.S. government on the post-AGOA trade regime could give confidence to current investors and help avoid job losses. Furthermore, the Government of Lesotho may consider organizing an investment promotion campaign targeting the EU market to build on the recently signed Economic Partnership Agreement with the European Union. It will also be important to sign international investment and double taxation agreements to give greater confidence to potential investors.



SUMMARY OF RECOMMENDATIONS

Sectoral Recommendations	Time	Agency
Apparel		
Reform provision of industrial infrastructure – key priority to attract new investment in the industry 1. Bring rental prices to the cost recovery level and improve rent collection 2. Institute a more careful appraisal of potential tenants 3. Partner with the private sector to increase availability of factory shells.	ST ST MT	LNDC, MoF
Improve backward linkages and skills - to increase the productivity of existing enterprises 1. Introduce a local supplier development program and attract FDI into inputs 2. Improve availability of local skills in machine repair and management and raise awareness about a tax incentive for training.	ST	LNDC, MoE, LRA, MDP, MoSBDCM
Address other business environment constraints 1. Work with the South African Revenue Service to improve cross-border trade logistics: • Create a designated office in the Lesotho Revenue Authority where traders can register their cases • Undertake an apparel time-release study to identify specific constraints faced by garment exporters and include apparel exporters in the pilot exercise on the mutual recognition of preferred traders. 2. Improve water availability in the Maputsoe industrial area: • Consider organizing regular tanker water delivery to companies with no alternative sources of water • Construct a bulk water scheme to provide a sustainable solution.*	ST ST ST ST MT	LRA, MTI WASCO, LNDC, MoW, MDP
Horticulture		
Improve the functioning of land markets and access to serviced land – key priority to enable large-scale investment 1. Identify several parcels of land that can be made immediately available to potential investors 2. Organize land titling, conduct a land assessment, and create an online database of land parcels suitable for horticultural production 3. Prioritize the areas suitable for horticulture development for investments in irrigation* and road infrastructure.	ST MT MT	LNDC, LAA, MoA, MDP, MPWT, MoW
Incentivize market linkages and invest in skills - to improve the productivity of smallholders 1. Support productive alliances between farmers and potential buyers and incentivize the establishment of aggregators (for example, through FDI attraction, matching grants to leading farmers or farmer associations) 2. Establish an SMS-based market information and extension services system 3. Sponsor the studies of several masters and PhD students at the Universities in Western Cape to improve the availability of specialized skills.	ST ST MT	MoA, LNDC, MTI, NUL



Sectoral Recommendations	Time	Agency
ICT as an Enabler for Private Sector Development		
Focus on increasing competition in the ICT market as the main priority 1. Bring in a private sector partner for LECC and give LECC a full unified license 2. Introduce a sender-keeps-all arrangement for mobile interconnection 3. Consider privatizing the government's stake in the communications companies.	ST	LCA, LECC, MoF
Other measures to support development of digital economy include: 1. Increase security of electronic transactions and develop e-government services: adopt the laws on cybersecurity and e-commerce; ensure interoperability between digital ID and the government systems; adopt a single, mobile-based e-payments system throughout government.	ST	LCA, MoF, MoCST, MLCA
2. Support the development of digital skills and entrepreneurship: allocate a greater share of the USF Fund for digital literacy programs; explore the feasibility of partnership with Vodacom Foundation or another corporate actor to co-fund a specialized incubation program for ICT startups.	ST	MoF, LCA, MoE, LNDC, MoCST, NUL
Recommendations on Horizontal Policies	Time	Agency
Reduce red tape and improve access to finance: adopt Business Legislation and Licensing Bill*; the Insolvency Bill* and the Security in Movable Interest Bill*; the Financial Cooperative Law* and the Financial Consumer Protection Law; Reform the design and administration of Partial Credit Guarantee Schemes*.	ST	MoF, CBL, MoSBDCM, LNDC, OAG, MLCA
Pursue deeper regional integration and continuous trade dialogue with the United States over the post-AGOA regime.	MT	MTI, LNDC
*indicates that work on implementation of the reform has already started (e.g. a draft law has been developed) Note: Timeframe for implementation: short term (ST), up to three years; medium term (MT), three to five years. CBL = Central Bank of Lesotho; LAA = Land Administration Authority; LCA = Lesotho Communications Authority; LECC = Lesotho Electricity Company Communications; LNDC = Lesotho National Development Corporation; LRA = Lesotho Revenue Authority; MDP = Ministry of Development Planning; MLCA = Ministry of Law and Constitutional Affairs; MoA = Ministry of Agriculture and Food Security; MoCST = Ministry of Communication, Science and Technology; MoE = Ministry of Education; MoF = Ministry of Finance; MoSBDCM = Ministry of Small Business Development, Cooperatives and Marketing; MPWT = Ministry of Public Works and Transport; MoW = Ministry of Water Affairs, MTI = Ministry of Trade and Industry; NUL = National University of Lesotho; OAG = Office of the Attorney General; USF = Universal Service Fund; WASCO = Water and Sewerage Company.		



CHAPTER I. ECONOMIC CONTEXT AND PRIVATE SECTOR PROFILE

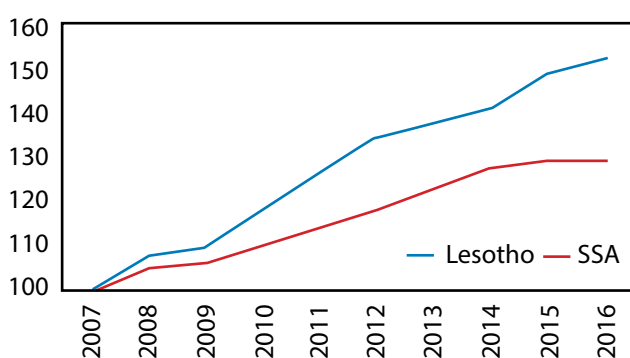
1. ECONOMIC CONTEXT

Continuous Economic Growth but Slow Progress in Poverty Reduction

Lesotho has experienced strong economic growth over the past decade. Since 2007, Lesotho's economy has grown by an average annual rate of 4.2 percent, with real per capita gross domestic product (GDP) increasing by about 40 percent, much faster than the average in Sub-Saharan Africa (figure 1.1) (IMF 2018b). In the past three years, real growth averaged 3 percent and was driven by apparel manufacturing, which benefitted from the rand/dollar depreciation, and more recently by the strong recovery of agriculture after the severe droughts of 2015 and 2016 (IMF 2018a).

Figure 1.1. Lesotho's real per capita GDP grew faster than in SSA

Real per capita GDP growth (2007 = 100)



Source: IMF 2018 based on World Development Indicators.

The growth model is driven by public spending and a few economic activities.

Lesotho's growth model is vulnerable, as it is driven by public spending and dependent on a few economic activities. Mining and quarrying contributed to fast growth in the late 2000s, but also explained the slowdown in FY09/10 and FY13/14 (IMF 2018a). Manufacturing is heavily concentrated in textiles and apparel and thus dependent on just one industry for growth. The public sector's contribution to GDP follows the boom and bust cycles of fiscal policies. Furthermore, government spending is highly dependent on Southern African Customs Union (SACU) revenues, which declined from 25 percent of GDP in 2014/15 to 13.6 percent of GDP in 2016/17,¹ raising concerns about fiscal sustainability.

The World Bank's Systematic Country Diagnostic (2015) identified the following constraints to broad-based growth:

(1) high and inefficient public spending, driven by SACU revenues, which had a negative impact on private sector competitiveness by raising the relative price of non-tradables to tradables, contributing to a decline in private investment, and (2) weak business environment and poor access to finance. The Systematic Country Diagnostic also identified lack of skills and infrastructure constraints among the factors that inhibit growth (World Bank 2015).

¹ World Bank, Lesotho Overview, <http://www.worldbank.org/en/country/lesotho/overview>, accessed April 27, 2018.

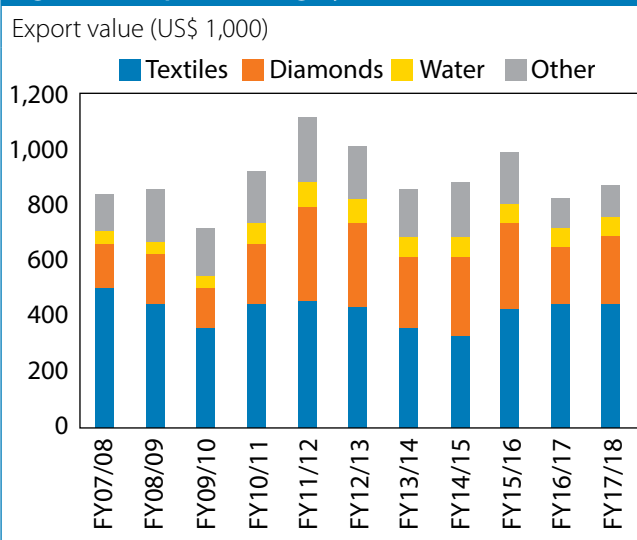


The narrow growth pattern contributes to limited job creation and slow progress in reducing poverty and inequality. More than half the population (57 percent) lives below the national poverty line, and inequality is among the highest in the world. The Gini coefficient is estimated at 0.53 (SCD 2015). The problems of poverty and inequality are partly linked to the country's inability to generate a sufficient number of jobs. Over a quarter of the working-age population is unemployed, and the government plays an important role in providing formal employment.

Exports Are Concentrated in Products and Markets

Lesotho's exports have grown slowly over the past decade and remain heavily concentrated in products and markets. The country's exports of goods and services (in current U.S. dollars) have grown by 8 percent cumulatively over the past 10 years (World Development Indicators); however, they remain heavily concentrated. Apparel and diamonds comprised 84 percent of the country's merchandise exports in 2016 (UNCOMTRADE) and water is the third most important export (figure 1.2). Lesotho has three main export partners—the United States accounts for 35 percent of total exports, the European Union for 25 percent, and South Africa for 32 percent. Lesotho benefits from duty-free access to these markets under the respective trade agreements. As a least developed country, Lesotho can also export its products duty- and quota-free to Canada and receives preferential market access in many other countries, including Australia, New Zealand, the Republic of Korea, China, and India (LNDC 2016). Lesotho has yet to build on these opportunities. There is very little export product diversification outside South Africa, since apparel comprises 95 percent of exports to the United States and diamonds comprise 98 percent of exports to the European Union. The high concentration of exports results in vulnerability to external demand fluctuations.

Figure 1.2. Exports are highly concentrated

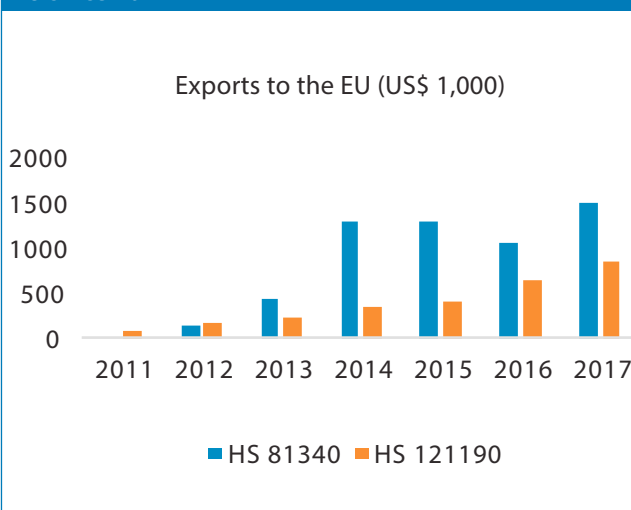


Source: IMF 2018 based on country authorities.

Lesotho's exports to South Africa are more diversified compared with those destined for the EU and U.S. markets. Textiles and apparel account for 57 percent of total exports to South Africa, followed by machinery and electric equipment and miscellaneous items, comprising 15 and 7 percent of the export basket, respectively. The number of products exported to South Africa is much higher than to the European Union and the United States and has grown over time. For example, Lesotho exports 148 products (at the HS 6-digit level) worth more than \$100,000 to South Africa, 31 products to the United States, and only 10 products to the European Union (UNCOMTRADE). It seems that exports to South Africa do not create a learning effect and most exporters are not able to graduate to more demanding markets.

Over the past decade, Lesotho has developed new exports to demanding markets in several product categories; so far, these exports have been small and all of them are related to agribusiness. Specifically, Lesotho realized exports of dried fruit/rosehip (HS 081340) and plants used for pharmaceutical purposes (HS 121190) to the European Union. Exports of both products to the European Union increased from less than \$100,000 in 2011 to more than \$800,000 in 2017 (figure 1.3). Furthermore, Lesotho started exporting plant oil (HS 151590) in 2016. This is likely rosehip oil; all exports are destined to New Zealand and the value of exports doubled from \$275,000 in 2016 to \$591,000 in 2017. And over the past six years, Lesotho has developed exports of trout to Japan and South Africa. A recent World Bank report shows that the quality of frozen trout exports to Japan (as measured by unit values) surpasses that of several global suppliers, such as Chile and Norway (Arenas et al. 2018). These positive trends show a potential for Lesotho to compete in niche agribusiness products in highly demanding markets. However, these activities will need to be scaled up to have a noticeable impact on the economy.

Figure 1.3. Lesotho developed two new exports to the EU since 2011



Source: UNCOMTRADE.



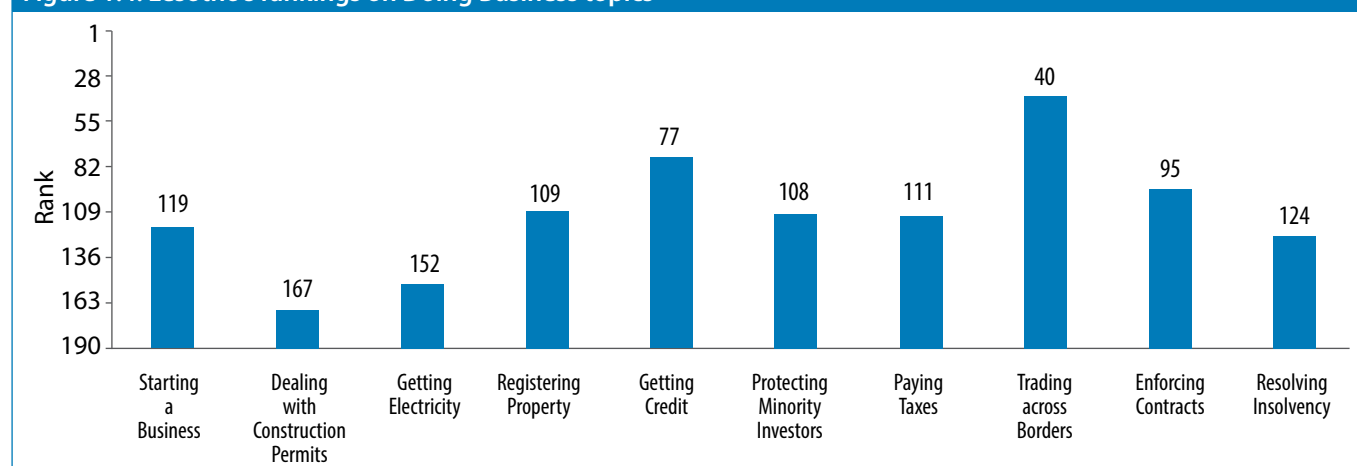
Despite Recent Improvements, the Business Climate Remains Challenging

The business climate in Lesotho has improved in recent years. Lesotho ranks 104th globally in the World Bank's Doing Business 2018 Report, with a distance to the frontier score of 60.42 (on a 0–100 scale) (World Bank 2017b). It ranks eighth in the Ease of Doing Business in Sub-Saharan Africa (World Bank 2017b). Several positive developments have been recorded in recent years, including the opening of the One-Stop Business Facilitation Center and the establishment of the Credit Bureau, which covers 7.5 percent of the adult population. Furthermore, the process of obtaining construction permits was streamlined, with the introduction of electronic systems in August 2017. All these reforms were supported by the Second World Bank Private Sector Competitiveness and Economic Diversification Project.

However, red tape remains an important obstacle for the private sector. The legal framework governing business transactions is fragmented, and many regulations are

outdated. There is no website that contains all the business laws; most government-to-business transactions are paper based; and many ministries do not have websites. Progress in adoption of key Doing Business legislative reforms has been slow. For example, although the Business Registration and Licensing Bill was developed five years ago, it is yet to be adopted by the Parliament. The law aims to reduce the level of informality and cost of regulatory compliance for businesses, by allowing for electronic registration of sole proprietors and partnerships, introducing streamlined registration procedures for companies via the electronic One-Stop Business Facilitation Center, and providing for a risk-based inspection regime. Introduction of other business environment reforms was also delayed and, as a result, firms face a high burden of regulatory compliance. For example, firms need to spend 29 days just to start a business, 43 days to register property, and 114 days to obtain an electricity connection (World Bank 2017b). Figure 1.4 illustrates Lesotho's ranking for each of the 10 Doing Business indicators (relative to 190 economies covered by the Doing Business 2018 report).

Figure 1.4. Lesotho's rankings on Doing Business topics



Source: World Bank 2017b.

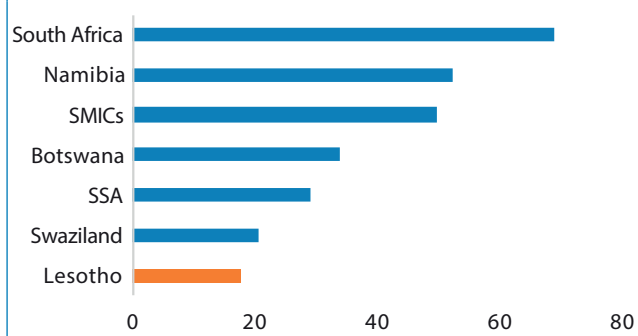
Access to finance is among the major constraints to local businesses. Enterprise Survey data show that 35 percent of domestic firms identify access to finance as a major or severe constraint to firm operation. A recent survey of commercial farmers revealed that only 7 percent have taken a loan (of these, 68 percent borrowed from banks) (A2F Consulting 2018). There are four banks in Lesotho, three of which (Standard Bank, Nedbank, and First National Bank) are branches of South African banks and one (Postbank) is state-owned. Bank credit to the private sector in Lesotho is much lower than the average for Sub-Saharan Africa (figure 1.5), as

banks have historically preferred to invest excess liquidity in South Africa, draining savings from the country (IMF 2018a). The return on equity of Lesotho's banks is the highest in the region, but it is derived largely from liquid assets rather than long-term loans to productive sectors (IMF 2018a). Bank executives cite the lack of quality investment projects as the main reason behind low lending to businesses. Low levels of lending to the private sector may also be indicative of the risky investment climate with weak contract enforcement, forcing banks to add a significant risk premium, which few projects are profitable enough to afford (IMF 2018a).



Figure 1.5. Bank credit to the private sector is lower in Lesotho than in comparator countries

Bank credit to the private sector as a percent of GDP



Source: IMF 2018a.

Note: SMIC = small middle-income countries; SSA = Sub-Saharan Africa.

Access to finance is impeded by lack of legislation that could reduce the risk of lending to small and medium-size enterprises (SMEs). Furthermore, weaknesses in the design and implementation of partial credit guarantee (PCG) schemes reduce their uptake. The Insolvency Bill and the Security in Movable Interest Bill were prepared but remain to be adopted. Although the government has introduced PCGs, they have not yet been effective in improving access to credit. PCGs are administered by two agencies, the Lesotho National Development Corporation (LNDC) and the Ministry of Small Business Development, Cooperatives and Marketing. The interviewed domestic entrepreneurs viewed PCGs as a desirable instrument to get access to credit but felt that the process of obtaining the guarantees is tedious. The banks still require collateral and even if all documents are in order, loans may be denied. Several problems impede the functioning of PCGs, including slow turnaround times in providing the

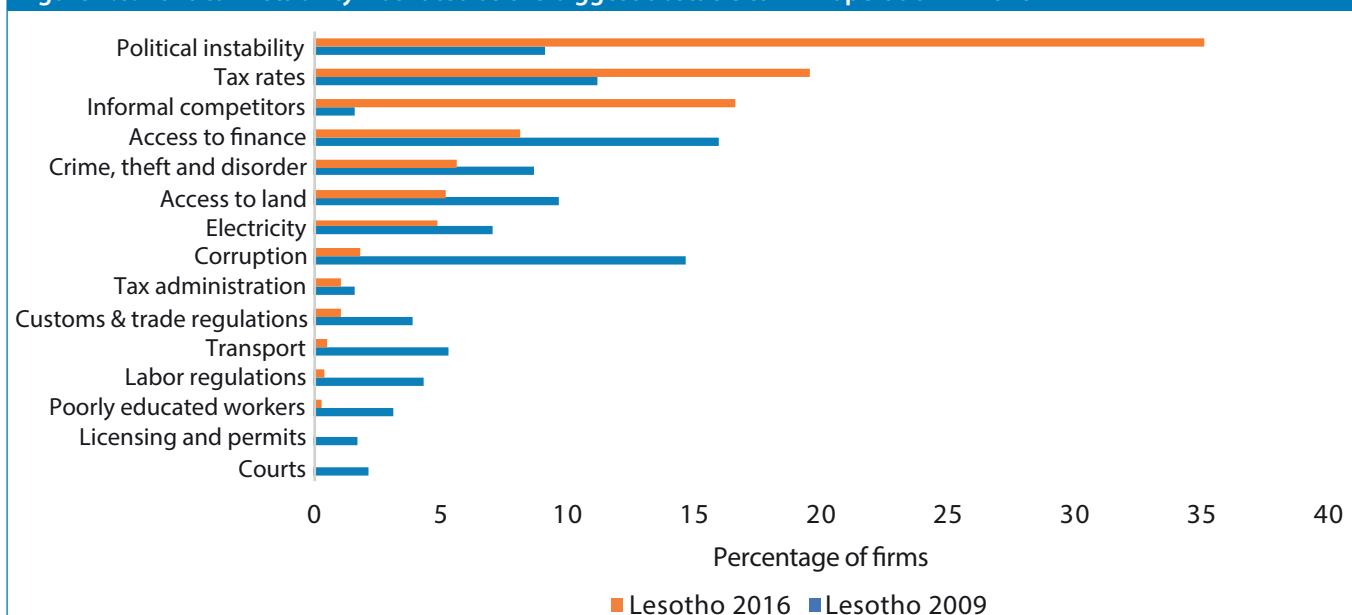
guarantees, prolonged claim payout procedures (for the scheme administered by the Ministry of Small Business Development), lack of marketing and awareness of the program among potential beneficiaries, and significant overlap between the two schemes.

Non-bank financial institutions are not well developed in Lesotho. There are 11 microfinance institutions in the country, with total assets of approximately M 736 million. These are all credit-only microfinance institutions, although at least one has expressed interest in transitioning to a deposit-taking institution. Weaknesses in the supervision of microfinance institutions, lack of a financial consumer protection framework, and, until recently, lack of a tiered regulatory framework for microfinance institutions have constrained the entry of new players and greater competition and innovation in financial services. Similarly, lack of an effective supervisory framework has impeded the growth of the financial cooperative sector.

Political instability has been an important constraint in recent years, although the situation has improved with the formation of the coalition government in 2017.

Among the 15 areas covered by the World Bank's Enterprise Survey 2016, firms of all sizes have overwhelmingly cited political instability as the biggest obstacle to business operation (Figure 1.6). Indeed, three governments have changed in Lesotho over the past five years and political fragility remains a concern for many businesses. In 2016, Lesotho was at risk of losing preferential access to the U.S. market under the African Growth and Opportunity Act (AGOA), due to concerns over the country's ability to satisfy the eligibility criteria on good governance and the rule of law. Although Lesotho managed to maintain its market access, this experience demonstrated the importance of political stability not just for generating new investment, but also for preserving existing business activity.

Figure 1.6. Political instability was rated as the biggest obstacle to firm operation in 2016



Source: World Bank Enterprise Survey 2016.



2. PRIVATE SECTOR PROFILE

This section uses firm-level data from the recently released Business Register 2015 to analyze private sector characteristics in Lesotho. The Business Register was prepared by the Bureau of Statistics and is a census of economically active establishments operating in a physical location; the census includes unregistered firms that satisfy the above-mentioned criteria. It covers all economic activities, except agriculture and the public sector, and all districts in the country (box 1.1). In addition, the Manufacturing Survey 2015 (a quarterly survey that covers firms with 20 or more employees) is used for validation of some results. The Manufacturing Survey 2015 covers 61 firms in manufacturing.

The Business Register data have some limitations. Manufacturing, and specifically apparel companies, were under-sampled in the Business Register 2015 relative to 2012 and other sources of data. Indeed, based on Business Register 2015 data, there were 280 apparel companies in the country, which employed 23,640 people. Data from the Manufacturing Survey, which covers a subsample of firms, estimate that employment in apparel was 35,060. The data collected by LNDC, which monitors mostly foreign export-oriented companies, estimate that permanent employment in apparel firms stood at 37,734 in 2015. The LNDC data show an increase in apparel employment between 2012 and 2015, a trend confirmed in interviews with stakeholders. Although the Business Register data are also available for 2012, they are not used in the analysis, as it would not be worthwhile to examine the trends given the inconsistencies in the data.

Box 1.1: Lesotho's Business Register Data

Lesotho's Bureau of Statistics collected basic information on all establishments operating in 2012 and 2015. The establishments include all sectors of the economy as per International Standard Industrial Classifications Revision 4 except agriculture and the public sector. The Business Register intends to capture data from establishments dealing with economic and social activities that engaged one or more persons in fixed premises in Lesotho. A total of 6,813 establishments were covered in the Business Register 2015.

A structured questionnaire served as the main instrument for the survey. Data for the main variables include (i) name of the establishment, (ii) mailing address (postal box, telephone, fax number, and e-mail address), (iii) physical location of the establishment, (iv) date of its first operation, (v) main activity of the establishment, (vi) type of ownership, (vii) value of output (turnover), and (viii) number of persons employed, by gender. Data were collected in 2016 with a reference period of the 2015 calendar year.

The Business Register data have some limitations. Small firms were not captured in their totality and weights are not available to estimate the true universe. By Bureau of Statistics estimates, approximately 60 percent of small firms are included. Furthermore, manufacturing, and specifically apparel firms, were under-sampled in 2015 compared with the Business Register 2012 as well as relative to the Manufacturing Survey 2015, which is based on a small sample of 61 firms. The Business Register did not capture as much as 10,000 manufacturing jobs relative to the Manufacturing Survey, which represents about a quarter of the manufacturing jobs identified in the Business Register.

The findings of the analysis are summarized as follows:

1. Micro and small firms account for 97 percent of all firms in the country; yet over half of employment is in large firms.
2. Economic activity is concentrated in a few industries with low value added. Wholesale and retail and apparel account for 84 percent of employment.
3. Productivity tends to improve with firm size (except for very large firms) and age, showing a positive trend of resource allocation toward better performing firms.
4. A strong effort is needed to improve data quality, which would enable a more accurate and nuanced analysis of employment and productivity and provide better insights into policy making.

The private sector in Lesotho is comprised primarily of micro and small firms. Firms with fewer than 20 employees make up 97 percent of all firms in the country (and micro firms with fewer than five employees make up 82 percent

of the firms). This pattern is also observed in many other lower-income countries (annex A). Only 2.2 percent of firms in the sample were medium (20 to 99 employees), indicating a "missing middle" problem often observed in developing countries. The small presence of medium-size firms may be indicative of a weak formal private sector, where micro and small firms are unable to grow. Large firms account for 0.7 percent of all firms, and almost half of all large firms are in apparel.

Wholesale and retail trade is the main economic activity.

Most firms (89 percent) are in services and 71 percent are in retail and wholesale. A high concentration of firms in commerce may be reflective of the low entry barriers in this industry in capital and skill requirements and potentially the lack of opportunities in other sectors. Manufacturing firms comprise 11 percent of firms. In geographic distribution, almost half of the firms are located in Maseru and Leribe districts (table 1.1).



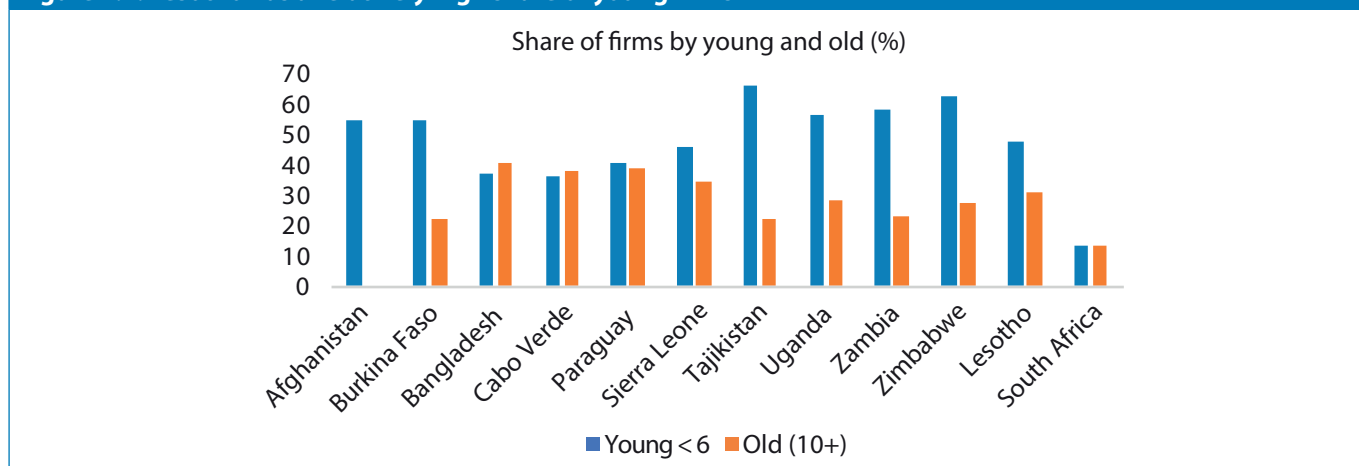
Table 1.1. Profile of firms

Firm characteristics		Firms (%)
Size	Fewer than 20 employees	97.14
	20-99 employees	2.17
	100 or more employees	0.69
Age	Less than 6 years old	47.5
	6-10 years old	24.86
	10 or more years old	27.64
Sector	Manufacturing	11.11
	Services	88.89
Location	Maseru	23.84
	Leribe	22.00
	Berea	12.23
	Mafeteng	12.86
	Other	29.07

Source: Bureau of Statistics 2015.

Lesotho has a large share of young firms (age five years or younger). By international comparisons, Lesotho has a healthy share of young firms (figure 1.7). In 2015, 48 percent of the firms were age five years or younger, compared with 12.9 in South Africa.² In many economies, new and young firms are the primary drivers of job creation and economic dynamism, increasing competition and spurring innovation. The presence of many young firms in Lesotho may be indicative of the ease of entry. However, given that most young firms are small and in commerce (95 percent of young firms have fewer than 10 employees and over 72 percent are in retail and wholesale trade), the relatively large presence of young firms may be indicative of the lack of formal employment opportunities in the economy rather than vibrant entrepreneurship.

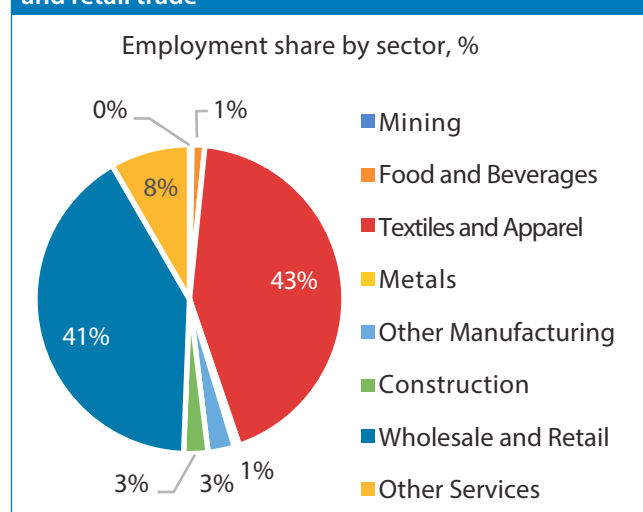
Figure 1.7. Lesotho has a relatively high share of young firms



Sources: For Lesotho, Bureau of Statistics 2015; for other countries, Merotto, Weber, and Aterido 2018.

Jobs are concentrated in a few economic activities and large firms. Two industries—textiles and apparel and wholesale and retail—account for 84 percent of all employment (figure 1.8). New industries, such as information technology (IT), play a limited role in the economy. Indeed, there are only 10 IT firms (ISIC code 62) that collectively employ 84 workers. Although large firms represent less than 1 percent of all firms, they account for 56 percent of employment (figure 1.9). This is mostly due to the significant role of apparel manufacturing in employment; this industry accounts for 75 percent of employment in large firms, with even young firms hiring significant numbers of workers. By contrast, most firms in wholesale and retail are micro.

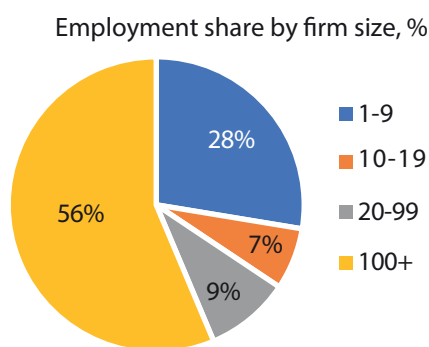
Figure 1.8. Most jobs are in apparel and wholesale and retail trade



2 Date for South Africa are for 2014, based on tax records.



Figure 1.9. Large firms account for more than half of employment

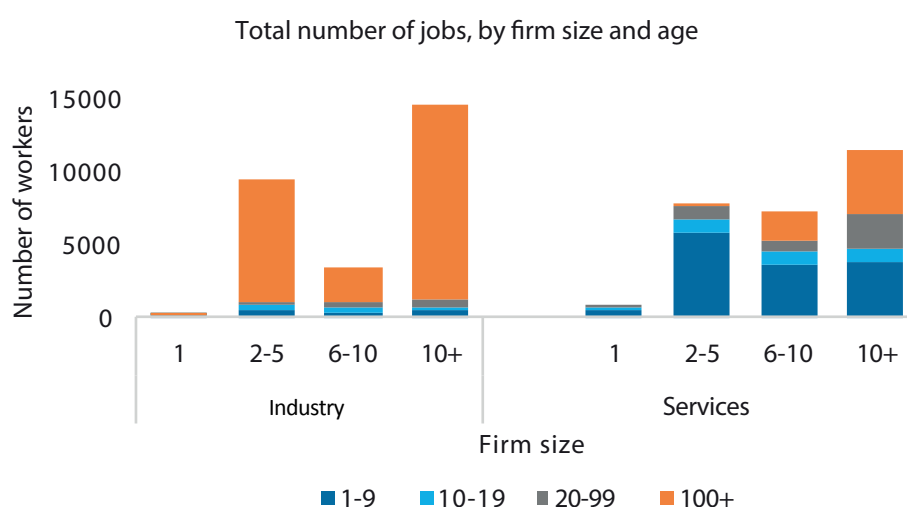


Source: Bureau of Statistics 2015.

Older firms are larger than younger firms (figure 1.10).

Although Lesotho has a healthy share of young firms, it stands out for a large share of employment by older firms. This is mostly due to a large share of employment in apparel, where almost half of the firms were established more than 10 years ago. Multivariate analysis indicates that, other things being equal, the same type of firm is likely to be larger if it is older. That older firms account for a larger share of employment could indicate that firms are becoming more productive as they grow, a finding that is generally confirmed by multivariate analysis (annex C).

Figure 1.10. Older firms are larger than younger firms

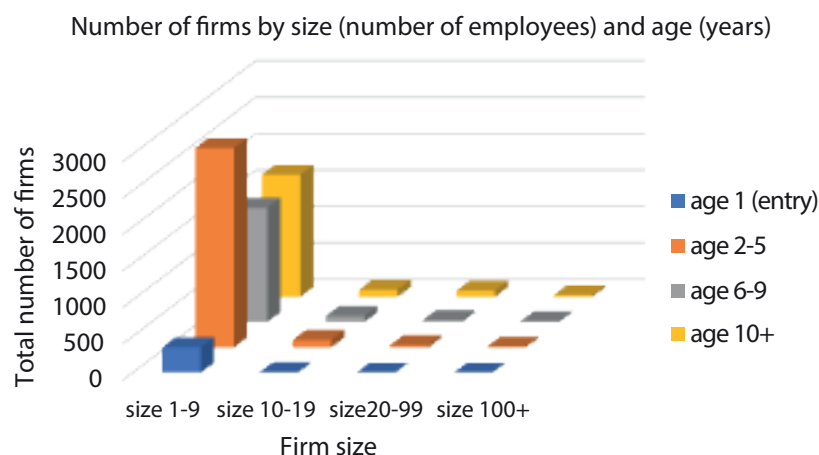


Source: Bureau of Statistics 2015.

Most firms in Lesotho do not grow. Lack of panel data restricts the scope of analysis on trends in firm growth. Yet, an examination of firm distribution by size and age provides strong indications that most micro and small firms do not

grow (figure 1.11). Among firms older than 10 years, 89 percent have fewer than 10 employees. Furthermore, firm survival also appears to be low, with many firms exiting after the fifth year of operation.

Figure 1.11. Most firms do not grow as they age



Source: Bureau of Statistics 2015.



Most jobs are in Maseru and Leribe, the two most populated districts. These locations are also home to industrial sites, which provide employment in manufacturing to thousands of workers. The share of employment in these two districts is 79 percent, compared with 46 percent of firms (annex B). Furthermore, there is little economic activity in rural areas (annex B).

Employment and sales in apparel are more concentrated than in services. Table 1.2 presents an analysis of jobs and sales concentration of the top five sectors, with the largest employment share in manufacturing and services, respectively. As in many other countries, the manufacturing

sector is more concentrated than services. The top four apparel firms (of 280) comprise 45 percent of all apparel employment and 39 percent of turnover. Given that all large apparel firms are export-oriented, sales concentration does not present a risk from the competition perspective. However, the hiring and potentially relocation decisions of these firms will have a disproportionate impact on manufacturing employment. In services, there are more players and the largest firms account for a smaller employment share: 3,191 firms in retail (nonspecialized stores) provide 15 percent of the jobs, and the top four firms account for only 7 percent of the jobs in the sector and 13 percent of the turnover.

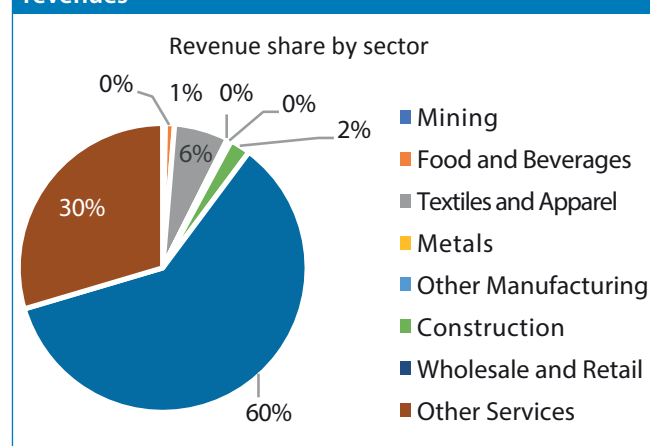
Table 1.2 Employment and sales concentration (top 5 largest employment share sectors)

Sector ISIC Code Revision 4		Number of Firms	Sector Employment Share (% of all jobs)	Employment share of 4 top firms in the sector (% of sectoral employment)
Manufacturing				
1410	Wearing apparel	280	42	45
4100	Construction	39	2	55
2395	Non-metallic minerals	49	1	36
1520	Footwear	4	1	100
1071	Other food products	36	1	65
Services				
4711	Retail non-specialized stores	3,191	15	7
4771	Retail specialized stores	687	8	56
4759	Retail household equipment	147	3	52
8010	Private security activities	9	3	92
5510	Short-term accommodation	107	3	21

Source: Bureau of Statistics 2015.

Services firms account for 90 percent of all sales revenue, while apparel firms' share in total sales is extremely low (figure 1.12). Apparel firms account for 6 percent of total sales, based on the Business Register data and 9 percent of total sales if data from the Manufacturing Survey are used. Even if the records of both survey instruments are incomplete, the apparel industry's sales are clearly low relative to employment, indicating the low value added generated by the industry.

Figure 1.12. Services firms account for 90% of all revenues

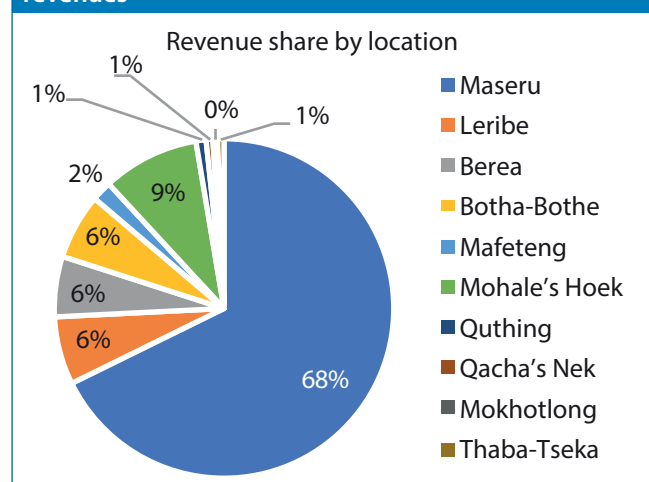


Source: Bureau of Statistics 2015.



Maseru generates more revenues relative to its employment share (figure 1.13). Although Maseru accounts for 42 percent of jobs, it generates 68 percent of revenues, followed by Leribe with 6 percent of revenues (and 37 percent of jobs). This could be because more productive firms tend to locate in the capital city.

Figure 1.13. Maseru accounts for two-thirds of total revenues



Source: Bureau of Statistics 2015.

In Lesotho, productivity tends to improve with firm size and age. Productivity—the efficiency with which firms turn inputs into outputs—is a key driver of competitiveness. It is typically correlated with job quality, as more productive firms tend to pay higher salaries. The results of the multivariate regression (annex C) suggest that productivity (measured by sales per worker) generally improves with firm size and age. Indeed, firms that survive and grow tend to be more productive: firms with more than 10 employees are more productive than smaller firms, and the highest labor productivity is observed in firms with 50–249 workers. This pattern does not hold true for very large firms with more than 500 workers, which are the least productive. Firms of this size constitute a tiny minority and account for only 0.25 percent of all firms. Lack of information on cost structure does not allow us to test whether large firms are more cost efficient than smaller firms. That larger and older firms are more productive indicates that firms learn as they grow.

There are significant differences in within-sector productivity between large and small firms. The median productivity in large apparel firms (more than 100 employees) is 34 percent higher than in small apparel firms. Table 1.3 shows that there are also significant differences in the productivity of large and small firms in other sectors. This suggests that addressing constraints faced by small firms (such as poor access to credit, markets, and quality inputs) and helping them catch up with the production practices already implemented by leading firms in the country can have a significant impact on overall productivity growth. It would not be appropriate to draw conclusions on productivity differences between sectors, as they have different production functions.

Table 1.3. Large firms in all sectors are more productive than small firms

Sector	Percent by which median productivity in large firms is higher than in small firms
Apparel	34
Food and Beverages	92
Other Manufacturing	40
Wholesale and Retail	30
Construction	14
Other Services	81

Source: World Bank staff calculations based on Bureau of Statistics 2015.

Similar to the trends in most developing countries, foreign firms are more productive than domestic firms. Foreign firms in most developing countries tend to have better management capabilities, access to modern technology, better access to finance, and established contacts with global suppliers and buyers, which contribute to higher productivity relative to domestic firms.

3. CONCLUDING REMARKS

The analysis reveals several vulnerabilities in the structure of Lesotho's private sector. The private sector is mostly inward-oriented, with 71 percent of firms in wholesale and retail trade. Most firms are micro and fail to grow. This could be due to a variety of reasons, including deficiencies in the business environment, weak firm capabilities and lack of mentors, as well as the small size of the domestic economy.

Productivity in large firms is significantly higher than in small firms operating in the same sector. This suggests that developing linkages between small and large firms, for example through the supplier development program (see more on this in chapter II), can potentially enable technological catch-up of small firms and support overall productivity growth in the economy.

The apparel industry plays a significant role in employment and exports. Furthermore, the top four apparel firms account for 45 percent of employment in the industry, indicating that the behavior of large firms in hiring or relocation decisions could have a significant socioeconomic impact. Any external shocks to the industry, such as a change in trade preferences, will also have negative impacts on employment and exports.

Although in general exports are highly concentrated in products, there is a higher diversification in exports to South Africa. This points to the opportunities for greater regional integration, which are also highlighted in the sectoral analysis. Furthermore, given that Lesotho's currency is pegged to the South African rand, exports within the customs union will be less sensitive to exchange rate volatility.



CHAPTER II. TEXTILES AND APPAREL³

1. CONTEXT

The textiles and apparel industry accounts for most formal manufacturing jobs in Lesotho. It employs more than 40,000 people and accounts for 92 percent of manufacturing jobs (Bureau of Statistics 2018). The industry generates 43 percent of exports. There are about 45 garment exporting factories and one vertically integrated textile mill that produces denim fabric used primarily by its parent jeans manufacturing factories located in Maseru.⁴ The contribution of the industry goes well beyond direct employment, with many formal and informal activities that feed into it—road freight and passenger transport, a small packaging industry, residential accommodation and catering services for employees, water, telecommunications, and utilities services.

The industry provides an important source of income for the low-skilled and poor population. For now, the sector

³ The analysis in the chapter uses a variety of sources. It relies on (1) interviews with 17 apparel manufacturers in Lesotho, two industry associations, forwarding companies, an apparel compliance solution company, South African retailers, government ministries, and donor agencies; (2) the structured Linkages Survey administered to 14 apparel exporters to shed light on their sourcing strategies; (3) data from the World Bank's Enterprise Survey 2016 (which covered 150 formal firms of which 28 were apparel firms); and (4) the UNCOMTRADE database and other secondary data. Primary data were collected in November–December 2017. The analysis in this chapter also builds on the work done by Kuriakose, Farole, and Staritz (2012).

⁴ Based on LNDC records.

is mainly generating low-skill, low-wage jobs: unskilled labor makes up 87 percent of labor value added in textile and apparel exports (World Bank 2018). Although the industry is credited with the creation of thousands of jobs, there are concerns over job quality and the low career advancement of Basotho employees. Nevertheless, the sector remains important for poverty reduction and estimates show that one worker employed in this sector supports five other family members and the income generated by the industry benefits 13 percent of the population (Molapo 2016).

Lesotho has a longer history of apparel manufacturing compared with most other African countries, which gave it a competitive advantage when AGOA was introduced.

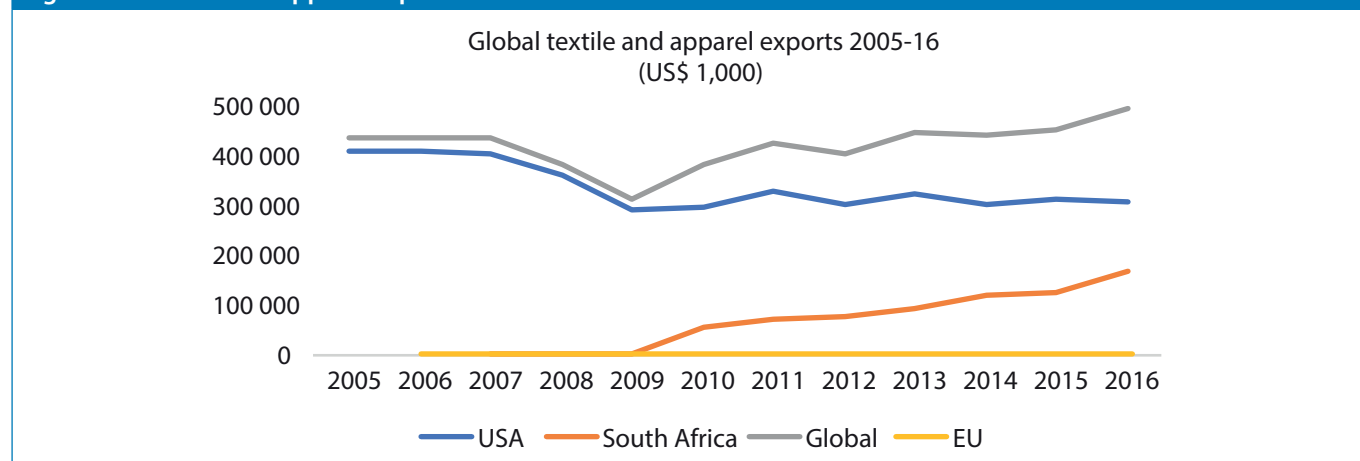
The first foreign investors arrived in the late 1980s when many Taiwanese and some South African firms moved from South Africa to Lesotho to avoid apartheid-era sanctions and take advantage of Lesotho's unused apparel quotas (Lall 2005). By the time Lesotho became a beneficiary of AGOA in 2000, it had a competitive advantage over other African countries, given the existence of prior trading networks importing inputs from Asia and linked to global lead buyers (Lall 2005). The country emerged as the leading African supplier of apparel to the United States after AGOA was introduced in 2000. The Act provides for duty-free access to the U.S. market combined with relaxed rules of origin. In 2016, Lesotho was the second largest garment exporter to the United States in Sub-Saharan Africa after Kenya.



AGOA has been one of the major drivers behind the growth of Lesotho's apparel manufacturing, but the industry is now under pressure to diversify its export markets. AGOA initially provided a strong impetus to the growth of the garment industry, with exports increasing by 120 percent in 2000 (Arenas et al. 2018). However, exports to the United States declined over the past decade in absolute and relative terms (figure 2.1), due to the expiration of the Multi Fibre Arrangement (on January 1, 2005) and Lesotho's struggle to compete with other low-cost producers. Exports to the United States decreased from 94 to 61 percent of total textile and apparel exports between 2005 and 2016. Lesotho

benefits from zero duties and generous rules of origin in the European Union under the Everything But Arms agreement; however, apparel exports to the European Union have never exceeded US\$4 million and were not persistent, that is, most products are not exported for more than two or three years in a row (Arenas et al. 2018). On the positive side, several South African investors established their operations in the country to take advantage of lower labor costs and duty-free access to South Africa through SACU. Exports to South Africa have tripled since 2010 and helped mitigate the decline in exports to the United States (UNCOMTRADE).

Figure 2.1. Textile and apparel exports shifted from the United States to South Africa



Source: UNCOMTRADE.

Apparel exports are highly concentrated in products and markets and dependent on trade preferences. The United States and South Africa account for 95 percent of the industry's exports. The top 10 products constitute 96 percent of apparel exports to the United States and 65 percent to South Africa (UNCOMTRADE). Simple items, like trousers, shirts, and t-shirts, continue to dominate apparel exports to both countries. On a positive note, factories based in Lesotho supply multiple brands belonging to various price segments (Levi Strauss, Lee, Wrangler Corporation, Walmart, JC Penny, and Costco for the United States; Woolworths, the Foschini Group, Truworths, Mr. Price, Pick n Pay, and Pep Group for South Africa). Lesotho benefits from generous preferences in its two major export markets with most favored nation duties reaching 32 percent in the United States and 45 percent in South Africa (annex D). The European Union has lower tariffs for apparel, which may contribute to the lower competitiveness of Lesotho's producers.

High dependence on the U.S. market makes Lesotho vulnerable to changes in trade preferences and consumer demand fluctuations. Exports to the United States accounted for 61 percent of total apparel exports in 2016. Although AGOA has been extended until 2025, annual eligibility reviews create some uncertainty for investors.

Results from computable general equilibrium modeling show that a sudden suspension of AGOA privileges in 2018 would result in a 1 percent decline in income relative to the baseline in 2020. Exports and output of the textile and apparel industry would drop by 16 and 9 percent, respectively, while average real consumption would decline by 0.5 percent (Arenas et al. 2018).

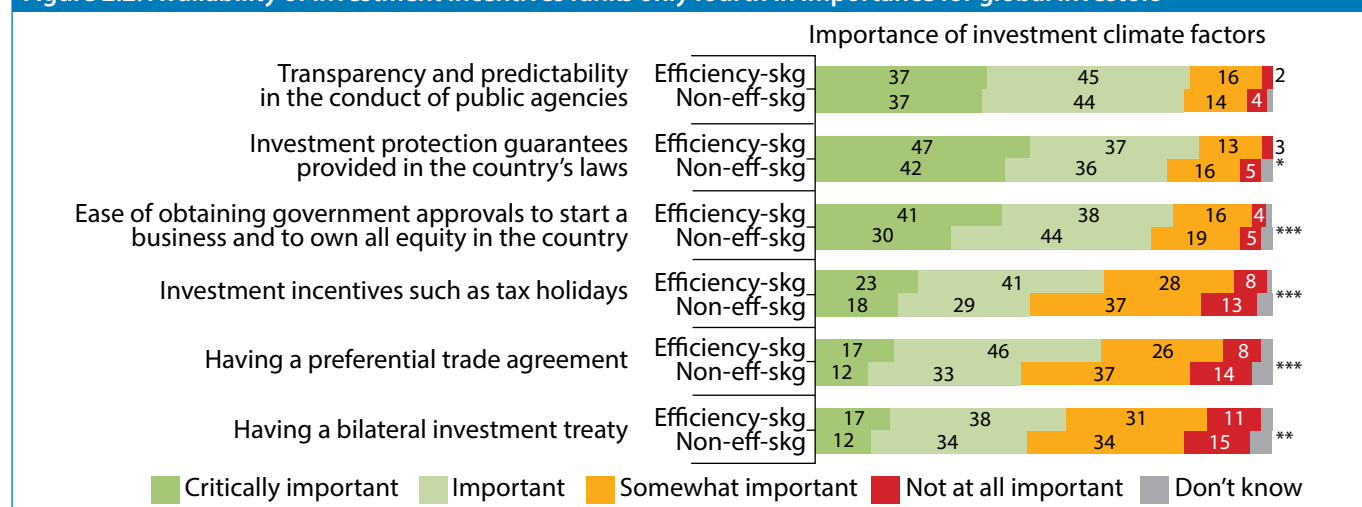
Apparel firms in Lesotho operate in different segments depending on the primary export market. Firms supplying the U.S. market tend to specialize in basic products with long lead times and large batch sizes. Firms supplying the South African market also produce mostly basic items but with shorter lead times. Some have potential or are already serving the fast fashion segment of the South African market. While the minimum batch sizes of the firms oriented for the U.S. market start from 4,000 units and can reach 100,000 units, firms supplying the South African market can take orders as small as 300 units. These small trial orders are usually used to test the market and subject to sufficient demand are scaled up. There are no firms in Lesotho that specialize in manufacturing complex products, such as formal suits, coats, and underwear, or supplying luxury brands, such as Hugo Boss.



Similar to other industries, textile and apparel producers benefit from several incentives offered by the Government of Lesotho for all manufacturing establishments. The incentives include a reduced corporate income tax of 10 percent, subsidized cost of factory shells provided by LNDC, and tax allowances for training (annex E). These incentives are available to domestic and foreign companies and across all manufacturing industries. No studies have been done on whether reduced corporate income taxes and factory rent subsidies have induced new investment.

Although many developing countries that want to attract efficiency-seeking FDI offer tax incentives, subsidization of factory rentals is not common. Furthermore, global investor surveys show that incentives are not the most important factor for investors (figure 2.2) (World Bank 2017d). Even for efficiency-seeking investors that attach more importance to incentives than other types of investors globally, the availability of incentives ranks only fourth of six investment climate characteristics. Overall, only one in five investors finds the absence of investment incentives a deal-breaker in deciding to invest (World Bank 2017d).

Figure 2.2. Availability of investment incentives ranks only fourth in importance for global investors



Source: World Bank 2017d.

Note: Most investment climate factors in this graph have statistically significant differences between investors involved in efficiency-seeking foreign direct investment (FDI) and investors involved in other types of FDI. The differences between the two groups are significant at *** $p < 0.1$.

2. CHALLENGES TO GROWTH

The interviewed apparel firms in Lesotho had a generally positive view of the future of the industry and over a quarter had plans for expansion. The interviews also revealed some business environment constraints. In particular, for new investors (and those wishing to expand their operations), shortage of factory shells was the main constraint. For existing firms, lack of specialized skills was an important bottleneck to growth, while weak backward linkages have limited the benefits of FDI for the local economy. Furthermore, underdeveloped water infrastructure in Maputsoe, delays in crossing the South African border, and lack of access to finance were identified as important business environment constraints (a more detailed analysis of these issues is provided below). In addition, firms reported the following obstacles to doing business in Lesotho: poor security and lack of dormitories for foreign employees in some industrial estates, costly and unreliable Internet services, and lack of an internationally recognized compliance certification

agency; the latter is important for firms supplying socially and environmentally cautious buyers in the United States.

1) Shortage of Factory Shells

For the investors who want to expand their businesses, lack of available factory shells emerged as an important constraint to growth. The wait times reported by the interviewed investors ranged from a few months to over a year. Shortage of ready-to-occupy industrial estates is also a constraint to the establishment of new foreign and domestic industrial enterprises. Based on interviews with LNDC staff, there were 12 investors on the waitlist (five from South Africa, one from Taiwan, China, and six domestic) as of April 2018.

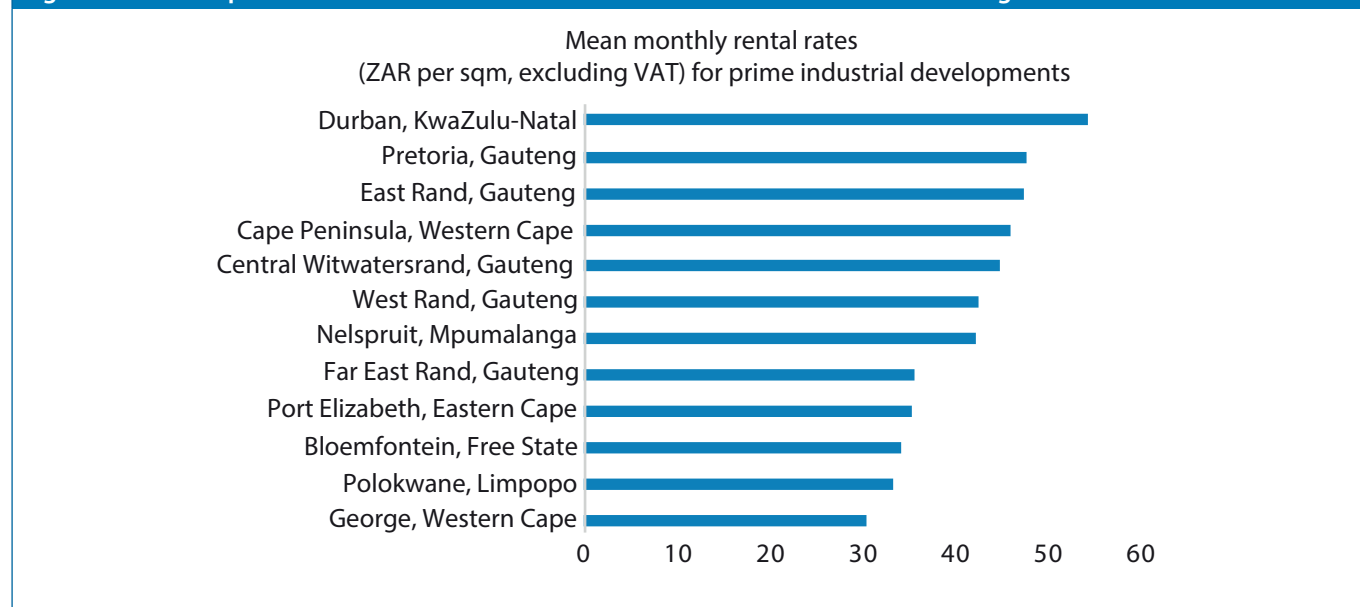
LNDC is the main provider of industrial real estate, which is rented at subsidized rates. Current factory space rental rates vary between M 7.50 and M 18 per square meter per month (based on the age and condition of the building) and are some of the lowest in Africa. Interestingly, none of the interviewed manufacturers considered the rental subsidy among the deciding factors for investing in Lesotho.



Industrial rental prices in neighboring South Africa are at least two to three times higher (figure 2.3), with no shortage of investors and vacancy rates of 1 to 5 percent across the provinces. Despite the subsidy, rent collection by LNDC is low and about 40 percent of manufacturers are not current on

their payments (based on interviews with LNDC staff). LNDC's conflicting priorities of investment promotion and factory shell management prevent the agency from aggressive debt collection and eviction of tenants with overdue rental payments.

Figure 2.3. Rental prices for industrial estates in South Africa are two to three times higher than in Lesotho



Source: World Bank staff calculations based on Lamprecht 2017, 4.

Note: The data reflect the rental rates for 1,000-square meter units in the third quarter of 2017.

Lack of financial resources results in poor maintainance.

The LNDC property management unit has only five employees. This is insufficient for developing and efficiently managing the agency's large property portfolio, which includes commercial and industrial property. Many industrial buildings have maintainance and repair issues, which have not been resolved for months. Due to lack of resources, priority is given to urgent repair issues as opposed to a routine maintainance program. Some tenants reportedly withhold rental payments because their maintainance requests have not been addressed (LINPICO and KOIOS 2017).

Global evidence shows that private zones tend to be better managed.

In general, privately operated zones tend to offer better facilities and amenities, command higher prices from tenants, and attract "higher-end" types of activities. In some countries, rental prices in private zones are two to three times higher than in government-run facilities, yet investors are willing to pay higher rates thanks to superior amenities and services in such zones (for example business support services, day care centers, and so forth) (World Bank 2008). Some countries (for example, the Philippines and more recently Bangladesh and Kenya) that started with government provision and management of industrial infrastructure subsequently moved toward models based on public-private partnerships.

Private investment in industrial infrastructure is constrained by the complexity of the legal framework, lack of promotion efforts by the government to attract investors in property development, as well as the LNDC subsidy crowding out private investment.

The Lesotho Constitution vests all land in the King in trust for the Basotho nation and permits the Parliament to make provisions for land allocation. In 2010, the Parliament adopted the Land Act, which states that land can be allocated to the Government of Lesotho, Lesotho citizens over age 18 years, Basotho-owned companies and associations, as well as foreign enterprises with at least 20 percent Basotho ownership when the following factors are taken into consideration: (1) the magnitude and origin of the tangible and intangible assets, (2) employment generation, (3) the strategic nature of the enterprise, (4) potential for the transfer of business expertise, (5) advancement of business undertakings owned by citizens, and (6) environmental protection.⁵ Although private investment in land and infrastructure is allowed under the law, it has not been exercised much in practice. This could be explained by the lack of clarity on the procedures a potential investor would have to undertake to obtain access to land, lack of targeted promotion efforts by the government, as well as that LNDC's factory shell subsidy crowds out potential investment.

⁵ Lesotho Land Act No. 8 of 2010.



The current model of industrial estate provision is unsustainable and does not serve the country well. There is consensus in the government that reform is needed. LNDC's current rental levels are below cost recovery and unsustainable in an environment characterized by inflationary operating and construction costs. Increased fiscal pressures also limit the government's ability to continue subsidizing factory shells. Furthermore, this model does not serve the country well because old investors are being subsidized at the expense of new, potentially more productive entrants, with negative consequences for economic diversification and job creation. Reform of industrial infrastructure provision has been discussed for over a decade, with different models ranging from full commercialization to various forms of public-private partnerships proposed. The ongoing reorganization of LNDC presents an opportunity to reform the provision of factory shells. The most recent budget speech also emphasizes the importance of private investment in industrial infrastructure and identifies the new industrial zone in Botha-Bothe as a site where private property investors should be invited to develop the zone.

2) Varying Levels of Firm Productivity and Lack of Skills

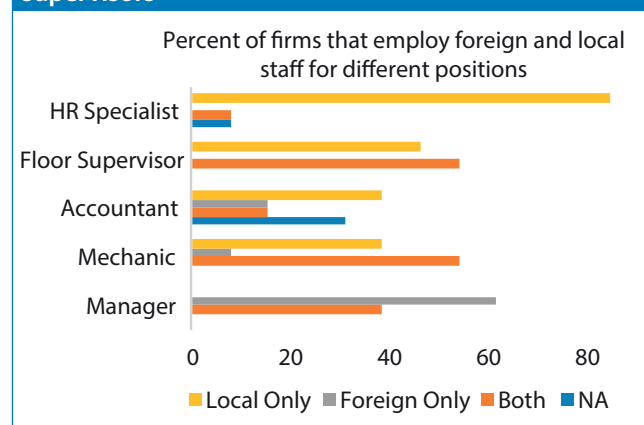
There are significant differences in firm productivity, linked to management capabilities. Rework rates range from 1 percent to over 20 percent; changeover time (that is, the time it takes for employees to switch to the production of a new style without errors) ranges from immediate to five days; and absenteeism ranges from less than 1 percent to 10 percent. Although all firms face skills shortages, better managed firms invest more in employee training and performance incentives and report higher productivity.

Many firms report that the lack of locally available skills is an important constraint to competitiveness. Enterprise Survey data show that 44.4 percent of foreign apparel firms identify skill levels as a major or severe constraint. The skills that are most in demand include managers, supervisors, mechanics, and skilled machine operators who can operate several machines. Most production workers had no formal education in sewing machine operation at the time of joining the factories and received a few weeks of training on the job. Enterprise Survey data show that about 80 percent of full-time employees receive training in foreign apparel companies, compared with 12 percent of employees in domestic companies. Although most foreign firms provide on-the-job training, it tends to be short and task-specific. The interviewed companies mentioned high employee turnover, migration of qualified workers to South Africa, and the need to contain costs among reasons for relatively low investment in employee skill building. The Government of Lesotho offers a tax incentive—training or tertiary education costs for Lesotho citizens are allowable at 125 percent for tax purposes—yet, most factory managers are not aware of this incentive.

The share of local staff in management and supervisory positions has increased over the years, but lack of

specialized training institutions impedes the career advancement of Basotho employees. Findings from the World Bank Linkages Survey show that 38.5 percent of firms have at least some Basotho in management positions. All firms have some locals represented among floor supervisors, while 46 percent of firms rely exclusively on local staff for floor supervisory functions (figure 2.4). Most firms employ locals for their human resources and accounting needs. For firms that employ locals and foreigners for the same position, for example, machine repair mechanic or floor supervisor, a foreign specialist often has the ultimate responsibility for quality control. Supervisory positions are occupied by nationals from several countries (including the Philippines; China; Taiwan, China; Mauritius; Zimbabwe; Madagascar; and Zambia).

Figure 2.4. Local staff are most commonly represented among human resources specialists and floor supervisors



Source: World Bank Linkages Survey.

Note: NA (nonapplicable) refers to situations where there is no dedicated specialist, for example, for human resources, or the function is performed from the company's headquarters.

Several reasons can contribute to the relatively low career advancement of Basotho employees. First, entrants to the industry often have relatively low initial qualifications (incomplete secondary education, no formal industry-specific training, and low command of English), which makes it difficult for them to advance to managerial positions. Lack of role models is another factor contributing to low career advancement for Basotho employees. Furthermore, the starting wages for machine operators are not high enough to attract graduates with tertiary qualifications. The government-set minimum wages in the apparel industry are lower than in services (table 2.1), which might be reflective of lower productivity. Although all the firms interviewed for this study reported paying more than the minimum wage (when bonus payments are added, salaries ranged from 10 to 50 percent above the minimum wage), the starting salaries for machine operators are not high enough to attract graduates with tertiary education. Lastly, lack of specialized training institutions offering management degrees in fields relevant for the industry is also an obstacle for the upward mobility of Basotho employees.



Table 2.1. Minimum wages for employees with more than 12 months of service with the same employer

Machine operator (clothing, textile and leather manufacturing)	M 1456
Wholesale, supermarkets and furniture shops	M 2049
Hotels, motels and lodges	M 2049
Restaurants, food caterers	M 1883
Domestic worker	M 596
General minimum wage	M 1530

Source: Lesotho Government Gazette 2017.

Multiple educational institutions offer courses related to textiles and apparel, yet there is a clear mismatch between the skills taught and those required by the industry. Universities and vocational schools offer courses in fashion and design; yet, hardly any exporting firms perform design activities in Lesotho. Meanwhile, no institution offers training in sewing machine repair, a skill that commands much higher salaries than machine operation and is in high demand by the factories. More than half of the factories employ foreign workers as machine repair mechanics.

Lack of locally available skilled labor increases production costs and contributes to low productivity.

The need to bring in expat workers increases firms' production costs. Furthermore, language and cultural barriers sometimes

impede effective communication between foreign supervisors and their staff. Where local staff were promoted to supervisory positions within the factory, promotions were typically done based on employees' good performance, as machine operators and were not accompanied by training in management, communications, and other soft skills. Weak management capabilities contribute to the low productivity observed at many factories.

HIV/AIDS has a negative impact on the industry and the economy at large, contributing to worker absenteeism and lower productivity.

Lesotho has one of the highest HIV/AIDS rates in the world. Data from the Enterprise Surveys show that approximately a fifth of the textile and apparel companies report high worker absenteeism associated with HIV/AIDS. The Enterprise Survey data also show that the industry is actively engaged in HIV response campaigns: 43 percent of the apparel firms have HIV prevention messages at the workplace, 57 percent distribute free condoms, and 36 percent provide anonymous HIV testing. Foreign-owned companies are significantly more likely to provide HIV response at the workplace compared with domestic firms: 78 percent of foreign firms report providing free condoms and 50 percent provide anonymous HIV testing, compared with 20 and 10 percent of domestic firms, respectively, offering similar services (Enterprise Survey). Box 2.1 provides more information on HIV prevalence in the industry.

Box 2.1. HIV Prevalence in the Apparel Industry

Lesotho's economy is severely impacted by HIV/AIDS. Migrant workers (who dominate employment in the apparel industry) are more vulnerable than nonmigrant workers to HIV infection. Table B2.1.1 shows that female textile and apparel workers have a higher prevalence of HIV than the general female population, although the rate is comparable to that of street vendors and lower than that for domestic workers. However, evidence from the World Bank Gender Study shows that after controlling for socioeconomic characteristics, employment in the industry is not a significant predictor of HIV/AIDS status (World Bank 2017e). Findings from multivariate regressions show that HIV prevalence is positively correlated with the garments workers' age and urban residence and negatively correlated with economic status (measured by possession of durable goods). By contrast, domestic workers are 17.6 percent more likely to be HIV positive than the average after controlling for socioeconomic characteristics.

Table B2.1.1 HIV prevalence among women (Demographic and Health Survey 2009)

Category	% HIV positive
All women	26.7
Labor migrants	36.6
Occupation	
Apparel workers	40.9
Domestic workers	46.1
Street vendors	38.4

Many women working in the apparel industry have benefited from HIV prevention and treatment services, and it is important to ensure the continuity of these initiatives. The World Bank Gender Study shows that 53 percent of respondents in the apparel industry mentioned the workplace as the main source of condoms, ahead of stores (11 percent) and clinics (24 percent) (World Bank 2017e). Furthermore, 76 percent of apparel workers reported having a clinic at their workplace, compared with 27 percent of domestic workers who had a clinic near their workplace. Several donor-supported programs have provided targeted support to the industry. For example, the Apparel Lesotho Alliance to Fight AIDs and Better Work Lesotho have provided free condoms, HIV testing, and prevention training at the workplace, while these types of services were not available to other vulnerable workers. Both programs are no longer active. It is important to continue supporting HIV prevention and treatment at the factories. The government may consider establishing multistakeholder partnerships involving the private sector, nongovernmental organizations, and the donor community to achieve this objective.

Source: World Bank 2017e.



3) Lack of Backward Linkages

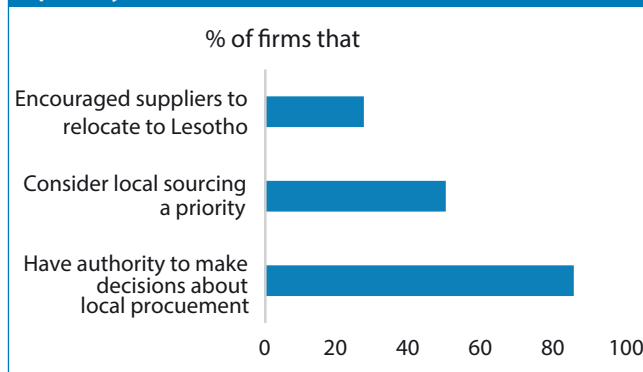
Backward linkages are important for job creation and strengthening the value chain.

Supply chain linkages are important for three reasons. First, they strengthen the value chain by reducing the time-to-market and increasing the flexibility of production. Second, they result in knowledge spillovers and help build local capacity as well as create jobs. Third, they can cushion against potential changes in the rules of origin of the international trade agreements. Currently, garments produced in Lesotho have duty-free access to the United States (under AGOA) and the European Union (under Everything But Arms), with third-country fabric derogation (that is, manufacturers in Lesotho can source fabric from anywhere in the world and still qualify for duty-free access). Trade policies may change in the future with the expiration of AGOA in 2025 and the rising trend toward protectionism across the world.

Backward linkages in the textile and apparel sector can be fostered in several ways: (1) subcontracting to local firms, (2) developing the local suppliers of goods and services (Staritz and Frederick 2016), and (3) attraction of FDI into select inputs (this is particularly true for goods that require knowledge and capital intensive production processes, such as fabric). As part of this report, the Linkages Survey was administered to 14 apparel exporters to understand their sourcing and localization strategies.

Contrary to the popular belief that foreign firms located in Lesotho have no control over the sourcing strategies of their parent companies, the majority of the interviewed executives can influence procurement decisions. About 85 percent of managers report having the authority to make decisions about purchasing inputs and services in Lesotho if the supplier meets quality standards and offers competitive prices. Although such decisions typically require approval from company headquarters, the interviewees felt that their top management would be rather supportive of local procurement, as it reduces time-to-market. Half of the interviewed firms consider local sourcing a priority. Firms with some exports to South Africa were more likely to consider local sourcing to be a priority than firms exporting only to the United States. Furthermore, over a quarter of foreign firms encouraged their input suppliers to relocate to Lesotho (figure 2.5).

Figure 2.5. Many apparel firms consider local linkages a priority



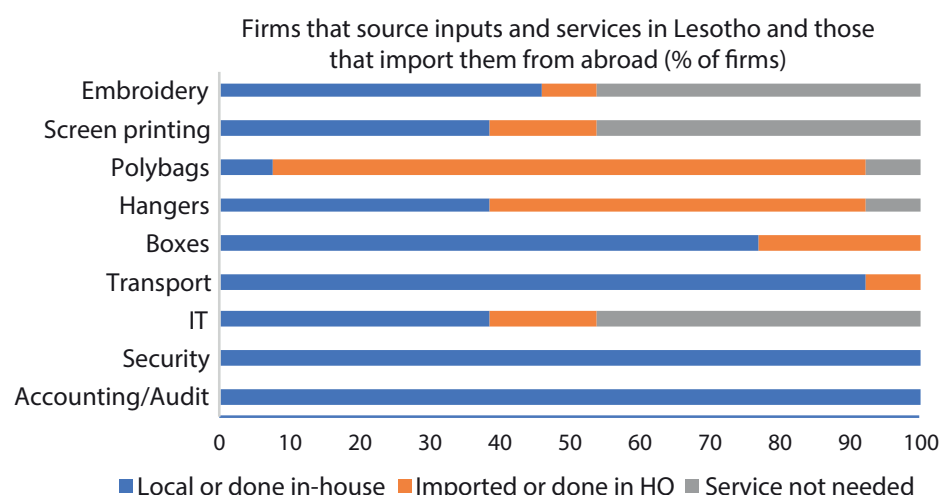
Source: World Bank staff calculations based on the World Bank Linkages Survey.

The availability of local products and specialized services improved over the past 5–10 years.

Nevertheless, many important inputs continue to be imported, which increases lead times and weakens the supply chain. Based on Enterprise Survey data, 17.2 percent of inputs and supplies purchased by foreign apparel companies are of local origin. The analysis of trade statistics indicates that local sourcing of packaging material has improved in recent years: export of packaging material (HS 392390) to the United States almost doubled, from \$238,000 in 2010 to \$413,000 in 2016 (UNCOMTRADE). The Linkages Survey administered for this report shows that inputs or services commonly sourced locally or available in-house include boxes, hangers, transport, security and financial services, screen printing, and embroidery (figure 2.6). Polybags are available locally, yet few firms report buying them in Lesotho, as the prices are not competitive. The most important input into apparel manufacturing—fabric—is not manufactured in the country (with the exception of denim fabric produced by Formosa Textiles, primarily for the use of its own jeans manufacturing factories in Lesotho). Zippers, buttons, and trim are also imported.



Figure 2.6. Most basic and some specialized services are sourced in Lesotho



Source: World Bank staff calculations based on the World Bank Linkages Survey.

Lack of local suppliers is the main obstacle to sourcing more products and services in Lesotho.

The low price competitiveness of local producers compared with imports as well as the inability to meet volume requirements (typically because of the small scale of local operations) impede greater local sourcing (figure 2.7). Furthermore, some buyers require the use of inputs from specific brands. For example, many buyers require the use of YKK zippers, imported from

Swaziland, and would not accept zippers from another brand even if they were available locally; and some U.S. buyers require the use of branded hangers that are imported from China or fabric from nominated suppliers. This points to the importance of taking buyer requirements into account when developing a local linkages strategy or attracting FDI into input supplies for the industry.

Figure 2.7. Lack of local suppliers is the main impediment to greater sourcing of inputs in Lesotho



Source: World Bank staff calculations based on the World Bank Linkages Survey.

Although many apparel exporters would like to source more inputs locally, none of the interviewees currently has a corporate program to promote linkages.

Such programs are also not very common in other parts of the world. Data from the recent World Bank Global Investment Competitiveness Report show that among the foreign firms that source locally, 50 percent use internal “talent scouts” to find local suppliers, 31 percent have vocational or training programs to upgrade local suppliers, and 11 percent have equipment-financing programs for local suppliers (World

Bank 2017d). The report also finds that local linkages are less common in manufacturing than in services sectors (World Bank 2017d).

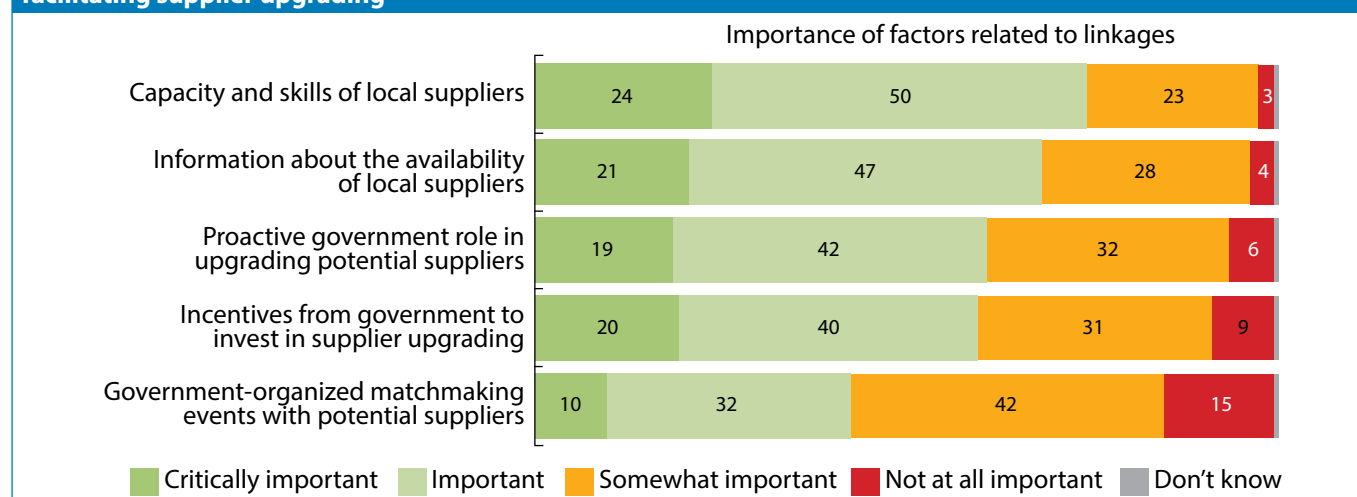
There are very few local entrepreneurs among exporters or subcontractors to exporters, and the industry remains FDI driven several decades after the establishment of the first operations. There are four export-oriented factories (each employing more than 100 people) with some Basotho ownership and one export-ready firm (employing about 60 people). The latter started with production of traditional



dressess and gradually diversified into freezer jackets and uniforms. Interestingly, local exporters have started in other sectors and moved into apparel because they saw a business opportunity. There are no examples so far of Basotho businesses started by former employees of foreign-owned apparel companies. Some expat workers, primarily from China or Taiwan, China, who used to work at the foreign-owned apparel factories, have started their own businesses as subcontractors to FDI enterprises. Lack of Basotho in managerial positions at the FDI companies is one reason behind the lack of local entrepreneurs in the sector. Another reason suggested by the interviewees was the fact that it may be simpler to make money in other industries, such as construction and wholesale and retail. A third reason is lack of access to finance for domestic producers.

Evidence from global surveys shows that governments can play a role in promoting local linkages. Specifically, investors value information on the availability of local suppliers, rated as important or critically important by 68 percent of respondents to the World Bank Global Investment Competitiveness Survey (figure 2.8) (World Bank 2017d). About 61 percent of the respondents also considered supplier upgrading as important, whether in the form of direct financial incentives for companies to invest in supplier development or governments' own initiatives to upgrade suppliers. Furthermore, 42 percent of the respondents valued matchmaking events with suppliers. Firms involved in efficiency-seeking FDI were more likely (by about 8 to 12 percentage points) to rate these government programs as important compared with other investors.

Figure 2.8. Governments can nurture linkages by sharing information on the availability of suppliers and by facilitating supplier upgrading



Source: World Bank 2017d.

In Lesotho, there are no programs to support local linkages; although entrepreneurship support programs exist, they generally do not meet the needs of growth-oriented enterprises. Basotho Enterprise Development Corporation runs several entrepreneurship programs, but these are targeted primarily to the unemployed and microenterprises, rather than to more established entrepreneurs who could benefit from mentorship, linkages with larger enterprises, and access to finance to scale up their operations.

4) Other Business Environment Constraints: Shortage of Water, Delays in Cross-Border Trade, and Weak Access to Finance

Water Shortages in Maputsoe

Water shortages in the Maputsoe and Ha Nyenye industrial areas are an important constraint to sustainability and further growth of the apparel industry

in Lesotho. Enterprise Survey data show that 32 percent of the apparel firms throughout the country experienced insufficient water supply for production over the past year. Water shortages mainly affect the Maputsoe area, where industrial estates and population growth have expanded fast over the past decade. This growth was not accompanied by expansion of water infrastructure. Supply from the Lesotho Water and Sewerage Company's (WASCO's) water system is only able to serve about half of the demand in the area. Industries as well as population depend on informal water systems without adequate quality control and reliable supply.

Although some of the interviewed managers in the Maputsoe area were satisfied with water quantity or were able to fulfill their needs through investment in boreholes, others reported an acute shortage of water threatening factory operation. Boreholes are not a sustainable solution and do not address the water needs of large companies. Furthermore, some production sites do not have enough water to justify the construction of boreholes.



One firm reported buying water that was delivered by truck, which is an expensive solution. A manager of another company said they had to ask employees to bring two liters of drinking water from home every day to compensate for the shortage of water in the factory. Some South African investors reported they would close the factories if the water shortages are not addressed in the near future. The government has recognized the problem and is working with its development partners to resolve it. Yet, the interviewed foreign investors were not aware of planned infrastructure Improvements and felt that their concerns are not taken into consideration.

Lack of water constrains investment in value-adding activities. Two companies producing denim garments in Maputsoe take them to South Africa for wet finishing, as there is not enough water in the area to justify the construction of water treatment plants. Furthermore, at least one South African company would consider investing in textile production in Maputsoe if the water shortages are addressed. Fabric manufacturing is of great importance for the competitiveness of the apparel industry, as local sourcing will reduce time-to-market and cushion against any changes in trade policy.

Cross-Border Issues

About 80 percent of the interviewed apparel companies reported problems with crossing the South African border among the key constraints to competitiveness. Several types of issues were reported: (1) delays at the border that can last for hours due to long queues and because South African border and customs officials are understaffed (the recent introduction of biometric scanning by the Home Affairs Department of South Africa has further increased the wait time), (2) random inspections that in some cases can result in delay in crossing the border by about a week, and (3) issues with the estimation of value-added tax (VAT) for firms that export to South Africa. Several interviewed firms reported that the South African Revenue Service (SARS) frequently questions the value of goods for VAT purposes. These problems were confirmed in interviews with the forwarding companies. They were also raised in March 2017 at a joint meeting of the Lesotho Revenue Authority (LRA), SARS, and representatives of the apparel industry and forwarding companies.

South Africa applies a risk-based approach to inspections. Given that apparel is a high-duty good, there is a much higher likelihood of inspections of garment consignments compared with other goods. The concern of exporters was not that the goods are inspected, but that the process is not streamlined and can last for several days if there is disagreement between the inspector and the exporter, for example, on the number of articles transported. Given that delivery of apparel goods is time sensitive, delays at the border hurt the competitiveness of exporters.

Access to Finance for Domestic Firms

Access to finance is an important impediment to development of the sector, particularly for domestic firms that do not have access to multinational financial institutions. Enterprise Survey data show that half of the apparel companies consider access to finance as a major obstacle to firm operation. Access to finance becomes a particularly important factor for firms that want to move from cut-make-trim to free-on-board (FOB) production, which allows for higher margins. FOB production requires larger working capital, as the manufacturer will have to source all inputs and the buyer will only pay after receiving the garments. Firms complain that banks have little understanding of the apparel industry and perceive it as too risky. The reported annual interest rates were 20 percent.

The interviewed firms were aware of PCG schemes supported by the government to increase bank lending to SMEs. However, the firms felt that the program has not been effective in increasing access to credit. Firms that tried to access the scheme reported having to go through a tedious process of securing government guarantees, followed by an even longer process of obtaining the bank's approval. One apparel firm that has received a government guarantee did not manage to secure credit, as the bank did not have confidence that the government would repay the loan in the event the firm defaults on its payments.

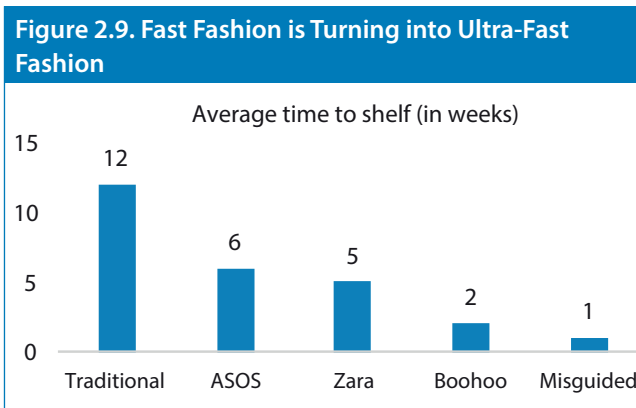
3. OPPORTUNITIES FOR PENETRATING DIFFERENT MARKETS

Global Trends

Three major trends characterize the global fashion industry: a move toward fast fashion, increase in online shopping, and emergence of a strong consumer base in middle-income markets. In the United States, traditional retailers have been steadily losing market share to fast fashion brands such as Zara, Forever 21, and H&M, as well as online platforms such as Amazon, which has recently launched its own apparel brands. Sales in the fast fashion segment increased 20 percent over the past three years, reflecting consumer demand for speed, inspired by social media (McKinsey & Company 2017b). As the new fast fashion entrants are delivering products at ultra-speed (figure 2.9), many traditional brands are also reducing their lead times. Minimum order sizes are falling, which requires that suppliers increase their flexibility. Digital technologies are revolutionizing the fashion industry and creating new opportunities for established players and newcomers,



including from Africa (box 2.2). Furthermore, increased connectivity can enhance transparency throughout the supply chain and help improve environmental and social compliance, which is an important condition for accessing the U.S. and European markets. Lastly, according to McKinsey & Company (2017), 2018 will be a watershed year for the fashion industry when half of the apparel sales are expected to be realized in emerging markets, with 50.4 percent of global sales originating outside Europe and the United States (McKinsey & Company 2017b). This creates an opportunity for local manufacturers and retailers in developing countries to capture a larger market share closer to home.



Source: McKinsey & Company 2017.

Box 2.2. Digital Technologies Are Disrupting the Fashion Industry and Offer Opportunities for Newcomers

The fashion industry is increasingly moving from an art to a science that is based on in-depth understanding of customer preferences. Companies are using artificial intelligence to understand fast-changing consumer tastes, communicate this information throughout the supply chain, and deliver the right products to consumers with much shorter lead times. They are also increasingly using technology to crowdsource new ideas from across the world and reach out to new consumers. Some industry leaders are using “big data” to experiment with customization at levels that were unthinkable a decade ago. For example, H&M has recently partnered with Google to take advantage of data insights for creating customized dress designs tailored to the lifestyles of consumers.

The spread of digital technologies and connectivity are particularly beneficial for new players, allowing them to reach millions of consumers without establishing a strong physical presence. Some African entrepreneurs have taken advantage of online platforms to bring African fashion to established markets. For example, Kisua, founded by a Ghanaian entrepreneur, is an online platform that offers contemporary African fashion, selling limited-run pieces and showcasing the continent’s design talent. Since Kisua launched in 2013, it has opened distribution centers in the United States and Europe, partnered with Yoox (a luxury online retailer), and been worn by international icons like Beyoncé. The company collaborates with designers across the continent and rewards them by paying them a portion from every sale; it sources most of the materials from Africa. Apparel made in Africa can also be found on Amazon as well as on regional e-commerce websites such as Jumia or Konga.

Sources: McKinsey & Company 2017b; Forbes 2016.

Global apparel manufacturers operate in several distinct market segments. A simplified schematic representation of these segments is depicted in figure 2.10. Globally, margins are low for the production of simple products in the high-volume, long lead time segment. Labor costs play a major role in competitiveness in this segment, and most suppliers are based in developing countries with low wages. By contrast, margins in the fast fashion segment tend to be higher, labor costs play a smaller role, while state of the art logistics and

proximity to export markets are essential for competitiveness. Suppliers are often located in middle-income and sometimes even high-income countries. For example, Zara sources 50 percent of its products in Spain and despite higher labor costs is still the leading global fast fashion retailer. The production of complex and luxury garments also offers good margins. It requires high and specialized skills and is often undertaken in middle- or high-income countries.

Figure 2.10. Schematic presentation of the strategic segments in the apparel industry

Strategic Segments in the Global Apparel Industry		
Segment 1 Simple Products, Scheduled Response	Segment 2: Simple Products, Reactive Response (Fast Fashion)	Segment 3: Complex Products, Scheduled Response
<ul style="list-style-type: none"> Higher lead times: 10- 15 weeks Large batch sizes:10,000-100,000s Few physical inputs (5-pocket jeans, men’s briefs, etc.) Mostly indirect relationships with buyers <p>Example: Walmart suppliers</p>	<ul style="list-style-type: none"> Low lead times (2-5 weeks) Small batch sizes Few physical inputs Direct relationships with buyers <p>Example: Zara</p>	<ul style="list-style-type: none"> High lead times: 10-15 weeks Large and small batch sizes Many physical inputs Few or no intermediaries <p>Example: Hugo Boss Luxury/lifestyle/technical garments</p>

Source: Adapted from World Bank 2017a.



Opportunities for Penetrating Different Markets

The U.S. market will remain lucrative for Lesotho's producers in the short term; however, the regional market may offer greater opportunities in the longer term. Lesotho's manufacturers exporting to the U.S. market are in the low-margin, high-volume business. Although the United States remains a lucrative market for Lesotho's manufacturers, the long-term prospects depend on trade preferences. Furthermore, a move toward fast fashion is leading to relocation of some production to countries in Central America. McKinsey's survey of United States-based sourcing executives revealed that almost half of the respondents planned to increase sourcing from Central America (McKinsey & Company 2017a). About a third of the global respondents to the McKinsey survey also expected to make increased use of reshoring, with the United States-based executives more likely to consider reshoring than their European counterparts (McKinsey & Company 2017a). These developments will put the African manufacturers exporting to the U.S. market at a disadvantage. By contrast, firms supplying the South African market benefit from proximity to clients and offer flexibility and fast turnaround times. They have the potential to compete in the fast fashion segment of the South African market.

Increasing exports to South Africa and the broader Southern African Development Community (SADC) region can cushion against changes in U.S. trade policy and presents a good opportunity for diversification in the apparel industry. Export market diversification was considered a priority for about half of the interviewed companies. Executives interested in tapping into new markets tend to be local or South African investors who want to export to other SACU countries, the United States, and the European Union. By contrast, few of the large, well-established firms exporting to the United States under AGOA are interested in supplying other markets. This may change with the expiration of AGOA. For example, when Swaziland lost its AGOA status, some companies reoriented their production to the South African market.

Leading global fast fashion retailers have entered the South African market in recent years, showing that there are significant opportunities in this segment.

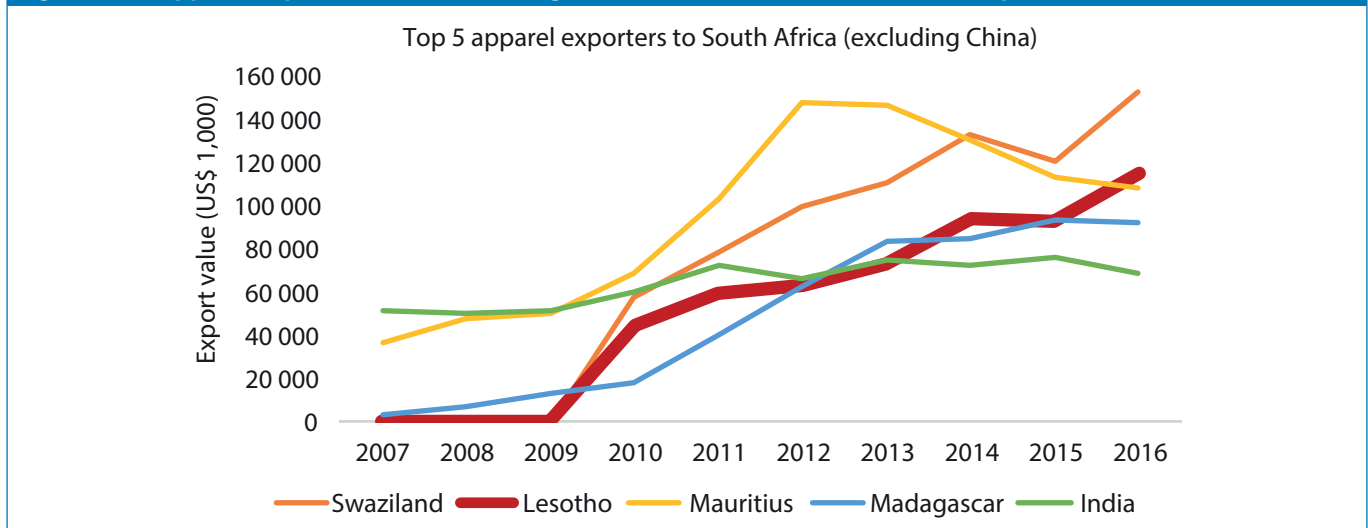
This increases competitive pressures on local retailers to reduce lead times and creates opportunities for local and regional suppliers. South Africa boasts a large clothing retail market, with close to 2,000 malls, the sixth highest number in the world.⁶ Although challenging economic times have moderated consumer spending, the long-term prospects for apparel retailers remain positive thanks to continued urbanization and a large share of young population. Several global fast fashion giants have opened stores in South Africa in recent years—Australia's Cotton On, British Topshop, Spain's Zara, the United States' Forever 21, and Sweden's H&M. The entrance of these global players created strong pressures on local retailers to shorten lead times. Two South African retailers—Woolworths and Edcon Group—interviewed for this report have prioritized increased sourcing of products in the SADC region (rather than in Asia) to allow for greater flexibility and ensure speed to market.

South Africa's imports of garments from the SADC region have increased significantly since 2007, while imports from China have declined. Apparel imports into South Africa nearly doubled over the past decade and were worth more than \$1.6 billion in 2016. The share of imports from China declined from 62 percent in 2007 to 51 percent in 2016 and has also fallen in absolute terms since 2014. By contrast, imports from Lesotho and other countries in the region—Swaziland, Mauritius, and Madagascar—steadily increased over the past decade (figure 2.11). Lesotho's garment exports to South Africa grew from \$2 million to \$114 million between 2007 and 2016, and the country is now South Africa's second largest regional supplier after Swaziland. Partnership with South African retailers can also help Lesotho's manufacturers supply other SADC countries with the presence of South African retailers. The value of Lesotho's apparel exports to SADC countries (other than South Africa) reached \$1.4 million in 2016; they were entirely nonexistent a decade ago.

6 South African Council for Shopping Centers, <https://sacsc.co.za/news/south-africa-has-the-sixth-largest-number-of-shopping-centres-globally>.



Figure 2.11. Apparel imports from the SADC region to South Africa increased over the past decade



Source: UNCOMTRADE.

Interviews with South African retailers reveal opportunities for increasing exports to South Africa and other SACU countries. South African retailers are prioritizing suppliers that can ensure (1) fast turnaround times and ability to change styles quickly, (2) production of garments with higher fashion content, and (3) diversified capabilities—screen printing, embroidery, beading, and fabric sourcing. South African retailers also believe that increasing fabric production in the region is important for their ability to compete with foreign brands. Edcon Group has invested in partnerships with South African cotton growers by committing to buy 600 tons of cotton annually to increase local availability of inputs (Edcon 2017). There is more demand for woven fabric and specialized fabrics like cotton and linen blends than for basic cotton knit fabric.

Given the stiff competition and that most EU buyers require relatively small orders with fast turnaround times, it is unlikely that Lesotho will be able to gain a significant share in this market. Lesotho benefits from duty-free access to the European Union, but so far exports have been small, worth \$748,000 in 2017 (UNCOMTRADE). The few firms that supply EU markets tend to do so indirectly (that is, through an intermediary buyer located in Asia for brands that sell in the United States and EU countries). Firms cite lack of direct contacts with EU retailers, shorter lead times, smaller order sizes, and higher fashion content requirements of EU buyers among the impediments to entering this market. Overall, few African economies export to the European Union. Mauritius and Madagascar's exports to the European Union reach \$273 million and \$337 million, respectively (over 30 and 50 percent of their total garment exports). Ethiopia supplies several large European retailers—H&M, Tesco, and Primark—yet its total EU exports were worth only \$36.7 million in 2016. Most African suppliers to the European Union are concentrated in the low-margin, high-volume segment with low value added. They face stiff competition from low-cost producers

in Asia, which also benefit from free market access and have higher productivity. So, although there may be some niche opportunities for Lesotho's manufacturers, it would be difficult to gain a significant share in this market.

4. THE WAY FORWARD

Apparel accounts for most of the jobs and exports in manufacturing. The industry has grown over the past decade, but its further development is under pressure. Apparel is Lesotho's leading export industry, accounting for most manufacturing jobs and over a third of exports. Trade preferences and government subsidies have played an important role in development of the industry. Although the industry is credited with the creation of thousands of jobs, it also shows several vulnerabilities: (1) concentration of production in manufacturing of basic apparel with low value added; (2) weak localization of the industry, with few local exporters, low representation of Basotho in management positions, and lack of local suppliers; and (3) declining competitiveness in the U.S. market with uncertain prospects post-AGOA.

Government interventions to support the growth of the sector could focus on (1) improving the availability of factory shells, which is a key priority to facilitate more investment in the industry; (2) promoting backward linkages and skills to improve the productivity of existing enterprises and reduce lead times; and (3) addressing other business environment constraints, such as bottlenecks in cross-border trade and water shortages in Maputsoe. The government may also consider pursuing stronger regional integration to improve competitiveness. Potential measures will include targeted FDI attraction from South Africa and raising awareness of opportunities in the South African market among all exporters, and building stronger relationships with South



African buyers to increase exports to the region. In addition, collaboration within SADC to build linkages between manufacturers and input suppliers can promote regional sourcing, create new jobs, and reduce time-to-market. Given the importance of the U.S. market, continued trade dialogue with the United States over the post-AGOA trade regime will be important to avoid the collapse of exports and massive job losses after the expiration of the agreement.

1) Reform the Provision of Factory Shells: Key Priority to Attract New Investment

Enhancing the availability and quality of industrial estates will entail (1) bringing current rental prices to the cost recovery level and improving rent collection, and (2) involving the private sector in managing and developing factory shells. These measures will reduce the financial burden on the Government of Lesotho, potentially encourage development of domestic real estate companies, and facilitate improvements in the quality of infrastructure thanks to user-specified design and better maintenance.

As a first step, the government can consider bringing rents to the cost-recovery level and a more aggressive strategy to improve rent collection. In the short term, this approach may potentially result in some manufacturers leaving Lesotho and associated job losses, yet in the longer term, this will help improve the quality of investors and reduce the burden on the public budget. A more careful appraisal of prospective investors (for example, reviewing credit history, financial statements, and business plans) can also help improve the quality of new tenants.

There is a need for better understanding the potential for private sector involvement in the construction and operation of industrial estates in Lesotho. Some feasibility studies have been done previously, yet several knowledge gaps remain, particularly on (1) whether investors would be willing to pay the rent, which is at the cost recovery level; and (2) what the breakeven rates are in Lesotho's context. For example, a report prepared by BuraHappold Engineering Consulting firm in 2015 concludes that (1) there was significant unmet demand for factory space (estimated at over 200,000 square meters as of 2014), (2) there was a difference in financial performance among different industrial estates attributable to their ability to collect rent, (3) a significant improvement in financial performance of industrial estates could be achieved through better rent collection, and (4) breakeven rental rates are high by global standards (BuraHappold Engineering 2015). For example, under the scenario of full commercialization, the estimated breakeven rates (based on LNDC data) were above \$30 per square meter per month. The report does not explain the reasons behind the high rates.

There are several options for involving the private sector in developing industrial infrastructure. These include (1) private construction of industrial estates on government/LNDC owned land (for example, through a form of concession

or joint venture), and (2) fully private development, ownership, and operation of factory shells. The construction of the Ha Belo industrial zone in the District of Botha Bothe provides an opportunity to experiment with the private provision of infrastructure. It will be important to conduct a demand study among the investors who are currently on the waitlist as well as other potential investors to understand (1) whether there is sufficient interest among the private sector to move to this location, and (2) if the investors would be ready to pay for quality infrastructure at rates that are at least at the cost recovery level. Assuming there is sufficient interest from potential tenants, the government can start looking for private developers and discussing a suitable partnership model. The government may also consider running this experiment in a well-established location, for example, close to Maseru or Maputsoe where investors may potentially show larger interest. There will also be a need to introduce regulations governing industrial estate provision and public-private partnerships, specifying the roles and responsibilities of different parties.

2) Promote Backward Linkages and Invest in Skills to Improve Productivity

Backward linkages can reduce lead times, cushion against potential changes in rules of origin of the trade agreements, and improve Lesotho's competitiveness, particularly in the fast fashion segment. They can also support local entrepreneurship and create additional jobs. Backward linkages can be facilitated by (1) attraction of FDI in selected inputs; (2) support to upgrading Basotho entrepreneurs, for example, through the supplier development program; and (3) investment in skills.

Attract FDI in Value-Adding Activities and Inputs

The government may consider a targeted FDI attraction campaign to increase domestic value addition and facilitate investment in inputs, such as knit fabric production. The Government of Lesotho may consider surveying South African investors who already manufacture garments in the country, to examine the opportunities for relocation of additional value-adding activities to Lesotho. One of the interviewed South African investors producing jeans in the Maputsoe area would consider relocating fabric production to Lesotho where the company already has apparel manufacturing operations, if water shortages were addressed. Similarly, wet finishing for jeans can be done in Lesotho with improvements in water availability. The government may also consider building on the connections of the existing investors in their respective countries to bring in additional FDI in fabric and potentially other supplies. Most of the interviewed stakeholders felt that attraction of knit fabric manufacturing would be particularly beneficial for the industry.



Consider Introducing a Supplier Development Program

Introduction of a supplier development program (SDP) is one way to facilitate localization of the industry.

The program would aim to enhance the capacity of local SMEs to become subcontractors or suppliers to the FDI firms. Many countries have successfully used SDP programs to build linkages between foreign and local enterprises, promote knowledge transfer, and improve the competitiveness of domestic SMEs. Box 2.3 describes common elements of SDP programs and provides an example of such a program

implemented in the Czech Republic. Discussions with local apparel entrepreneurs revealed that they would benefit from access to experienced mentors (such as current or former executives of apparel firms with a good track record of exports) to support them in improving production efficiency, enhancing business skills, and finding potential buyers. Local firms can start by subcontracting to large FDI companies based in Lesotho and gradually develop capabilities for direct exports. An SDP program can also explore the potential of upgrading local SMEs to produce some inputs such as garment labels, box tape, and box labels.

Box 2.3. Key Elements of Supplier Development Programs

Supplier development programs have been used in many countries to enhance the benefits of foreign direct investment for the local economy and develop a qualified local supplier base. These programs are usually run by investment promotion agencies and involve the following elements: (1) identification of the needs of international firms, (2) creation of an online database of potential suppliers, (3) business-to-business matchmaking events, and (4) upgrading of local firms to meet the requirements of international companies. Typically, a pool of the most competent local firms will be identified through a competitive selection process and these firms will be provided with customized technical assistance and possibly matching grants to enhance skills and operational efficiency, improve adherence to product standards, assist with necessary certification, and upgrade equipment.

A Czech investment promotion agency implemented a supplier development program in the electronics industry during 2000–02. The program was implemented with the close involvement of multinational corporations and lasted 21 months. The profiles of 200 firms were reviewed in detail, of which 73 were invited to apply and 45 benefited from the project's assistance. An evaluation undertaken 18 months after the project's completion showed that 15 firms had gained new contracts (worth \$46 million), which they attributed to the program; four companies found new customers abroad; and three companies obtained contracts with a higher value-added content. Only four firms reported no business benefits from the program. The share of components sourced from Czech companies by the multinational corporations participating in the program increased from a rate between 0 and 5 percent at the start of the program to 2.5 to 30 percent by 2004.

Source: World Bank Pilot Czech Supplier Development Program.

Given the small size of the Lesotho economy and the relatively few growth-oriented SMEs, it may be best to develop a general supplier development program, open to all sectors.

The government could start with a survey of FDI companies to understand (1) what goods and services can be procured locally but are currently imported, and (2) whether there is interest among large firms to participate in the supply chain financing program. Based on the results of the survey, an online database of potential suppliers, subcontractors, and service providers could be established (it should include IT, accounting, logistics, packaging, and other general service providers, along with specialized input suppliers and SMEs that could potentially serve as subcontractors). A competitive selection process could be organized to select local SMEs with the potential to become suppliers or subcontractors to foreign companies. These SMEs should be provided targeted technical assistance and possibly matching grants or support in obtaining bank financing. The government may also consider introducing a pilot supply chain financing program, provided there is strong interest and commitment from buyers.

Strengthen the Skills Base (Focus on Machine Repair and Management)

Measures to improve skill availability could include updating the curricula, introducing training for machine repair and management skills, and raising awareness of the tax incentive for training.

First, the curricula of universities and vocational schools need to be updated, with the involvement of industry representatives, to make it more relevant. It will also be important to introduce specialized courses in management and marketing with a focus on the apparel industry, to build the cadre of workers who can replace expat labor in management positions. The duration of internships should be extended from the current one month to a minimum of three months. It will also be useful to develop vocational training programs in machine repair, which is a skill in high demand by the industry. Lastly, it will be important to raise awareness about the tax incentive that allows firms to deduct 125 percent of costs incurred on training or tertiary education for Lesotho's citizens. Implementation of these measures could help the country to (1) compete in the fast fashion segment, which requires quick turnaround times, as well as (2) develop the capabilities for producing complex garments with higher value added.



3) Address Other Business Environment Constraints: Cross-Border Trade and Water Availability in Maputsoe

Work with SARS to Improve Cross-Border Trade

Addressing constraints in the cross-border movement of goods will involve establishing a close collaboration between the LRA and SARS Customs. There is a need to create a channel between traders, LRA, and SARS Customs for the immediate escalation of concerns. This will entail the creation of a designated office (or appointing a contact person at LRA) where traders can register their cases, detailing the specific information needed for follow-up investigation. The LRA contact person should have access to a designated office in SARS Customs. This mechanism will provide traders with the certainty that their specific operational concerns will be registered, tracked, and resolved. Customs-to-customs working groups should be established for specific border posts where issues have been reported, to examine and resolve the concerns reported by traders.

Undertaking an apparel time-release study could help shed light on the specific constraints faced by garment exporters. LRA and SARS Customs can consider undertaking a focused, limited commodity time-release study for apparel, to map the Lesotho and South African regulatory and border processes and track the movement of relevant consignments. This would provide both governments a baseline and indication of specific issues that may require attention. The World Bank, under the Trade Facilitation component of the Lesotho Investment Climate Project, is providing support to the Lesotho government in implementing the World Trade Organization Trade Facilitation Agreement, and it is possible to consider support for the proposed action under this project.

The ongoing joint work of LRA and SARS Customs on the advance electronic exchange of customs data and the mutual recognition of preferred traders has the potential to streamline cross-border movement of goods. LRA and SARS Customs are cooperating on the development and implementation of several World Customs Organization activities that have the potential to streamline the cross-border movement of goods. These activities include advance electronic exchange of customs data,⁷ and mutual recognition of preferred traders.⁸ Both programs have the potential to facilitate the clearance and release of goods. The World Bank, through the Lesotho Investment Climate Project, is in discussion with the Lesotho government on providing

implementation support for the electronic exchange of customs data. The LRA should consider working with textile and apparel traders to identify how they can become involved in the mutual recognition arrangement.

Improve Water Availability in Maputsoe

Improving water availability in Maputsoe area will require significant improvements in infrastructure. Addressing the serious water supply issues in the Maputsoe area will require (1) significant investments in the provision of bulk water to augment supply and satisfy increased demand, and (2) rehabilitation and expansion of the distribution network to improve service reliability and access to some currently unserved areas. In addition, ensuring sustainable service delivery to the industry will call for improvements in the performance of the service provider, WASCO.

It will be important to work with development partners to improve water availability in underserved locations, including the area around Maputsoe. One way to do this is through the upcoming World Bank Lowlands Water Development Project, which can support (1) construction of the bulk water scheme with a design capacity of 26,000 cubic meters/day, (2) construction and rehabilitation of water distribution mains and networks, and (3) strengthening the institutional capacity of WASCO to improve service delivery. If approved, project implementation will take about one and a half to two years, with improvements in bulk water availability by the end of 2020. In the short term, it will be important to communicate to investors that the government has recognized the problem and has a plan to resolve it. Repairing the leaking pipes will also improve the situation, even if it cannot solve the problem. WASCO may also consider regular tanker water delivery to companies with no alternative sources of water.

⁷ This initiative aims to transfer electronic transactional customs data from the export to the import customs to support more informed decisions on the release or detention of goods.

⁸ This proposed arrangement aims to reward traders who have demonstrated a high level of compliance by providing prescribed benefits.



CHAPTER III. HORTICULTURE⁹

1. CONTEXT

Agriculture accounts for most of the employment in rural areas, where over 70 percent of the Basotho live.

Crop farming is dominated by subsistence production of cereal crops. Agriculture accounts for less than 10 percent of GDP but over 60 percent of employment. Most of the jobs are in subsistence-oriented small family farms characterized by low productivity. Crop farming is based on traditional low-input, low-output rainfed cereal production. The main crops—maize, sorghum, and wheat—are planted on more than 85 percent of the cultivated area (World Bank 2017f). Yields vary significantly, depending on the amount of rainfall, but are generally low, contributing to widespread poverty in rural areas. Lesotho does not have a competitive advantage in cultivating cereals due to its mountainous terrain, challenging agro-climatic conditions, and poor soils, as well as the large economies of scale and high levels of mechanization required for commercial grain cultivation.

⁹ The analysis in this chapter uses a variety of sources. Specifically, it relies on data from the smallholder survey covering 120 vegetable and 22 fruit farmers in four districts, completed by Global Development Solutions for the World Bank in 2016. The survey interviewed farmers, supermarkets, the donor community, and government stakeholders. The chapter also builds on the experience of two World Bank projects: (1) the Second Private Sector Competitiveness and Economic Diversification Project (PSCEDP), which successfully piloted commercial fruit cultivation in Lesotho and helped realize Lesotho's first exports of fresh fruit to South Africa, and (2) the Smallholder Agriculture Development Project (SADP), which aims to increase the productivity of smallholder farmers.

High-value horticulture offers opportunities to transform the rural economy and increase incomes.

Lesotho's climate conditions are favorable for the production of many vegetables and deciduous fruit. A crop suitability map identified 5,500 square kilometers (550,000 hectares) of micro-climate areas favorable for fruit cultivation and an even larger area is deemed to be suitable for vegetable production in Lesotho. High altitude contributes to a lower prevalence of pests. Furthermore, deciduous fruit can be harvested two to three weeks earlier in Lesotho compared with the Western Cape province in South Africa (the main region for fruit production), resulting in price premiums. Commercial horticulture can also increase incomes and transform Lesotho's rural economy. For example, it is estimated that per hectare revenue for commercial fruit orchards can reach \$30,500 after the fifth season; the comparative income for subsistence production of maize in Lesotho is \$220 (Ministry of Trade and Industry 2017a). Furthermore, increased production of fruits and vegetables can help improve nutrition in a country where 15 percent of the population is undernourished¹⁰ and traditional diets are based on cereals.

¹⁰ World Bank, <https://data.worldbank.org/indicator/SN.ITK.DEFC.ZS?end=2015&locations=LS&start=2000&view=chart>, accessed April 10, 2018.



Investments in horticulture can help create jobs. Fruit and vegetable cultivation is more labor intensive than grain cultivation and can increase employment in rural areas: based on statistics for South Africa, commercial vegetable and fruit cultivation generates about 1.3 jobs per hectare compared with 0.01 jobs per hectare for maize (GDS 2016 and HORTGRO 2017). This suggests that more than half a million jobs could potentially be created in Lesotho if fruits and vegetables were commercially grown on the entire area suitable for horticultural crops.

Although high-value fruits and vegetables can be profitably grown in Lesotho, commercial horticulture is in its infancy. In Lesotho, fruits and vegetables are produced primarily by smallholders for subsistence consumption. Most of the horticultural output is owner-consumed or sold in informal domestic markets. A few larger and more commercially-oriented farms have emerged in recent years and are supplying supermarkets, hotels, restaurants, and public institutions such as schools and hospitals. Yet, most producers lack sufficient product quantity to enter forward contracts with institutional buyers. Small volumes may also explain the absence of aggregators, packhouses, commercial processing facilities, and specialized logistics companies. All inputs are imported.

Only several hundred farmers are involved in market-oriented horticultural production. The first pilot commercial horticulture survey identified 198 “commercial” vegetable farmers and 109 fruit farmers (Bureau of Statistics 2016). For the purposes of the survey, “commercial vegetable farmers” were those who produced mostly for selling and had irrigation facilities and access to water. Qualifying fruit farmers were those with 100 or more fruit trees. The results of the survey suggest that while farmers of all age groups invest in vegetable farming, few of the young Basotho engage in orchard cultivation. Indeed, over 60 percent of fruit farmers are over age 60 years, compared with 23 percent for vegetable farming.

A relatively small share of land is allocated to commercial horticulture. At the peak of the season, only 611 hectares are planted to vegetables. Spinach, spaila (a traditional green leaf vegetable), and pumpkin are the most commonly planted vegetable crops (table 3.1). Although there are no data on the area under orchard cultivation, the total number of trees grown by commercial farmers is less than 36,000, which suggests that a typical fruit farm is small. Apples, peaches, and apricots are the most commonly planted trees (figure 3.1).

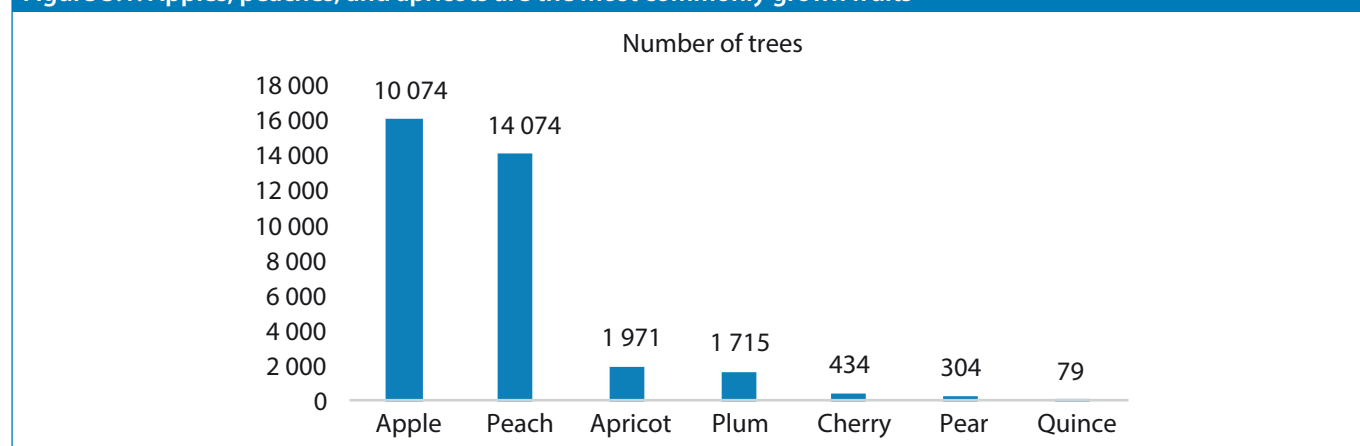
Table 3.1: Total area planted to vegetables (hectares), by quarter, 2015/2016 agricultural year

Vegetables	First quarter	Second quarter	Third quarter
Cabbage	4	1	2
Tomato	52	0	0
Spinach	208	91	1
Carrots	34	0	0
Spaila	90	0	1
Rape	12	50	2
Beetroot	46	0	1
Pumpkin	72	0	1
Potatoes	36	0	0
Green peas	0	1	1
Onion	1	0	0
Lettuce	4	0	0
Green pepper	52	0	0
Total	611	143	9

Source: Bureau of Statistics 2016.

Note: The first quarter covers August–October; the second quarter covers November–January; and third quarter covers February, March, and April. There were no data for the fourth quarter, which coincides with the winter season, when hardly any production takes place.

Figure 3.1. Apples, peaches, and apricots are the most commonly grown fruits

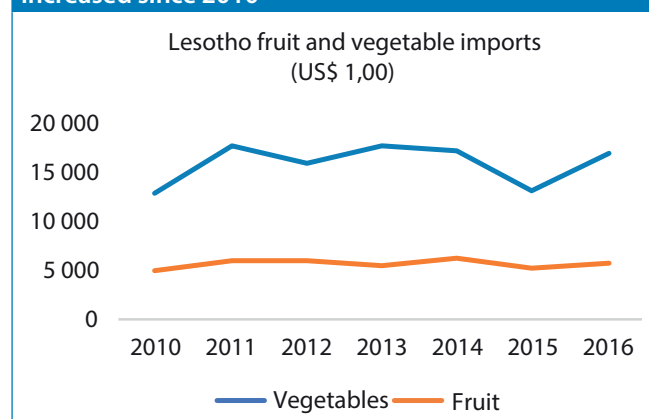


Source: Bureau of Statistics 2016.



Given the low level of domestic production, Lesotho is a net importer of fruits and vegetables. Interviews with supermarkets showed that over 80 percent of fruits and vegetables is imported. Imports of fruits grew by 16 percent between 2010 and 2016, while imports of vegetables increased by 31 percent over the same period (UNCOMTRADE) (figure 3.2). All imported fruits and vegetables come from South Africa. Imports of vegetables are dominated by potatoes and legumes, which constitute over half of total imports. Apples and pears are the most popular imported fruits, accounting for 42 percent of imports (UNCOMTRADE).

Figure 3.2. Lesotho's fruit and vegetable imports increased since 2010



Source: UNCOMTRADE.

Lesotho's exports of horticultural products are negligible.

Lesotho has hardly exported any vegetables over the past decade. In 2016, the export value of vegetables, all of which were sold in South Africa, was only \$24,000 (UNCOMTRADE). Dried rosehip (HS 081340, "other dry fruit") accounts for most of the fruit exports, which were worth more than \$1 million in 2016. The value of other exported fruit was only \$12,000.

Several factors constrain the development of commercial horticulture, including poorly functioning land markets, lack of irrigation, low technical and business skills of farmers, and poor access to markets. Furthermore, the analysis of the horticulture industry and its impact on the rural economy to date is hampered by lack of data (box 3.1).

Box 3.1. Lack of Data Complicates Analysis of the Horticulture Industry

Lack of data on horticultural production, yields of major crops, and farm revenues complicates analysis of the industry and policy efforts to support the sector. Although the statistics on cereal production have been available for many years and are updated annually, the first pilot commercial horticulture survey was conducted by the Bureau of Statistics in the 2015/16 agricultural year. The survey covers a limited number of variables, including area planted to different crops, age and educational attainment of farmers, and number of farm employees. There are no data on yields or farm turnover, and production statistics may not be accurate, as farmers do not keep records on harvested produce. Given the novelty of the survey, it is also likely that not all commercial farmers were covered.

Source: Bureau of Statistics 2016.

Although commercial horticulture plays a limited economic role at the moment, the sector has good potential for growth.

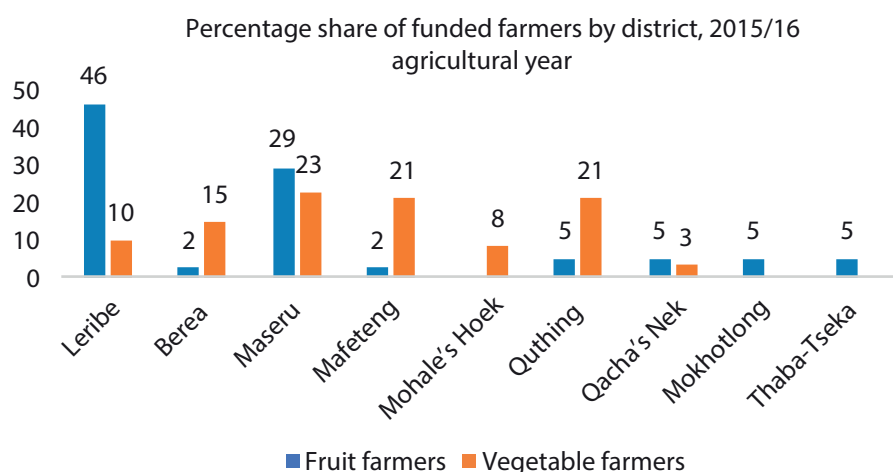
Indeed, there is high domestic and international demand for fruits and vegetables. Lesotho's proximity to South Africa offers access to a large market for early variety fruit. Furthermore, given that South Africa is a leading fruit exporter in Sub-Saharan Africa, there are opportunities for knowledge and technology transfer as well as partnerships for increased supply to global markets. Developing vegetable exports to international markets may be more challenging, as many countries have year-round greenhouse production. However, investments in vegetable production can help reduce imports, which exceeded \$16 million in 2016.

The Government of Lesotho has prioritized development of the horticulture industry and mobilized donor support for the sector.

The horticulture industry is among the priority sectors identified in the forthcoming National Strategic Development Plan. The government has partnered with the donor community to raise awareness about business opportunities in horticulture and provide training and grant support to facilitate investments in protected fruit and vegetable cultivation and small-scale irrigation schemes. Data from the recent Horticulture Statistics Report show that about 31 percent of vegetable farmers and 38 percent of fruit farmers have received some external funding (figure 3.3) (Bureau of Statistics 2016). Districts with a larger share of horticultural production tend to receive more funding. Such support has contributed to increased horticultural production and will likely remain essential in further development of the industry.



Figure 3.3. A significant share of farmers in key production areas receive external funding



Source: Bureau of Statistics 2016.

2. CHALLENGES TO GROWTH

Commercial horticulture is a new industry in Lesotho.

It is characterized by lack of leading commercial farmers, absence of aggregators, and low level of expertise in commercial farming by producers and extension workers. The sector faces many challenges, the most significant being lack of a functioning land market; shortages of irrigable,

arable land; lack of specialized skills; and weak linkages within the value chain. Furthermore, access to finance is an important constraint for commercial farmers; only 7 percent have access to credit (A2F Consulting 2018). Lesotho also has a challenging climate, which requires investment in climate-smart technologies, irrigation infrastructure, hail nets for fruit, and greenhouses for vegetables (box 3.2).

Box 3.2. Challenging Climate Conditions Require Investment in Climate-Smart Technologies

Difficult agro-climatic conditions combined with poor natural resource management pose a risk to sustainable agricultural development. Lesotho's climate is characterized by erratic and unevenly distributed rainfall, frequent drought, hail, and frost risk. Temperatures are highly variable throughout the year and due to high altitude are generally cooler than in other countries at the same latitude. The country has recently recorded cycles of drought and intense rainfall and is considered extremely vulnerable to climate change. Droughts are particularly harmful for orchards, as nonoptimal irrigation in a specific year will affect the yield and quality of fruit during that year, but also in the following year and, depending on the severity, the impact can spread over two seasons (Louw 2017). Heavy storms can limit infiltration and increase runoff and erosion. Challenging climate conditions are aggravated by poor resource management, which has resulted in widespread soil degradation.

Climate risk can be managed if proper production techniques are applied, as shown in neighboring South Africa. Despite the impacts of climate variability, crop yields in the Free State Province of South Africa, just across the border from Lesotho's drier Mafeteng and Mochale's Hoek districts, exceed the crop yields in Lesotho by 2.5 to 9 times (FAO 2011). The contrast could be attributable to widely differing crop, livestock, and natural resources management, and efficient use of agricultural inputs (FAO 2011). This shows that climate risk can be managed if proper production techniques are applied.

Farmers face different constraints, depending on the level of commercialization.

Basotho farmers can be broadly classified into three groups (figure 3.4). *Traditional farmers* constitute the majority of farmers and rely on rainfed, low-input production systems for subsistence consumption. Climate variability presents the main risk for these farmers and many of them have observed declining production in recent years due to weather shocks. *Modernizing farmers* are the most diverse group. These farmers have realized the business potential of horticulture farming, increased the area planted to fruits and vegetables, and often benefited

from donor funding to install greenhouses and hail nets. Nevertheless, these farmers often struggle due to lack of technical and basic business management skills and lack of access to markets; their productivity is typically much lower than that in neighboring South Africa. The third group, *commercial farmers*, represents a minority of farmers. They run their farms as a business, have contracts with supermarkets, and some have realized small exports to South Africa. The main constraints these farmers face are lack of serviced land and poor access to finance.

**Figure 3.4 The three types of horticulture farmers**

Typology of Horticulture Farmers		
Type 1: Traditional farmers	Type 2: Modernizing farmers	Type 3: Commercial farmers
<ul style="list-style-type: none"> • Subsistence farmers producing mostly cereals • Fruits and vegetables are grown for subsistence consumption • Most of the Basotho farmers fall in this category 	<ul style="list-style-type: none"> • Smallholder market-oriented horticulture farmers • A mixture of modern and traditional production techniques is used • Keep some records, although rarely detailed enough to be able to apply for a loan • Most farmers sell their produce in informal markets, although some supply institutional buyers • Typical farm size 1-8 acres • A small but growing share of the Basotho farmers (most of the 307 fruit and vegetable farmers identified in the Horticulture Statistics Report fall in this category) 	<ul style="list-style-type: none"> • Run their farms as a business • Use modern production techniques • Regularly supply supermarkets, hotels, and restaurants • Maximum farm size 8-10 hectares • A few leading farmers

The development of commercial fruit farming is subject to a different set of constraints than vegetable cultivation.

Only two fruit farms in Lesotho can currently satisfy the quality requirements of supermarkets. The development of commercial fruit farming is more knowledge and capital intensive compared with vegetable cultivation. Furthermore, while vegetables can be harvested in the same season they were planted, stone fruit comes into full bearing three years after planting and as late as six years for apples. This requires a different cashflow model compared with vegetable farming and access to reliable long-term finance. Furthermore, while vegetable cultivation is suitable for smallholders, commercial fruit farming requires economies of scale. In South Africa, commercial fruit cultivation is typically done on farms of 50 or more hectares. None of the fruit farms in Lesotho is at this scale. The World Bank has supported the establishment of three commercial fruit farms with an average size of 13.6 hectares. One of these farms is already bearing fruit and supplying local supermarkets. The second farm that meets the requirements of local supermarkets is run by Blessing Nkhase, who was supported under an earlier World Bank intervention, and has been operating his farm independently since 2013. He has about 10 hectares of land and is supplying domestic supermarkets and at times exporting to South Africa.

The following narrative discusses the key constraints as they apply to different categories of farmers.

1) Lack of a Well-Functioning Land Market and Shortage of Irrigable Land Have Particularly Negative Impacts on Modernizing and Commercial Farmers

Most Basotho farmers cultivate their family plots and do not have legal titles to their land.

Based on Land Administration Authority data, only 232 farmers have titles to their land. Most rural land transactions (buying or renting land) take place informally. In areas with access to communal land, it can be allocated to farmers by community councils, typically in consultation with the chiefs. To obtain a formal land title, a farmer needs to submit a package of documents to the Land Administration Authority, including (1) a copy of the identity card, (2) an allocation title granted by the local government, (3) proof that the land has been surveyed and the boundaries of the plot determined (there are only five surveyors in Lesotho), and (4) a form from the Ministry of Agriculture certifying that the land is suitable to be used for agricultural purposes. Land lease titles are granted for 90 years and are transferable.

There is no comprehensive national land registry nor a database of agricultural land parcels.

Lesotho does not have a national land registry that catalogues all the land held by government institutions, state-owned enterprises, local governments, households, and businesses. Similarly, there is no database of agricultural land. So, if a hypothetical businessperson wanted to invest in a large agricultural farm, he or she would need to physically visit communities to identify a suitable land plot.

A typical Basotho farm is small. This presents a major challenge for the establishment of commercial fruit farms, which require economies of scale, as well as for growth-oriented vegetable farmers. Over 60 percent of households have land plots of less than 1.5 hectares (table 3.2). This level of land fragmentation makes it difficult to develop commercial



orchard farms that require a minimum of 10 hectares to be profitable. Access to serviced agricultural land (in locations with access to electricity and irrigation) was also mentioned among the constraints for growth-oriented vegetable farmers. Block farming and incentives for farmers to pull land have proven effective in overcoming scale constraints; however, the legal framework for collective long-term lease of land to a foreign or domestic investor is underdeveloped. Although cultivation of many vegetables (tomatoes, peppers, and leafy greens) is scale neutral and can potentially be profitably done on plots of about an acre, fragmentation of production makes it difficult to market produce.

Table 3.2. Most households have farms below 1.5 hectares

Percentage distribution of agricultural households by field size	
Hectares	Percentage of households
0.01-0.49	21.8
0.50-0.99	23.6
1.00-1.49	19.3
1.50-1.99	12.5
2.00 - 2.49	7.8
2.50 - 2.99	4.7
3.00 - 3.49	3.4
3.50 - 3.99	2.3
4.00 - 4.49	1
4.50 - 4.99	1
5.00 - 5.49	0.8
5.50 - 5.99	0.4
6+	1.4
Total	100

Source: Bureau of Statistics, 2009/2010 Agricultural Census.

Fruits and vegetables in Lesotho are grown primarily under rainfed conditions with no irrigation. Yields of commercially produced crops with optimal application of water can be three to four times higher compared with the same crops that were not irrigated. Respondents to the Global Development Solutions (GDS) survey reported challenges in obtaining or affording water and pumping and considered drought and suboptimal water supply as the main contributors to crop loss (GDS 2016). Due to lack of electricity in many rural locations, farmers must rely on diesel pumps, which increases their operating costs. When irrigation is used, it frequently relies on borehole technology, which risks depleting groundwater. Water usage for agricultural purposes is unregulated.

2) Lack of Technical and Business Skills Is a Major Problem for Traditional and Modernizing Smallholder Farmers

Smallholder farmers tend to rely on traditional agricultural practices and invest little in input use.

The GDS smallholder survey found significant variability in input use and production costs among smallholder farmers, suggesting a limited understanding and uniformity of on-farm technical management and husbandry practices. Table 3.3 illustrates the variability in input use among smallholder green pepper farmers. Application of fertilizers and chemicals by smallholder farmers is based largely on what is available and affordable rather than optimized for soil type or based on a targeted plant management program. No farm surveyed by GDS reported soil testing to identify optimum amendments. Plant protection programs, if available, are based on advice by extension services, which tends to be general rather than specific to individual farm or crop needs. As a result, producers who invested more in fertilizer and pest management did not necessarily report higher profits.

Table 3.3. Application of inputs varies significantly among smallholder farmers

Location	Application of inputs by green pepper farmers		
	Fertilizer	Irrigation	Chemicals
Botha-Botha	50%	25%	25%
Leribe	0	20%	60%
Berea	40%	50%	100%
Mafeteng	30%	0%	0%

Source: GDS Survey, 2016.

Low technical skills and input use result in low productivity and weak price competitiveness.

For example, the GDS survey found that prices for green peppers charged by smallholder farmers in Lesotho were nearly twice higher than those found in Joburg Market at the time of the survey. This was partly attributable to the low planting density of the Basotho farms and low-quality plant husbandry practices.¹¹ Similarly, low plant density, suboptimal irrigation, and low use of inputs contributed to higher prices for tomatoes and spinach realized by smallholders in Lesotho relative to prices observed in South Africa. Although smallholder fruit farmers were selling peaches and apples at competitive prices relative to those observed at the Joburg Market, the quality of the produce did not match South African standards.

Smallholders frequently lack basic financial and business skills.

Few of the GDS surveyed smallholders keep records on farm operating costs, sales, land size, varieties grown, and other data necessary to evaluate and monitor commercial farm operations. Farmers consider it a success if they can sell their produce but do not always know if the production

¹¹ For example, in a commercial green pepper farm, it is not unusual to find plant density between 10,000 and 12,000 plants per acre. In the surveyed farms in Lesotho, plant density ranged from 294 to 667 plants per acre (GDS 2016).



is profitable (GDS 2016). This finding was confirmed by the Bureau of Statistics team that worked on the Horticulture Statistics Survey 2015/16. Many commercially-oriented farmers did not know the production area under different crops (it had to be measured by the team working on the survey), the amount of produce they have harvested, or the yields of different crops, and data on farm profitability were largely unavailable.

Farmers lack market intelligence on the varieties that are most in demand by buyers or are better adapted to the local climate. Most seed is imported from South Africa and seed selection in Lesotho's stores is limited. The GDS survey revealed that seed sellers do not provide guidance to farmers on varieties that are better for fresh versus processed use, are more adapted to weather shocks such as drought or frost resistance, or have other desirable characteristics (such as thicker skins for less damage during transport for tomatoes). Similarly, there is little information on market demand for particular fruit and vegetable varieties. Smallholder farmers tend to buy imported seeds and seedlings in local stores based on what is available, while more advanced market-oriented farmers looking for specific varieties typically buy seed in South Africa.

Digital technologies have not been used to their full potential to provide technical assistance and access to market information for the Basotho farmers. Lack of Internet access in rural areas, high Internet costs, and low digital literacy explain farmers' low use of web applications. Only 9 percent of the Smallholder Agriculture Development Project beneficiaries report using the Internet for information about marketing of agricultural produce (namely, Facebook (8 percent) and WhatsApp (1 percent)), compared with 60 percent who rely on radio and 25 percent on newspaper (World Bank 2017f). There is no web portal that provides information on prices for agricultural produce. Although mobile phone penetration is high in rural areas, SMS-based agricultural services are not developed.

Supermarkets show strong interest in buying locally produced fruits and vegetables but do not currently offer credit or technical assistance. Interviews with the two main supermarkets in Lesotho—Pick n Pay and Shoprite—reveal that both chains aim to increase the share of produce sourced locally. They attend farmers' conferences and meetings and are interested in partnering with local producers for increased local sourcing. The supermarkets also raise awareness among suppliers about product quality standards but do not offer any credit or on-farm technical assistance.

The main constraint to greater local sourcing is the lack of farmers who can meet the supermarkets' quality (size, color, and freshness) and volume requirements. Due to lack of post-harvest handling and the long distance to the

supermarkets, produce frequently gets spoiled by the time it is delivered. Packaging material imported from South Africa is available locally, but few farmers can afford to use it; so, the supermarkets frequently buy vegetables loose and do the packaging themselves. The most common locally procured vegetables are cabbage, beans, and spinach, which are often grown in the open field. There is a large demand for more local lettuce, tomatoes, and peppers. The inability of farmers to provide consistent and continuous produce delivery is another important constraint. Overall, there are only two fruit farms supplying supermarkets. Although the number of vegetable suppliers that have realized at least some sales to local supermarkets is larger, most of these are irregular deliveries. While about 250 vegetable farmers sold at least once to Pick n Pay in recent years, there is only one vegetable farm that provides a continuous supply of fresh produce. Shoprite reports working with three or four vegetable farms that can provide a continuous supply during the growing season.

3) Low Quality of Extension Services Has a Particularly Negative Impact on Traditional and Modernizing Farmers

The outreach and quality of extension services are not adequate to support the transition from subsistence to commercial horticulture. The GDS smallholder survey revealed a significant difference in the availability and quality of extension services depending on the location and main crop grown by farmers. For example, 71 percent of tomato farmers in Botha-Bothe, 70 percent in Leribe, and 50 percent in Berea were visited by extension services. Farmers in the first two locations received advice once a year, while farmers in Berea reported receiving advice three times a year, yet the tomato farmers in Berea tended to be the most passive, with only limited on-farm husbandry activity. Similarly, 71 percent of smallholder apple growers across all districts surveyed received technical assistance through the extension services once or twice annually, but the assistance was rated as "poor" (GDS 2016).

Educational institutions in Lesotho do not offer degrees in fruit and vegetable growing (pomology and olericulture), resulting in lack of expertise among extension workers. Other issues include lack of in-service training for extension workers, high attrition of qualified staff due to low pay and lack of incentives, and poor communication between staff in headquarters and districts and even within districts among staff who direct the work of extension agents (World Bank 2017c). Furthermore, lack of transport limits the ability of extension workers to provide on-farm assistance to producers.

There is little research in Lesotho involving the development of fruit and vegetable varieties adapted to local agro-climatic conditions. This hurts the entire



industry, as seed varieties imported from South Africa are not always well-adapted to Lesotho's high-altitude conditions and microclimate. Lesotho has only two PhD-level researchers and five masters-level specialists with specializations in plant breeding and crop sciences (IFPRI 2016). The overall spending on agricultural research and development (R&D) is among the lowest in Africa and covers primarily staff salaries. Critical infrastructure and equipment for applied agricultural R&D (for example, equipment for crop breeding, seed quality, and soil and plant analysis) is missing, particularly in the field stations.

4) Lack of Linkages within the Value Chain Hurts All Farmers

All inputs—seeds, fertilizer, pesticides, and equipment—are imported. Given that Lesotho's farmers buy inputs in small quantities, their production costs are higher compared with those of South African farms, which are much larger on average. Fertilizer, plant protection products, and farm equipment are manufactured by large multinational companies; however, seedlings could potentially be produced in Lesotho. The lack of commercial nurseries in Lesotho has a particularly negative impact on the orchards, as imported tree seedlings experience stress during transportation, which reduces their survival rate. Furthermore, there is a shortage of seedlings for popular tree varieties in South Africa, which can result in a wait-time of over a year.

There are no aggregators or commercial processing facilities. Fruit and vegetable production has grown over the past five years thanks to increased investment in greenhouses, hail nets, small-scale irrigation, and farmer training, often supported by donors. However, the increase in production has not yet led to the emergence of value-adding services, such as packaging and specialized logistics. Very few farms have invested in on-farm cold storage facilities, namely Alosang farm, which specializes in vegetable production, and the three orchards supported by

the World Bank through the Private Sector Competitiveness and Economic Diversification Project. These and a few other producers supplying supermarkets also perform on-farm packaging using materials imported from South Africa. There are no aggregators—private collection centers providing product sorting, grading, packaging, and processing. The lack of aggregators has two negative impacts: (1) it reduces value added in horticulture (produce that cannot be sold is often fed to livestock or processed by households for own consumption), and (2) it reduces access to markets for smallholders, particularly those far from urban locations. The government has recently constructed a Market Center in Ha Tikoe Industrial Estate to address the problem of market access by smallholders and develop a local processing industry. However, unless a private operator is found, the facility will not become operational.

Outgrower schemes and contract farming are not common in Lesotho due to the lack of aggregators.

However, several farmer associations have emerged recently and offer useful services to their members. In many countries, aggregators play an important role in improving the productivity of smallholders and linking them to global value chains through contract farming. Contract farming is an agreement between a downstream processor or buyer and farmers, individually or in groups, that guarantees a market and/or price for a product of specified quality (World Bank 2013). The contractor frequently provides inputs and advisory services, and most evaluations indicate positive benefits for smallholder participants and sometimes positive spillovers for their neighbors (World Bank 2013): In Lesotho, these arrangements have not taken place due to the lack of aggregators. Only one of the interviewed farmers (head of the Alosang Farm) sometimes buys produce from smallholders, if she receives a large order that cannot be fulfilled based on her own production capacity. On a positive note, several farmer associations and cooperatives have emerged in recent years and offer valuable services to their members (box 3.3).

Box 3.3. Potato Lesotho Association Offers Multiple Services to Its Members

Potato Lesotho Association commenced its operations in 2015 and has more than 100 members with chapters in each of the 10 districts in the country. The association offers several services to its members. It has recently partnered with Wesgrow, one of the largest potato seed producers in South Africa, for bulk procurement of quality seed. The association is currently trying to procure machinery and equipment to facilitate mechanized crop production and enhance the productivity of its members. Potato Lesotho Association also offers training sessions to its members in collaboration with the Ministry of Agriculture. The training sessions are organized once a month before the start of the growing season and cover topics related to production (for example, land preparation and harvesting) as well as financial management. Furthermore, a Wesgrow agronomist from South Africa was invited to provide training on technical aspects of potato cultivation.

The association is also trying to increase market access for its members. For example, sales agreements were reached with Letseng Mine, Afriski resort, and other institutional buyers. In October 2017, the association rented a cold room from the Department of Civil Aviation at the Moshoeshoe International Airport, to increase the shelf life of potatoes. Potato Lesotho Association is currently doing fundraising for the establishment of the packhouse and processing facility (estimated at approximately M 1.7 million). It is also trying to improve access to finance for its members through an internal savings and lending fund as well as by reaching out to banks to negotiate loans for its members.

Source: Interview with Potato Lesotho Association members.



3. ZOOMING IN ON COMMERCIAL FRUIT CULTIVATION

Development of commercial fruit farming in Lesotho faces more challenges than vegetable cultivation.

Commercial fruit farming requires economies of scale, is more knowledge and capital intensive, and has a longer payback period compared with vegetable cultivation. Although hundreds of Basotho farmers are growing fruit, only two farms (one of which is supported by the World Bank and the other is a former beneficiary of a World Bank project) are currently able to satisfy the quality standards of Pick n Pay and Shoprite, the two major supermarket chains in Lesotho.

Unlocking the potential of the fruit industry requires public intervention and the first steps in this direction have been taken.

Smallholder farmers do not have the resources and skills to establish competitive fruit farms. The Government of Lesotho has made the first steps to unlock the opportunities in the industry. Through a partnership with the World Bank, commercial fruit farming was piloted during 2007–13. It has shown that commercial fruit cultivation is feasible in Lesotho's climate conditions, that is, at high altitude. Basotho farmers produced quality fruit and realized the first exports of grade 1 apples to South Africa. Production has been subsequently scaled up. Box 3.4 describes the approach the project used to overcome scale and skill constraints.

Box 3.4. Block Farming and Incentives Can Be Used to Overcome the Lack of Experience with Commercial Fruit Cultivation

A World Bank project used block farming and incentives to establish three farms with a combined cultivated area of 41.5 hectares. The project relied on block farming to overcome scale constraints: about 9–10 farmers pulled land to create each of the farms, which were registered as shareholding companies. The project supported the farmers in obtaining titles to their land. Each farmer's share in the company is proportional to the land he or she has contributed. The companies are governed by the board of directors. To overcome skill constraints, a professional manager with experience in the horticulture industry in South Africa was hired to operate each of the farms. The farms adopted modern environmental practices and received GLOBAL GAP certification, which enabled them to export to international markets. Given the novelty of the approach, the project provides an incentive to participating farmers. During the first three years after establishment of the farms (until the trees start bearing fruit), the farmers receive livelihood support from the project, which is equivalent to the amount of maize they could grow on their land plots in a good agricultural year. After the third year, the farmers obtain proceeds from the sales of fruit.

The farmers supported by the World Bank project reported improvement in livelihoods associated with the intervention.

Not all the farmers were cultivating their land prior to the establishment of the fruit companies (some were old, sick, or employed elsewhere). The farmers who were growing maize experienced low harvests due to poor productivity and a series of droughts and other weather shocks. Having a stable and predictable income, associated with project participation, was appreciated by the beneficiaries. As the trees mature and sales grow, the revenue of participating farmers will increase further. The main benefit to the communities is increased employment—each farm employs about 10 permanent employees and some temporary workers during the cultivation season. The employees were provided extensive training in tree husbandry by South African consultants.

The project has realized several successes and had a positive demonstration effect.

Farmers in participating communities acquired skills in modern tree husbandry. The harvested fruit is of high quality and domestic supermarkets are interested in sourcing more of it in Lesotho. Given the small volumes of production and large domestic demand, most of the fruit is currently sold to local supermarkets rather than exported. Cleaning, grading, and packaging are done at a small on-farm packhouse. Many tree varieties were tested in Lesotho's climate conditions, with Early Grande peaches commanding the best prices. Data on the profitability of different fruit cultivars (annex F) can inform future planting decisions. The project also had a positive demonstration effect, with farmers in the adjacent communities showing interest in participating in similar schemes.

Establishing partnerships with South African investors is one way to advance the development of the pilot farms after the end of the project as well as to promote commercial fruit cultivation in Lesotho more broadly.

Given the capital intensity of fruit farming and the lack of experience in operating commercial orchards in Lesotho, attracting FDI could play a strong role in promoting development of the industry.

4. OPPORTUNITIES FOR LESOTHO'S PRODUCERS

Global Trends

The global food market is characterized by increased demand for fruit and vegetables, higher values for fresh versus processed fruit, growth in South-South trade, and the increased power of supermarkets.

There is rising demand for fruits and vegetables in global markets thanks to population growth, urbanization, and increased popularity of healthy diets. Although the highest value food markets are still in Western Europe and North America, the demand is



growing faster in emerging markets and South-South trade is increasing. There is also a trend toward consolidation of grocery retail outlets. Supermarkets are expanding fast in developing countries at the expense of wet markets, while in developed countries there is growing concentration of supermarket chains, which increases buyers' bargaining power. These trends increase the importance of adhering to standards and often change the economies of scale needed to join the list of retailers' suppliers. Furthermore, globally fresh and perishable products have higher value than processed food and allow for a higher margin for the producer (see annex G for more information). For example, in the United States, the cost of fresh blackberries is 70 percent higher than the price of frozen blackberries. In South Africa, the income of 90 percent of the pome fruit industry and 73 percent of the stone fruit industry is generated from fresh sales (HORTGRO 2017).

Opportunities

Lesotho can build on its proximity to South Africa, its global competitiveness in selected horticultural products, and the expanding presence of South African supermarkets in the region, to develop its own industry.

South Africa boasts a growing domestic market for fruits and vegetables. Its domestic private consumption expenditure on fruits and vegetables has more than doubled over the past decade and the outlook is positive (Department of Agriculture 2017). South Africa is also among the leading global exporters of fruit. Furthermore, its supermarkets are leading the expansion of modern retail across Sub-Saharan Africa (box 3.5). It also has world class technical expertise, established relationships with international buyers, and market intelligence on which Lesotho can build.

Box 3.5. South Africa Leads Sub-Saharan Africa's Fruit Exports and Food Retail Expansion

South Africa is among the leading global exporters of fruit. South African exports of fruit have nearly doubled since 2007 and reached almost \$3 billion in 2016. Exports of apples, pears, and stone fruit, which are suitable for cultivation in Lesotho's climate, increased by 75 percent over the same time frame and constituted about \$669 million in 2016. South Africa is the third largest exporter of citrus fruit in the world (UNCOMTRADE). It ranks 13th and 9th, respectively, in international competitiveness rankings for apples and pears (HORTGRO 2017). The country exports fruit to a variety of destinations, including Western Europe, Asia, the Middle East, and Sub-Saharan Africa.

South African supermarkets have increased their market share domestically at the expense of traditional grocery outlets and are leading the expansion of modern retail across Sub-Saharan Africa. The share of produce traded at the traditional wholesale markets in South Africa has declined steadily over the past 15 years (Louw 2017). Furthermore, South African supermarkets are leading the expansion of modern retailing across Sub-Saharan Africa. For example, Shoprite and Pick n Pay have stores in 15 and eight African countries, respectively. They often supply their stores across the continent via the distribution centers in South Africa, which creates opportunities for smaller players, like Lesotho, to partner with South African chains for joint exports to the region and across the globe. However, selling to supermarkets often requires adherence to standards and larger, predictable volumes compared with informal trade.

Lesotho can partner with South Africa's research, marketing, and food safety institutions to develop local capacity in commercial horticulture.

A range of support agencies and advanced logistics underpin South Africa's success in the horticulture industry. Potential partnerships with the horticulture research institutions in the Western Cape (such as Stellenbosch University) can support knowledge transfer and joint research on the varieties that are best adapted to Lesotho's climate. The South African Perishable Product Control and Export Board has been instrumental in maintaining South Africa's reputation as a high-quality fruit exporter by testing produce to ensure quality control and adherence to standards. Once Lesotho reaches a sufficient scale of production, a partnership with the South African Perishable Product Control and Export Board could help ensure compliance with international food safety standards. South Africa also boasts a vibrant consulting industry that can support Basotho farmers on the technical aspects of farm operations as well as share market intelligence.

As a first step, Lesotho should aim to attract South Africa's investors into its fruit industry.

Lesotho's access to water resources can make it an attractive investment destination. Most of South Africa's fruit production is concentrated in the Western Cape province, which has suffered from recurrent droughts over the past decade. Although Lesotho has experienced erratic rain patterns as well, it has access to sufficient water resources for agricultural use, industrial production, and water exports to the neighboring countries, and water availability is projected to be resilient to most climate change scenarios (World Bank 2016b). The main issue is water management, which can be improved through the ongoing construction of dams and development of irrigation infrastructure. There is also evidence that South African fruit companies want to expand and diversify production destinations; for example, they have recently invested in Namibian grape farms to increase export volumes.

As fruit production volumes increase, Lesotho could capture a share of the South African market for early



variety fruit. Lesotho's fruit is available a few weeks earlier compared with the Western Cape (South Africa's center for the fruit industry) and can command price premiums. Figure 3.5 illustrates that early and late fruit sales generate higher

revenue. This is especially true for fruit with a short shelf life, such as apricots, plums, and cherries, and is less pronounced for apples, which can be preserved for 5-11 months (depending on variety) in modern cold storage facilities.

Figure 3.5a. Local Market Sales of Apricots in South Africa, 2015/16

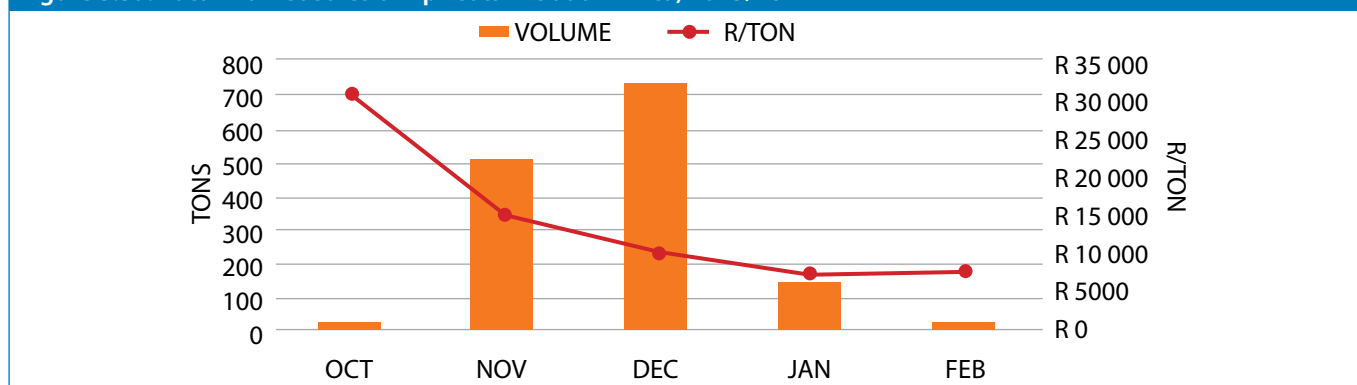
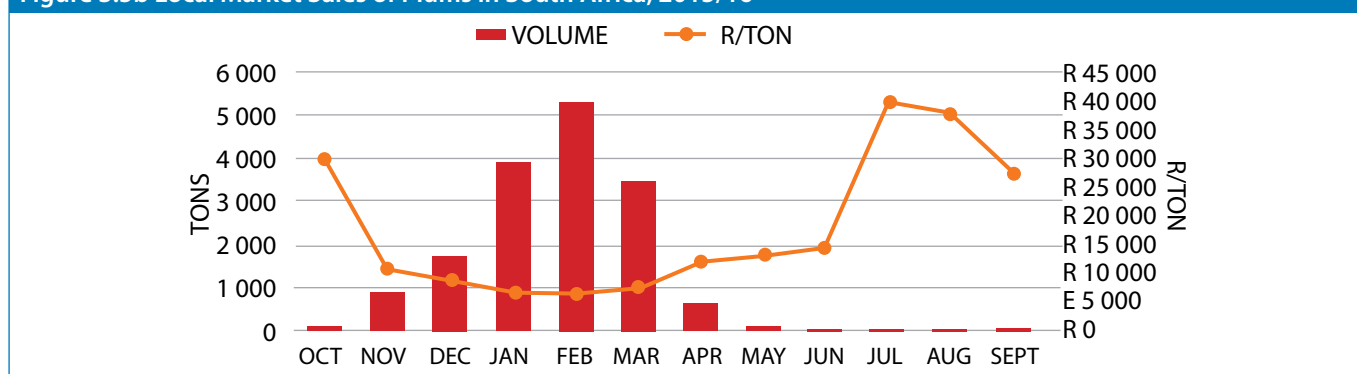


Figure 3.5b Local Market Sales of Plums in South Africa, 2015/16



Source: HORTGRO 2017, based on data from the Department of Agriculture, Forestry and Fisheries.

Productivity-enhancing interventions can also help increase the production of vegetables in Lesotho.

Vegetable farming will likely be aimed primarily at import substitution. Global demand for fresh vegetables is different from that for fruit, as greenhouse cultivation is possible year-round in many countries. This may explain why, despite its favorable climate, South Africa is not a prominent player on the global vegetable market, with \$199 million worth of exports in 2016 (UNCOMTRADE). South Africa's vegetable exports are comprised primarily of products with a long shelf life, such as potatoes, onions, and legumes, which are mostly destined for regional markets in Sub-Saharan Africa.

5. THE WAY FORWARD

The government can play an important role in unleashing the potential of the horticulture industry and improving access to markets. Commercial horticulture could have a transformative impact on Lesotho's rural economy. Pilot

donor-supported initiatives have shown that commercial vegetable and fruit farming offers a viable alternative to cereal cultivation. Yet, the horticulture industry remains in the startup stage due to skill constraints, poorly functioning land markets, lack of linkages within the supply chain, and weak access to finance. There are few large, well-managed horticulture farms that can serve as role models and mentors for smallholders.

Building a competitive horticulture industry in Lesotho will require

(1) incentivizing the establishment of new, large commercial farms, and (2) upgrading existing smallholders. Land titling and improving access to serviced land are the key measures for encouraging foreign and large-scale domestic investment in commercial farming. Incentivizing private investment in aggregators and supporting productive alliances are the most important measures to support smallholders. It will also be necessary to strengthen the availability of specialized skills to provide better technical support to smallholders and develop crop varieties that are adapted to Lesotho's high-altitude conditions.



The Government of Lesotho may also consider undertaking targeted foreign investor attraction, particularly for fruit farming, which is relatively capital and knowledge intensive. The government could reach out to farmer associations and fruit companies in South Africa as well as participate in specialized trade shows. Once an inventory of available land is established, the identified land parcels can be marketed on government websites and in promotional publications. Promotional materials could also emphasize Lesotho's labor cost advantages, low tax rate for agricultural activities, and preferential market access to multiple countries.

Priority measures to support the industry include the following:

1) Improve the Functioning of Land Markets and Access to Serviced Agricultural Land—Key Measures to Encourage Large-Scale Investments in the Sector

Addressing land issues is a key priority to enable the development of commercial horticulture. It will also enable farmers to use their land as collateral and

improve access to finance. In the short term, it will be important to identify several parcels of land that can be made immediately available to investors. In the medium term, it will be necessary to promote land titling, conduct a land assessment, and create a database of land parcels that are suitable for horticultural production. LNDC could then take a proactive approach in marketing agricultural land to domestic and foreign investors.

Aerial photography and satellite imagery can be used to provide land titles to farmers in a relatively fast and cost-effective manner. This will improve the functioning of land markets and facilitate farmers' access to credit. Modern advances in technology combined with participatory approaches enable a relatively fast and inexpensive systematic registration of individual land rights. For example, Rwanda used aerial orthophoto maps (maps established by taking photos from an aircraft or flying objects such as drones) to complete land titling in less than five years, while traditional approaches can take decades (box 3.6). Lesotho can start this process with the areas that were recognized as suitable for crop farming, about 13 percent of the country's territory.

Box 3.6. Registration of Individual Land Rights in Rwanda

Rwanda, one of the most densely populated countries in Africa, has made significant progress in documenting land titles over the past decade. It used "a general boundary approach" to demarcate and issue leases for 10.3 million parcels of land over a five-year period. The approach was based on a systematic parcel-by-parcel and cell-by-cell^a participatory activity undertaken in close cooperation with local land committees. It used simple methods of boundary demarcation, designated by locally trained para-surveyors based on aerial orthophotos (such photos use uniform scale and depict accurate distances) and satellite imagery. The estimated average cost per land parcel for the five-year program was about US\$10, with estimated annual recurrent costs for updating of US\$0.82 and US\$0.90 per urban and rural parcels, respectively.

a. A cell is the smallest administrative unit in Rwanda.

Source: Byamugisha 2013.

The government may consider undertaking a land assessment, starting with the areas deemed suitable for horticultural production, to identify land that can be made available to investors. For example, the crop suitability map identified about 5,500 square kilometers of land with a favorable climate for deciduous fruit cultivation. Similar suitability maps are available for other crops, such as tomatoes, peppers, and potatoes. However, not all the mapped areas have access to a water source; furthermore, some land is occupied by public buildings (such as schools and hospitals), cemeteries, private houses, and other infrastructure. Satellite imagery combined with visits to communities could be used to map the land available for production. In the medium term, the government should consider comprehensive surveying and registering of all land. In particular, it will be useful to create an inventory of communal land and land held by government agencies as well as state-owned enterprises. This exercise could help identify and delineate surplus land for investors.

Future investments in road and irrigation infrastructure should prioritize the areas suitable for horticulture development. A recent climate change assessment for Lesotho estimates that providing irrigation on 12,000 hectares could increase agricultural production by an average of 50 percent across the different climate change scenarios (World Bank 2016b). It will be important to (1) map out potential areas for irrigation (taking into consideration the suitability maps for horticultural crops), which should inform future investments; and (2) identify suitable arrangements for fee collection and management of local irrigation schemes (such as through irrigation service companies, water user associations, or district utilities). The work on the Irrigation Master Plan foreseen under the Smallholder Agriculture Development Project (supported by the World Bank) could help in preparing the irrigation development framework. Similarly, it will be necessary to prioritize the construction of rural roads in areas suitable for fruit and vegetable cultivation.



2) Foster Market Linkages and Improve Skills to Support Smallholders

Development of a competitive horticulture industry in Lesotho requires upgrading the capabilities of smallholder farmers, who constitute the majority of producers. Government interventions could focus on (1) encouraging the establishment of productive alliances and private investment in aggregators/market centers, (2) making better use of information technologies to provide technical assistance and connect farmers to markets, and (3) investing in specialized skills. The government can consider supporting the activities implemented by farmers' associations, some of which are already providing valuable services to their members, which include training, bulk procurement of inputs, and joint marketing of produce (see box 3.3 on the activities of the Potato Lesotho Association). Given the higher revenue-generating opportunities of fresh relative to processed produce, efforts should be made to educate farmers about optimum harvest times and the market's requirements for product appearance and freshness.

Encourage the Establishment of Productive Alliances and Aggregators

The Government of Lesotho may consider using a productive alliance approach to address the constraints faced by smallholder farmers in a holistic way. A productive alliance involves three core agents: a group of smallholder producers (usually a cooperative or an association), one or more buyers (for example, supermarkets, hotels, and agro-processors), and the public sector. These agents are connected through a business plan that identifies the capital and services needed by producers to meet the buyers' requirements. Implementation of the productive alliance's projects is typically supported through (1) productive investments (for example, in machinery, seeds, and so forth), (2) technical assistance, and (3) business development. The beneficiaries receive matching grants to implement the projects (World Bank 2016). This approach has been successfully tested in more than 20 World Bank projects in Latin America and introduced in Sub-Saharan Africa and East Asia. Evidence from evaluations has shown that the productive alliance approach has led to increases in production volumes and productivity and integration of smallholders into markets. Increases in sales have ranged between 20 and 60 percent, and the average net income of beneficiary producers has been around 30 percent higher compared with control groups (World Bank 2016).

It will be important to encourage the establishment of aggregators to add value through packaging, reduce post-harvest losses, and improve access to markets. These facilities should be located close to the production centers and run by the private sector. The government may consider organizing a competition for the best business

plan for operating such a center and providing some seed funding to the winning proposal. The competition could be for operating the government-constructed Market Center in Ha Tikoe Industrial Estate or for a smaller center outside Maseru.

Use Information Technology to Provide Basic Extension Advice and Market Information

Given the low level of Internet penetration in rural areas, SMS-based services can be used to provide basic extension advice as well as price information. Gradually, this system can be developed into a simple trading platform, where potential buyers could post their interest in buying certain products, including price offers, and farmers would be able to respond. Mobile-based advisory and marketing services have been used successfully in many African countries to increase yields and strengthen linkages within the supply chain. The Government of Lesotho may consider partnering with one of the existing providers to bring such services to Lesotho. For example, Esoko, a Ghanaian firm, has a well-established model for providing two-way communication between farmers and other stakeholders, including buyers, input suppliers, and governments. It offers extension support, weather forecasts, and marketplace matching to farmers in 10 African countries, including Zimbabwe and South Africa.¹²

Invest in Specialized Skills

Strengthening skills in modern horticulture practices is important to improve the quality of advice offered to farmers. The government may consider sponsoring the studies of several masters- and PhD-level students in horticulture at one of the Universities in Western Cape. These students could undertake part of their fieldwork in Lesotho under the guidance of South African professors. Furthermore, targeted, short-term courses for extension workers combined with visits to well-performing South African farms would help improve the quality of advisory services for farmers. Modules on fertigation (fertilization and irrigation), post-harvest handling, and pest management would be particularly useful. Lesotho is about to join the regional Agricultural Productivity Program for Southern Africa, supported by the World Bank, which can help strengthen the capacity of the district resource centers to provide practical training on modern farm practices and upgrade Lesotho's laboratories and capabilities for horticultural research.

12 World Bank Innovation Policy Platform Inclusive Innovations Profile: Case Study: Esoko, https://www.innovationpolicyplatform.org/system/files/9-Multi-Stakeholder%20Platform__Agri_Profile%20Esoko.pdf.



CHAPTER IV. ICT AS AN ENABLER FOR PRIVATE SECTOR DEVELOPMENT

1. CONTEXT

Information and communication technologies (ICTs) are transforming traditional production and service delivery models around the world and form one of the foundations of private sector competitiveness.

Digital technologies are facilitating the inclusion of new and young firms in the global economy, notably through e-commerce and social media platforms. They are changing traditional production structures, facilitating the emergence of new business models, and enhancing the efficiency of production. African firms that are using the Internet have on average 3.7 times higher labor productivity than non-users and 35 percent higher total factor productivity compared with firms that do not use the Internet (World Bank 2016d). Furthermore, ICTs can reduce firms' costs of administrative and regulatory compliance and enhance the delivery of public services through e-government applications.

This chapter describes the challenges and opportunities for the greater use of ICT to enhance private sector competitiveness in Lesotho. Specifically, it focuses on (1) regulation of the ICT market, (2) development of e-government to reduce the administrative burden on

businesses, and (3) digital skills and entrepreneurship. In doing so, it relies on several data sources: a review of regulatory and legislative acts; a series of focus group discussions with startups, SMEs, business associations, and IT companies; and meetings with telecoms, Internet service providers (ISPs), government officials, donors, and academia. The data presented in this chapter are valid as of March 2018.

Lesotho has followed a sound model for ICT sector development, with the basic recipe of private sector participation and independent sector regulation in place from an early stage. Lesotho was among the earliest of the countries in SADC to reform its ICT market in the 1990s, adopting technologically neutral licenses able to offer converged services. The sector is regulated by the independent Lesotho Communications Authority (LCA). Telecommunications infrastructure has developed considerably, with three international gateways offering access through South Africa to the Eastern Africa Submarine Cable System (EASSy), Seacom, and West Africa Cable System submarine cables. The national backbone and backhaul networks are relatively well extended across the country by the two national network operators, Vodacom and Econet. Furthermore, Lesotho's Universal Service Fund (USF) is one



of the best performing in Africa and has been credited with improving access to mobile communications services in remote locations.

Lesotho has also made the first steps to develop e-government. With support from the African Development Bank, the Ministry of Communications, Science and Technology (MoCST) has set up the Lesotho Government Data Network, connecting most ministry offices in Maseru and some of the government offices in other districts. Two data centers are available, and an additional data center is being built approximately 120 kilometers from the capital city. The design of a digital government portal is under way and could potentially be piloted in 2018.

A small, local ICT industry has emerged, and several inspiring IT applications have been developed recently by Basotho entrepreneurs. A few examples include an online business training platform, featuring a virtual chat with international mentors; an Uber-like platform linking

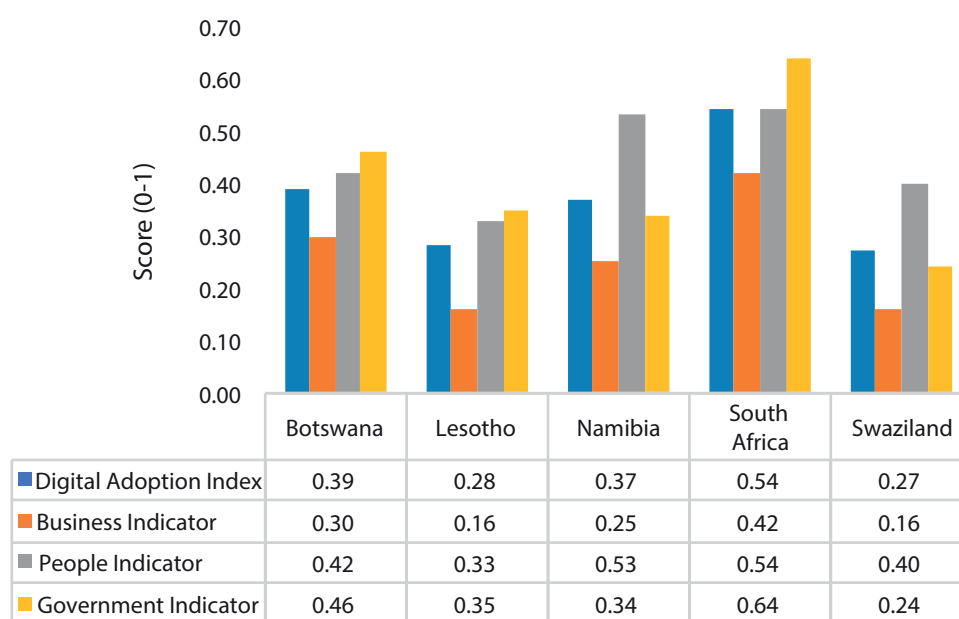
local drivers to patients traveling to clinics; a digital app to improve school management; a web-based app to support clinics in the stock management of drug supplies; and the use of drones to provide photo-mapping services for different purposes, from monitoring of construction works, to disaster management programs.¹³ All these products and services are currently being marketed in the country and can potentially compete in international markets.

Despite these positive developments, Lesotho is not yet fully benefitting from the digital dividends. Weak competition in the ICT market is at the core of the problem and contributes to high costs of communication services and low Internet use by businesses and consumers. Furthermore, few public services are available online and the weak digital skills of the population constrain the development of the digital economy. Lesotho ranks relatively low on the World Bank's Digital Adoption Index (figure 4.1)

13 Based on the interviews with IT startups and companies.

Figure 4.1. World Bank Digital Adoption Index

Scale: 0-1



Source: World Bank 2018.

Note: The World Bank's Digital Adoption Index is a composite index of ICT sector performance that was introduced in the 2016 World Development Report and updated in 2018. It is comprised of three sub-components showing the relative adoption by businesses, people, and government. Each sub-component consists of separate indicators. For more information, see: <http://pubdocs.worldbank.org/en/587221475074960682/WDR16-BP-DAI-methodology.pdf>.



Lesotho's private sector makes limited use of digital technologies. Data from the World Bank Enterprise Surveys show that only 15 percent of formal manufacturing and services firms in Lesotho have a website compared with 31 percent of firms in Sub-Saharan Africa. Furthermore, only 45 percent of formal firms use e-mail to interact with clients and suppliers compared with an average of 60 percent of firms in Sub-Saharan Africa (World Bank 2016a). Few of the domestic SMEs use specialized software applications such as the Enterprise Resource Planning and Customer Relationship

Management software. This is also true for entrepreneurs in the two industries— apparel and horticulture—covered in the previous chapters of the report. Although export-oriented apparel firms make active use of the Internet and specialized software, only 10 percent of domestic apparel firms use e-mail (Enterprise Survey 2016). In rural areas, most farmers do not use the Internet at all. Yet, digital technologies are revolutionizing both sectors globally and offer significant opportunities for productivity improvements (box 4.1).

Box 4.1. Digital Technologies Can Significantly Improve Productivity in Apparel and Agriculture

Digitization significantly affects apparel sourcing and manufacturing processes. Advanced analytics can help in making accurate decisions on batch size, volume flow, and replenishment sourcing based on real-time data from the demand and supply sides (McKinsey & Company 2017a). Companies can use the data to analyze thousands of variables affecting demand, including weather, trends from social media, and sensor data for accurate demand estimates, which can reduce excess stock and markdowns and increase profitability. If digitization is undertaken in collaboration with suppliers (including through system integration), it can enable automatic ordering and re-ordering (McKinsey & Company 2017a).

Digitization can also improve the efficiency of apparel manufacturing. Firms that implemented 3D design and virtual sampling report reductions of two weeks or more in the sampling process and over 50 percent reduction in the number of samples needed. Digital printing combined with automated cutting can significantly reduce production time and waste. It also increases flexibility by allowing multiple small batches to run. Over 60 percent of respondents to the McKinsey survey on apparel sourcing felt that automation in manufacturing will become a major driver of sourcing decisions instead of labor cost by 2025. However, the respondents did not think that automation would displace sourcing from low-cost countries. The executives believed that high-end and time-sensitive products would be produced in developed countries, while longer lead time commodity items would be manufactured in countries with low labor cost where technology would support rather than replace workers.

Agriculture is also becoming increasingly high-tech. Technology is used to provide farmers with real-time information on prices and connect them with traders, test soil quality, and provide weather forecasts. Many governments have incorporated digital technologies (for example, phone calls, texts, videos, and Internet) in the provision of extension services to reduce transaction costs and increase the frequency of interaction with farmers. In Kenya, smallholder farmers accessing agricultural advice through SMS increased their yields by 11.5 percent (Casaburi et al. 2014). Moovr, an "Uber for cows," helps shepherds in Kenya get their livestock from rural areas to markets where they can negotiate better prices; registered drivers in the region are connected to farmers when there is a match, and all payments are processed through mobile money systems with dual confirmation for safe payment (Spaethe 2017).

Sources: McKinsey and Company 2017; Casaburi et al. 2014.

Few Basotho firms engage in e-commerce. E-commerce has helped young firms in many countries overcome scale and distance constraints (see box 4.2 on South Africa); however, it has not yet had a noticeable impact in Lesotho. Participants of the focus group discussions organized as part of the work on this report showed a clear bias toward the local market; few have realized the potential of e-commerce to attract international customers. Focus group participants identified two main constraints to the development of e-commerce: (1) weak demand and low Internet use by domestic customers, and (2) lack of legislation on e-commerce guaranteeing consumer protection. Similar constraints were identified in a recent study on e-commerce in the tourism industry in Lesotho (Mapeshoane and Pather 2016).

Box 4.2. Trading on eBay Helps Young South African Firms Reach New Markets

South African firms that trade on eBay reach an average of 30 different markets, while traditional exporters reach only five. Newcomers to this online platform (firms with no sales in the previous year) account for 27 percent of sales; the respective figure for traditional firms is 2 percent (eBay 2013). Data from eBay also show that the concentration of sales among the top 5 percent of South African sellers is 33 percent compared to 90 percent for traditional firms, indicating that online marketplaces also level the playing field and allow for more competition (eBay 2013).



Mobile money services are available and widely used, but other e-payment systems are not well developed.

Vodacom and Econet offer mobile money services (MPesa and EcoCash, respectively). However, the two systems are not fully interoperable: while an Econet customer can send EcoCash to a Vodacom client, a Vodacom client cannot currently send MPesa to an Econet user. Although the usage of mobile money is increasing in Lesotho, the country has not yet seen the “snowball effect” observed for mobile money in many African countries. Other e-payment systems, such as online payments and online banking, are not widely used in Lesotho.

2. CHALLENGES TO GREATER DIGITAL ADOPTION

Several factors limit broader digital adoption in Lesotho. The high cost of communication services, linked to the weak competition in the market, is the main constraint.

Average fixed broadband prices in Lesotho are about 30 percent higher than the average in Sub-Saharan Africa,¹⁴ which restricts the use of ICT services by businesses and consumers. Poor connectivity is another problem. The recent ICT survey identifies high costs and slow speeds as the two main factors limiting Internet use among individuals with access to the Internet (Gillwald, Deen-Swarrray, and Mothobi 2017). These two factors were also identified as the key constraints for greater ICT use by participants of focus group discussions; similarly, some of the interviewed apparel firms indicated that the quality of Internet connection was not sufficient to have webinars and videoconferences with their headquarters and regional offices. In addition, low ownership of smartphones and computers and inadequate access to electricity also contribute to low ICT use, particularly in rural areas. Furthermore, the lack of a legislative framework for secure electronic transactions and weak availability of public services online restrict the development of e-commerce and efficient delivery of government services. Lastly, low digital literacy, particularly in rural areas, as well as the small size of the local IT industry also limit development of the digital economy.

1) Weak Competition in the ICT Market and High Costs of Communication Services

Although the mobile penetration in Lesotho is high by regional standards, fixed broadband penetration is among the lowest in the region. Lesotho fares well on mobile penetration rates compared with other countries in Sub-Saharan Africa (figure 4.2). The market is approaching saturation and progressively upgrading from 2G to 3G and (since 2013) to 4G (figure 4.3). Voice prices in Lesotho are in line with the regional average, but remain relatively

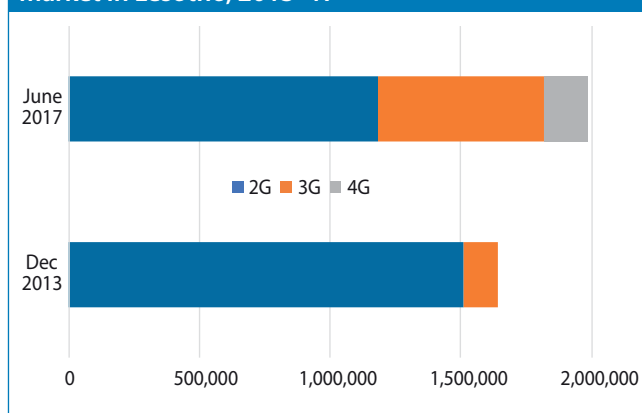
high compared with the best performing markets in Africa (Gillwald, Deen-Swarrray, and Mothobi 2017). However, the broadband market is significantly less developed. The fixed broadband penetration rate in Lesotho falls well below the African average and is one of the lowest in Southern Africa (figure 4.4). Internet prices are significantly higher than the regional average (figure 4.5). According to BDRC Continental, a 2 Mbit/s fixed broadband connection in Lesotho in December 2017 would have cost more than US\$100 per month, which is almost twice that in South Africa. Prices are inversely proportionate to access: only one in four Basotho uses the Internet (figure 4.6). The negative impact of unaffordable prices on Internet usage could worsen in the future, if the increase in taxes planned for 2018 (VAT to increase from 5 to 9 percent; LCA levy to increase from 3.5 to 4 percent; and USF levy to increase from 1 to 1.5 percent) were to be pushed to consumers.

Figure 4.2. Mobile unique subscribers, 2017 (% of population)



Source: GSMA Intelligence.

Figure 4.3. Evolution of the mobile communications market in Lesotho, 2013–17

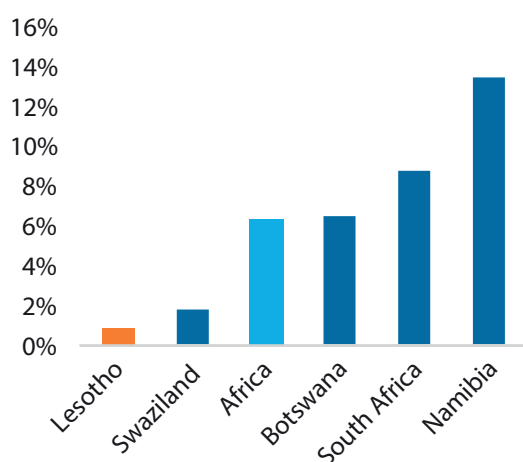


Source: Adapted from TeleGeography data.

¹⁴ BDRC Continental.

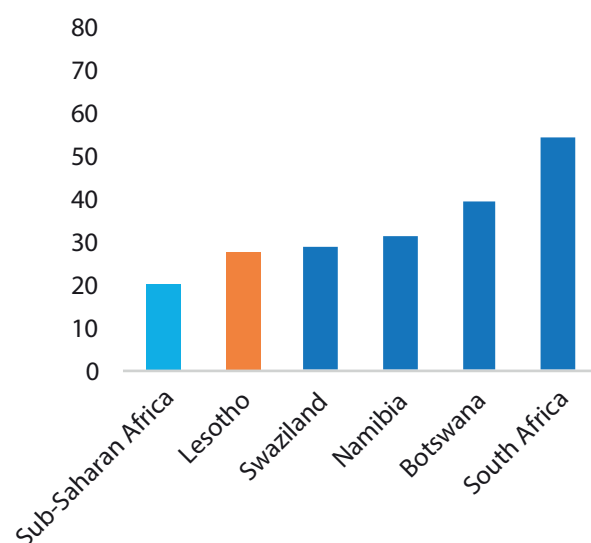


**Figure 4.4. Fixed broadband penetration, 2017
(% households)**



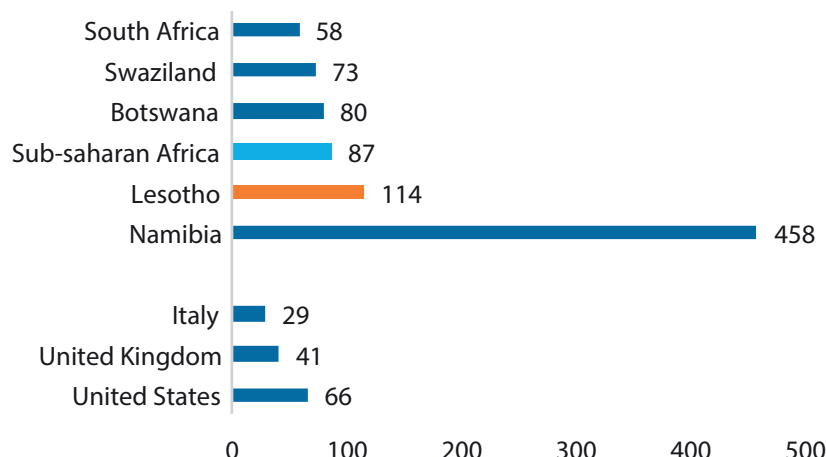
Source: TeleGeography.

**Figure 4.6. Individuals using the Internet, 2016
(% of population)**



Source: World Development Indicators.

Figure 4.5. Average cost of fixed broadband (US\$ per month)



Source: BDRC Continental.

Note: Based on an average bill for a US\$2 Mbit/s connection without bitcaps (i.e. limits on monthly data usage) as of December 2017

The lack of competition among service providers is one of the key factors that contributes to high prices and low access to the Internet. There is a duopoly in the ICT market in which the two main players, Vodacom and Econet, have effectively divided up the addressable market between them. Weak competition is reflected in low product innovation and lack of standardized low-cost, high-value bundled services, which are available in other countries in Africa (Gillwald, Deen-Swaray, and Mothobi 2017). Although there is little direct evidence of collusion, there does not seem to be much effort around price cutting. The government has encouraged the emergence of a third player, a communications subsidiary of the Lesotho Electricity Company (LEC), which holds a Network Infrastructure Facilities License and owns a fiber optic network that can be leased to other service providers

(Telegeography 2017). LEC Communications (LECC) has not yet had a noticeable impact on the market. There are two ISPs, ComNet and Leo, but their market share is negligible.

Relatively high interconnection rates and government levies also contribute to the high costs of communication services. The high interconnection rates put a floor on the prices that operators can offer to consumers and sustain the position of the dominant operator. In the data market too, interconnection is a constraint with very little margin between retail and wholesale rates for bandwidth. Lesotho is dependent on high wholesale rates in South Africa, over which it has no control. This constrains the scope for market entry by new ISPs. Lastly, the burden of levies on the ICT sector is high and some of it is passed to consumers.



Operators are required to pay a 3.5 percent annual royalty to LCA (scheduled to increase to 4 percent) and a 1 percent levy for the Universal Service Fund scheduled to increase to 1.5 percent (the current legislation allows the levy to increase to 2 percent). Best practice in Africa would be around 1 percent for each of these levies.

The government owns shares in several companies offering telecommunications services, which may result in a conflict of interest. Following the privatization of Lesotho Telecom, the government still retains 30 percent of Econet. It also owns 100 percent of LECC as well as a stake in the EASSy cable through the West Indian Ocean Cable Company (WIOCC). WIOCC is a special purpose vehicle, part-owned by the International Finance Corporation, created to enable parties that lacked the capital to participate in the EASSy to have a stake; the company also serves as an administrative arm for operating the EASSy cable (Gillwald, Deen-Swarray, and Mothobi 2017). WIOCC has only partially achieved the goals of improving access to high-speed, low-cost bandwidth. It reportedly has a high rate of network failure in Lesotho, linked to the lack of domestic presence in managing the cable. As a result, the use of the cable by market players is limited. That LCA holds a stake in WIOCC creates a perceived conflict of interest, with LCA acting as a market player and a regulator. Although the management of the network is carried out externally by WIOCC, the perception that LCA can obtain information on the activities of its competitors undermines its role as the neutral regulator (Gillwald, Deen-Swarray, and Mothobi 2017).

2) Slow Progress in the Development of Digital Government and Lack of a Legal Framework for Secure Electronic Transactions

Few of the government-to-business services are available online, although there have been some improvements in recent years. The One-Stop Business Facilitation Center was opened in 2014 and provides electronic business registration services to companies, but not to sole proprietors and partnerships. Currently 90 percent of the total registration is done online. The One-Stop Business Facilitation Center hosts its system onsite and in the vendor's cloud service, which is a security best practice. E-payment of the center's fees has been available since September 2017. At the municipal level, Maseru City Council has created an electronic system for issuing construction permits. Maseru City Council certified construction practitioners can submit the permit application online and pay and upload all required documents and plans; document verification is also done online by Maseru City Council officers. The service is well regarded by the practitioner community and Maseru City officials. While these are positive developments, the overall progress in digitization of government-to-business transactions is slow and few other public services are available for businesses online.

Government agencies have little online presence.

Lesotho ranks 154th of 193 countries on the United Nations E-Government Development Index, and scores lowest among the countries in Southern Africa (table 4.1). According to the UN methodology, the main weaknesses are to be found in the low and underdeveloped provision of online public services, and in the little use of online platforms to improve citizens' access to information and participation in public decision making. Government agencies have little online presence: of 25 ministries, 11 (including the Ministry of Communications, Science and Technology) do not have websites.¹⁵ Even if websites are available, they are not updated regularly and often provide limited information.

Table 4.1. UN e-government ranking, Southern Africa countries

Country	E-Government Rank (of 193 countries)
South Africa	76
Botswana	113
Namibia	125
Swaziland	136
Lesotho	154

Source: UN Division of Public Administration and Development Management.

The lack of a legal framework providing the security of online transactions hampers efficient delivery of online public services and commercial transactions. The adoption of key legislation, such as the Cybersecurity Law and the Law on E-commerce, has been delayed. Although the 2011 Lesotho Data Protection Act generally provides strong data protection based on international standards, the lack of complete independence for the Data Protection Commission undermines the policy environment (Hubbard 2017). Furthermore, there is no digital government strategy and action plan to guide the policy-making efforts of MoCST and other ministries. According to MoCST officials, the institution would benefit from training on ICT policy making, cybersecurity, and training of trainers to support other ministries and government institutions.

The development of online public services is severely constrained by poor interoperability between government platforms. Most government systems are not linked to the digital ID. There is no interoperability between the information systems of different government platforms. Furthermore, although the digital ID system was developed and covers about 70 percent of the adult population, most government systems are not linked with the Civil Registry. There are a few positive examples of interoperability between the Civil Registry and ResourceLink (the public sector

15 Lesotho Government Web Portal, http://www.gov.ls/gov_webportal/arms%20of%20state/government%20ministries/government_ministries.html, accessed May 3, 2018.



human resources and payroll system), the Lesotho Credit Bureau, and the South Africa Civil Registry, as well as a pilot collaboration with the insurance companies. Nevertheless, most government agencies are not linked with the digital ID platform. This limits the ability of the government and private

sector to leverage the success of Lesotho's identification system to provide services to citizens. Box 4.3 explains how the introduction of a digital ID system in India facilitated the development of e-payment systems.

Box 4.3. India Tech Stack: From Digital IDs to the Digital Payment Revolution

In 2010, India set out an ambitious program to provide every one of its billion plus residents with a unique identification number. The objective was to ensure that every resident had a permanent, unique, and secure digital identity. Eight years later, "Aadhaar" (or "Foundation" in Hindi) achieved much more than that, setting the basis for a wide range of efficient, cutting-edge public services to citizens and firms, and leading to a FinTech revolution for the country.

The availability of digital IDs and biometric information opened many opportunities through the addition of an open technology platform, "India Stack." Based on the open Application Programming Interface sitting atop the biometric-enabled Aadhaar system, India Stack provides a way to build an entire digital world around a uniquely identifiable individual. One of the applications built on Aadhaar is the Unified Payments Interface. The system, developed in 2016, has counted more transactions in 18 months (145 million) than credit cards in 18 years, and it is one of the most inexpensive payment systems in the world, making it the first real competitor to cash in developing countries.

The combination of government-funded technology and information (specifically, the unique ID), open Application Programming Interfaces, increased smartphone penetration, and unified payment system is bringing tremendous benefits to government and businesses. Thanks to Aadhaar, an Indian farmer no longer needs to stand in line for his or her monthly farming subsidy. Instead, the government can electronically authenticate his or her identity and directly transfer the subsidy over the Unified Payments Interface to the farmer's Aadhaar-linked bank account (Desai and Jasuja 2016).

While India's Aadhaar system is rightly lauded for its rapid rollout and inclusiveness, it has also proved to be vulnerable to data leaks, with third parties being able to acquire personal data at minimal cost. This has led to an effort to strengthen data protection regulations.¹

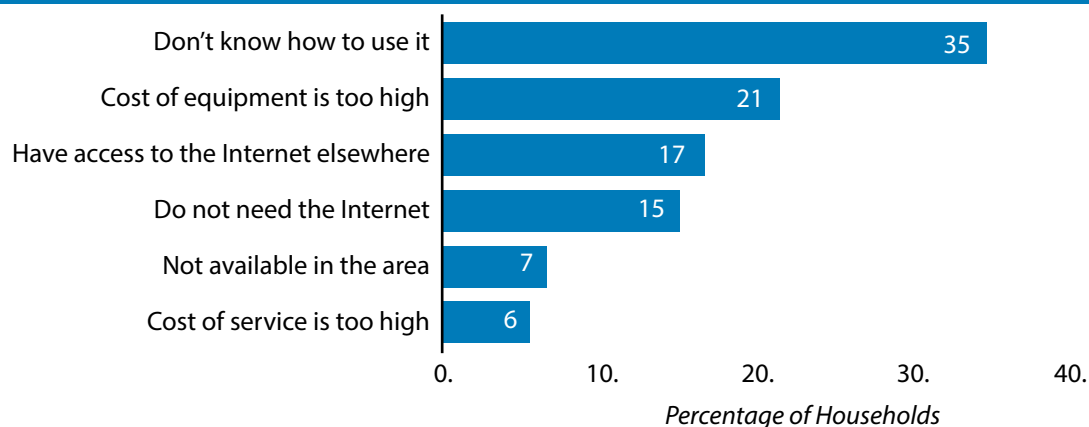
Beyond the government, India Stack presents opportunities for the private sector. By reducing the costs of customer acquisition and ongoing maintenance, it enables new businesses to grow. Importantly, the benefits can be shared across the population: a public-private partnership in India is currently piloting a model to use information from Aadhaar and the Unified Payments Interface to provide low-interest credit to small and vulnerable entrepreneurs (Jain 2018).

3) Lack of Digital Skills and Weak Opportunities for Digital Entrepreneurship

Low ICT skills among the general population constrain the development of the digital economy. The results of the recent ICT survey show that limited digital literacy is among the key constraints to Internet use. Specifically, 35

percent of the households without Internet access reported not knowing how to use it, while 15 percent did not think they needed it (figure 4.7) (Gillwald, Deen-Swararray, and Mothobi 2017). Low smartphone and computer penetration, lack of formal ICT training at schools and inadequate access to electricity in rural areas may contribute to these results.

Figure 4.7. Constraints to internet use for households without internet



Source: Gillwald, Deen-Swararray, and Mothobi 2017.



Most Basotho do not have access to formal digital training unless they attend university. Connectivity and ICT equipment in schools have improved in recent years, yet only a minority of respondents to the recent ICT survey are accessing the Internet at educational institutions compared with government buildings, community centers, or Internet cafes (Gillwald, Deen-Swarray, and Mothobi 2017). The USF administered by LCA has allocated 40 percent of its 2014–18 budget to broadband and ICT development for the education sector, focusing on underserved areas. In 2016/17, USF supported the connection of 40 schools to the Internet, the provision of mobile labs in 10 schools, and teacher training (Gillwald, Deen-Swarray, and Mothobi 2017). Nevertheless, the agency's goal to connect all schools by 2020 is unlikely to be achieved. Given the relatively low university enrollment rate, poor access to even basic digital

skills training is a constraint for the future employability of workers and the competitiveness of Lesotho's economy.

Few university students major in ICT-related fields. Several tertiary institutions, among them the National University of Lesotho (NUL), the Lesotho College of Education, Lerotholi Polytechnic, Limkokwing University, and Botho University, offer specialized courses and degrees in ICT, although only at the undergraduate level (table 4.2). Stakeholders' perceptions about the quality of courses offered vary greatly, depending on the educational institution, with NUL degrees getting the best reviews from focus group participants. Although unemployment among ICT graduates tends to be low, few students major in ICT-related fields: of approximately 1,800 students enrolling in NUL each year, fewer than 40 choose to pursue ICT-related careers.

Table 4.2. ICT courses at Lesotho's tertiary institutions

Institution	Courses offered	Length of program	Profile of graduates
National University of Lesotho	BSc Computer Science	4 years	• Computer Networks Professionals
	Bachelor of Engineering in Computer Systems and Networks	4 years	• Analyst Programmers • Web Developers • ICT Trainers
	Bachelor of Science and Information Systems	4 years	• Database Systems Administrators • ICT Security • ICT Managers • Library Technicians
Lesotho College of Education	ICT for Primary School Teachers Diploma at 1st and 3rd year	Semester Courses	• ICT Teacher Trainers
	Computer Awareness and Skills Diploma at 1st and 3rd Year	Semester Course	• ICT Support Technicians
	Computer Awareness and Skills Certificate at 1st year	Semester Course	
Lerotholi Polytechnic	Computer Systems Engineering Diploma at 2nd and 3rd year	Year course	• ICT Business and Systems Analysts • Software and Application Programmers • ICT Support • Telecommunications Technical Specialists
Limkokwing University of Creative Technology	Associate Degree in Business Information Technology	3 years	• Chief information Officers • ICT Sales Professionals
	Associate Degree in Multimedia and Software Engineering	3 years	• ICT Support Technicians • Systems Administrators
	Associate Degree in Information Technology	3 years	• Sales Assistants
	BSc Honors in Information Technology	4 years	• ICT Test Engineers • Multimedia specialists and Web Developers
	BSc Honors in Software Engineering with Multimedia	4 Years	• Network Professionals
	BSc Honors in Business Information Technology	4 years	• Telemarketers • Gallery, Library and Museum Technicians

**Table 4.2. ICT courses at Lesotho's tertiary institutions**

Institution	Courses offered	Length of program	Profile of graduates
Botho University – Lesotho	BSc Honors in Computing	4 years	<ul style="list-style-type: none"> • Health Information Systems Managers • Telecommunications Trades Workers • Media Equipment Operators • ICT Sales Professionals • ICT Business and Systems Analysts
	BSc Honors in Health Information Management	4 years	
	BSc Honors in Mobile Computing	4 years	

ICT graduates match employers' expectations in terms of technical skill level, but local opportunities for professional development are limited.

Ministries and government agencies, Vodacom Group, Econet, and Standard Lesotho Bank are the four major employers for ICT graduates (Mosola 2017). The interviewed employers, in the ICT and non-ICT sectors, reported that they did not face difficulties in filling ICT vacancies and were satisfied with the technical skills of the hired graduates. This could reflect the relevance of university curricula for Lesotho's job market needs and possibly that the local private sector does not require advanced ICT qualifications. In neighboring South Africa, employers struggle to find ICT professionals, and the availability and quality of ICT skills are considered a constraint for the development of the private sector in general and the ICT industry in particular. Based on LinkedIn data, the top nine of 10 skills in highest demand in South Africa are in ICT-related fields (World Bank 2017g). Not surprisingly, many of Lesotho's ICT graduates end up being absorbed by the South African labor market, which offers more competitive wages and a more sophisticated and developed digital sector.

The IT industry in Lesotho is small, which limits the potential for productivity improvements in other industries as well as for positive spillovers in the domestic economy more broadly.

Based on the Business Registry data, there are only 10 firms (collectively employing 84 workers) that provide computer programming, IT consultancy, and related services (ISIC code 62). Evidence from developing

countries shows that although IT jobs on average account for just 1 percent of employment, they generate positive externalities through productivity improvements in sectors that adopt new technologies or production processes (World Bank 2016d). Furthermore, given that IT jobs tend to be well-paid, they can generate additional jobs (including in low-skill occupations such as in retail, cleaning, and food preparation) through consumption and production spillovers. For example, in the United States and Turkey, one high tech job creates on average three to five additional jobs elsewhere in the local economy (World Bank 2016d).

Most IT firms in Lesotho view the government as their main client. Most of the interviewed firms sell their services primarily to the government, as the demand from the local private sector is low. Most firms have not thought about the potential to export their services internationally, for example to South Africa. The ones that have considered this opportunity are struggling to find partners and clients abroad.

The constraints faced by IT entrepreneurs are similar to the ones reported by startups in other sectors. These include lack of access to capital, information barriers, poor business skills, and lack of support programs and mentors for growth-oriented firms. Lesotho has not benefited from the expansion of tech hubs across Africa (annex H) and there are no digital incubators in the country. ICT entrepreneurs also have low awareness about pan-African digital entrepreneurship support programs (box 4.4).

Box 4.4. Examples of Regional Resources That Lesotho's ICT Startups Could Tap

Grants. There are several grant funding opportunities for digital entrepreneurs from across Africa that are awarded on an annual basis. These grants range in amount, but the advantage is that recipients do not have to give up equity and the prizes often come with additional benefits, such as promotion, mentorship, training, and so forth. Grants for which Lesotho-based entrepreneurs are eligible include the Innovation Prize for Africa (www.innovationprizeforafrica.org), the Anzisha Prize (www.anzishaprize.org), and the GSMA Innovation Fund (www.gsma.com).

Accelerator programs. Over the past few years, there has been an increase in accelerator programs open to digital entrepreneurs from across the continent. These include virtual programs as well as those with residencies in South Africa and other countries. Each program has its own specific set of requirements, but they often include significant support in the form of content, mentorship, training, and some funding. Examples of these would include the Injini Edtech Accelerator Program (www.injini.co.za); the Royal Academy Prize for Engineering (www.raeng.org.uk/grants-and-prizes); and Google's Launchpad Africa program located in Lagos, Nigeria (www.developers.google.com/programs/launchpad/regional/); and XL Africa (<https://www.xl-africa.com/>).

Online resources. Many of the larger international technology companies, such as Amazon Web Services, Google, and Microsoft, provide online resources for free or at a reduced rate for startups globally. In addition, there is also a wealth of free content and tools online for digital entrepreneurs, including Lean Iterator (www.leaniterator.com), assisting entrepreneurs to validate their business ideas; Strategyzer (www.strategyzer.com), which has free templates and tools; and Start-up Stash (www.startupstash), which provides a detailed directory of tools and resources for entrepreneurs.



Few local support programs are available for digital startups, although several small-scale entrepreneurship support initiatives have emerged in recent years and offer potential for further development. The Vodacom Innovation Park, based in Maseru, offers business training, mentorship, and links to local financial investors to selected entrepreneurs ages 18–35, including, but not limited to digital entrepreneurs. The few beneficiaries (the program accepts approximately six applicants per year) highlight the positive effects of the program, especially business training, increased access to information, reputational signaling to investors, and peer learning. Maseru HookUp Dinner organizes meetups and provides access to local mentors. NUL has secured some resources¹⁶ to set up an Innovation Fund to finance the development of digital and technological innovation developed by NUL students to address firms' business needs. However, implementation of the fund has been slow to start, and as of February 2018, no project has been initiated under this program.

3. THE WAY FORWARD

Strengthening competition in the ICT market is the most important measure the government can implement to increase the use of digital technologies by businesses and consumers. High costs and unreliable services linked to the duopoly in the ICT market were identified among the key constraints to greater digital adoption. Other measures the government may consider to support the development of the digital economy include (1) using ICT more effectively to reduce the costs of regulatory compliance for businesses, and (2) investing a higher share of USF's resources into digital literacy programs as well as exploring the feasibility of public-private partnerships to support digital entrepreneurship.

1) Unlock the ICT Market by Strengthening Competition

Improving the quality and affordability of Internet services is an important priority to help Lesotho's businesses connect to markets and improve productivity. Lesotho's mobile communications market is characterized by an asymmetric duopoly in which neither player has an incentive for introducing price competition. Addressing this problem will likely require the entrance of a third player and steps in this direction have been made. However, the third player would need to be independent of government to compete effectively with the existing service providers. Other steps toward promoting competition include a move away from high rates for wholesale interconnection (though this is partly outside the control of Lesotho), greater infrastructure sharing, and privatization of the government's stake in telecommunications companies (table 4.3). The government can also consider rationalizing levies on the industry to reduce the costs of ICT services.

Increase Competition among Service Providers

The government should consider providing LECC with a full, unified services license, and bringing in a private sector strategic partner for LECC. LECC has been successfully rolling out dark fiber and providing wholesale services to other network operators. Expanding LECC's license to a full unified license would enable it to provide capacity to the smaller service providers and strengthen competition in the market. LECC would benefit from a strategic partner—preferably an international bandwidth provider—so that it can compete more effectively with Vodacom and Econet, which offer fully integrated services. The idea discussed in the unpublished Broadband Plan of transferring existing private assets to a state-owned operator is not advisable, as this would reduce the role of the private sector. If LECC cannot compete effectively in the broadband market, an alternative would be for it simply to lease capacity on its electricity distribution network to other providers.

Regulation of wholesale data prices and moving to a sender-keeps-all arrangement for mobile interconnection could also increase competition and reduce prices. Mobile market development is constrained by an asymmetrical market structure in which Vodacom controls the major share of the market. LCA should consider moving toward a sender-keeps-all arrangement for interconnection (that is, zero fees for mobile call termination). This will create opportunities for the entry of virtual mobile network operators (VMNOs). A VMNO is a reseller of capacity from a mobile operator. Usually, they target a particular segment of the market (for instance, young people or farmers) and therefore can introduce more innovation in the market. Ensuring open access to the application programming interfaces for the mobile money operations of the main operators would further promote the development of mobile money, including through VMNOs. LCA should also consider regulating wholesale data prices to ensure there is more of a margin between wholesale and retail rates, to allow more independent ISPs to enter the market.

Another way to reduce costs would be to consider introducing a specialized tower company, in consultation with the mobile network operators. This could be done, for instance, through the universal service fund or by encouraging the mobile operators to divest some of their current towers in rural areas. A specialized tower company manages the antennae used by cellular operators or broadcasters. Many mobile operators in Africa have followed this route as a way to reduce costs and focus on their core business. Specialized tower companies that are active in Africa include Helios, Eaton Towers, and American Tower Corporation. Having a specialized company charged with managing the antennae would allow the mobile operators to focus on service delivery and would reduce the level of duplication of infrastructure. The tower company could then market its services to other players in the market (for example,

16 M 1.5 million, according to the April 2017 Budget Speech.



broadcasters or companies that use only specific parts of the spectrum, such as for point-to-point microwave traffic, or for WiFi or WiMAX¹⁷ use) in a competitively-neutral manner.

Reduce Government's Stake in Telecommunications Companies

The government is considering privatizing LCA's shareholding in EASSy/WIOCC and a reduction of its stake in Econet. Selling the government's WIOCC shares would end the current conflict of interest whereby the government is perceived to be a regulator and a market player. If the shares are sold to a private partner of LECC, an option that has been under discussion, it could indeed potentially have several benefits. This move would provide LECC with access to international bandwidth and strengthen its competitiveness with regard to Vodacom and Econet. It would also address the need for WIOCC to have local management, which could improve the quality of service. However, an auction of the assets may bring a better return to the government. The

¹⁷ WiMAX is a technology standard for wireless networking, for mobile and fixed connections.

government may also consider reducing its stake in Econet, again to avoid a conflict of interest.

Consider Rationalizing Levies and Taxes

The government may consider rationalizing some of the levies charged on the industry. For example, the current royalty of 3.5 percent charged by LCA is significantly higher than the fees charged by regulatory authorities in other developing countries. Best practice in Africa is around 1 percent and the regulatory levy should be used strictly for cost recovery of expenditures incurred by the regulator. Because any surplus generated by the regulatory levy is typically required to be passed on to the national treasury, this creates an incentive for the regulator to inflate its costs. LCA has offices in one of the best government buildings in Maseru, which suggests that cost inflation is happening in Lesotho as in many other African countries. Therefore, a better way would be to limit the regulatory levy to the minimum needed to cover LCA's costs. A reduction in the regulatory levy could be offset by the planned increase in the VAT from 5 to 9 percent, with the net fiscal impact expected to be neutral.

Table 4.3: Summary of the key features of the ICT market and suggested enhancements

Feature	Status	Policy reflections
Fixed line telecoms	Provided by Econet (formerly Lesotho Telecom), but in decline, from a peak of 63k lines in 2006 to just 28k now. Vodacom's unified license (2016) allows it to offer fixed line telecoms, but it has not done so to date.	Despite opening the market since 2007, no new entrants have expressed interest in investing. One reason for this is because investment in mobile infrastructure is considered more viable than in fixed lines, while competition from "over-the-top providers" (e.g. Skype, WhatsApp) is reducing investment in both.
Mobile cellular communications	Over 2m subscribers in 2016 with a high penetration of SIM cards (over 100%). Duopolistic market structure with Vodacom controlling around 70% and Econet 30%.	While the market may benefit from a third operator, it is hard to see how it would break into the existing duopoly. The market for virtual mobile network operators (VMNO) has been open since 2013, but with no takers to date.
Internet Service Providers	Two independent ISPs (ComNet and Leo) compete against the bigger mobile operators, with authorization both to build or buy network infrastructure. Both ISPs have only minor market presence. Efforts by LCA to attract new market entrants have failed.	While prices for wholesale bandwidth remain unregulated, independent ISPs will struggle to survive. The key to their viability would be a larger margin between wholesale and retail prices.
Broadband internet	Relatively weak market development of fixed broadband compared with neighboring countries. Econet is the main player, offering fiber and DSL solutions. Vodacom offers a WIMAX solution. The government has encouraged the emergence of a third player – LECC (a communications subsidiary of the electricity utility) but it has only played a minor role to date.	LECC should be provided with a full-service license to compete more effectively. However, in the unpublished National Broadband Plan, the government plans to consolidate the assets of the mobile operators with those of LECC into a single national backbone supplier. This reform would most likely have a negative effect on market development.

**Table 4.3: Summary of the key features of the ICT market and suggested enhancements**

Feature	Status	Policy reflections
Privatization	Lesotho Telecom was privatized when its assets were incorporated into Econet in 2008. However, the government still owns 30% of Econet. The Government also owns 100% of LECC and a stake in the EASSy cable via WIOCC.	The Government should consider 1) the sale of the remaining stake in Econet to provide a level playing field; 2) bringing in a private strategic partner for LECC and 3) privatizing the WIOCC stake.
Regulation	Lesotho has an independent sector regulator, the Lesotho Communications Authority (LCA), established in 2000. It is relatively efficient but also expensive, with a levy of 3.5% of net sector operating income.	Current plans foresee an increase in the regulatory levy from 3.5 to 4%, but this seems unjustified, and instead the aim should be to reduce the levy, and to rely on sector taxes (e.g. VAT on phone calls).
Interconnection	Interconnection payments benefit the larger operator (Vodacom), which thus has an interest to keep interconnection rates high. Mobile termination has been regulated since 2013, following a glidepath that is due to last until 2018. But rates remain high compared with neighboring countries.	The market is sufficiently mature to move towards sender keeps all, once the current glidepath expires. That would also benefit the entry of virtual mobile network operators. Wholesale bandwidth rates should also be regulated to allow for ISP viability.
Legislation	The main Act is the Communications Act No. 4, of 2012. It introduced a system of unified licenses for facilities-based operators. The line Ministry is the Ministry of Communications, Science and Technology	While the main regulatory framework is sound, several items of subsidiary legislation have been pending for several years, notably on cybersecurity and eCommerce.
Universal Service	The Universal Service Fund, established in 2009, is viewed as one of the best in Africa, and has financed construction of some 54 base stations to increase mobile coverage to around 96%. It is financed by a 1% levy on operators, proposed to increase to 1.5%. Existing legislation allows the levy to rise to 2%.	The Universal Service Fund has proved to be effective in fulfilling its primary mandate, but now needs to be refocused on broadband coverage, with an expanded mandate to develop digital skills.

Sources: World Bank staff, based on TeleGeography 2017; Gillwald, Deen-Swaray, and Mthobi 2017.

2) Increase the Security of Electronic Transactions and Develop E-Government Services

The government may consider strengthening the legislative framework to facilitate online transactions as well as increasing the availability of public services online. The latter would reduce administrative compliance costs for businesses and encourage the growth of the local IT industry. The government's interventions could focus on:

- *Adopting legislative acts to increase the security of electronic transactions.* It will be important to adopt the legislation and regulatory acts on cybersecurity and e-commerce. These laws will build public confidence in electronic transactions and provide for protection in case of data breach. The government may also consider establishing a national Cybersecurity Emergency Response Team within MoCST, to increase stakeholders' confidence in electronic transactions.
- *Increasing the availability of government information and services online.* It will be important to (1) ensure interoperability between government systems and link them to digital ID (to allow for data exchange among

different agencies and make the transactions more reliable), and (2) adopt a single, mobile-based e-payment system throughout the government. The private sector would also benefit from the availability of the most frequently sought online services, such as certificates for export or tax filing. As the government's capacity to operate online platforms improves, it will be useful to develop an e-procurement system, which would significantly improve the efficiency and transparency of government purchasing. It will also be important to adopt a digital government strategy, which should define priorities for e-government development and delineate the roles, responsibilities, and timelines for implementation.

3) Allocate a Greater Share of the USF Fund for Digital Literacy Programs and Explore the Feasibility of Public-Private Partnerships to Support Digital Entrepreneurship

The successful use of digital technology to improve firm productivity and participate in the global economy requires investment in the skills of the workforce.

Furthermore, workers who are capable of using digital technologies and complementing them with other skills



tend to have better employment opportunities and higher wages (World Bank 2016d). Investments in broad digital skills and specialized programming skills can improve labor market outcomes (particularly for the youth), reduce skilled migration to South Africa, and strengthen the competitiveness of the Lesotho economy. The government's efforts to support the accumulation of digital skills and promote digital entrepreneurship could focus on: (1) improving general digital literacy, and (2) providing co-funding to an incubator in partnership with the donor community and the business sector.

The government may consider allocating a greater share of USF resources for funding digital literacy programs.

Findings from impact evaluations prove that access to ICT in early years is a powerful determinant of digital literacy in adult life. Thus, it will be advisable to use a larger share of USF's resources for funding computers and Internet connectivity in educational institutions. The government may also consider partnering with the local corporate sector and international initiatives aimed at enhancing digital skills in Africa. Examples of the latter include the Intel-backed She Will Connect initiative¹⁸ in Nigeria, Kenya, and South Africa and Mozilla Learning's partnership with UN Women,¹⁹ which supports a network of web literacy clubs in Kenya and South Africa specifically aimed at upskilling girls and women through face-to-face peer learning.

The government may also explore the feasibility of a partnership with Vodacom Foundation or another corporate actor to co-fund a specialized incubation program for ICT startups. Vodacom Foundation is running a business training and mentorship program that is well regarded by local entrepreneurs. There may also be opportunities to partner with other corporations in Lesotho, such as Standard Bank, which runs several incubators in South Africa. In addition, it will be useful to raise awareness among Lesotho's entrepreneurs about the regional funding and mentorship opportunities they can tap into (box 4.4).

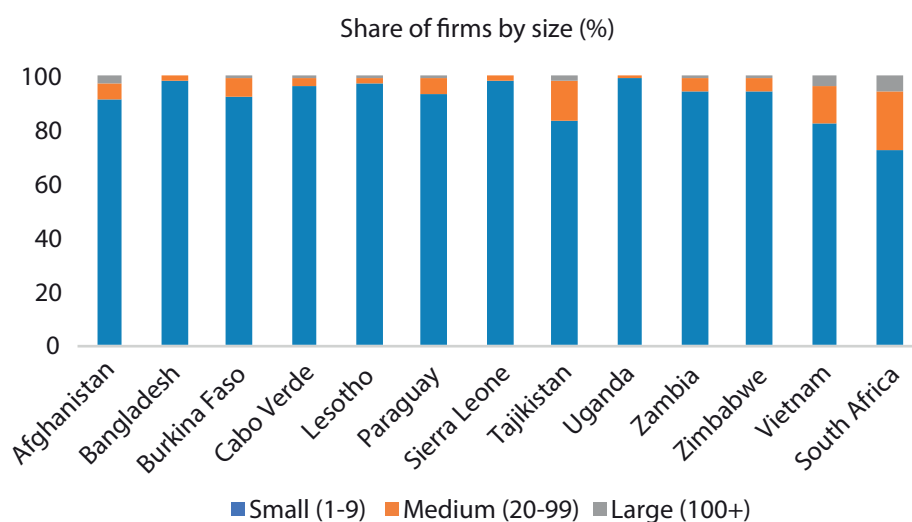
18 <https://www.intel.com/content/www/us/en/corporate-responsibility/social-impact-and-educational-initiatives/she-will-connect.html>.

19 <https://learning.mozilla.org/blog/new-partnership-with-un-women-to-teach-key-digital-skills-to-women>.



ANNEX A. SHARE OF SMALL FIRMS IN LESOTHO COMPARED WITH OTHER LOWER-INCOME COUNTRIES

Most firms in Lesotho are small, similar to many other developing economies

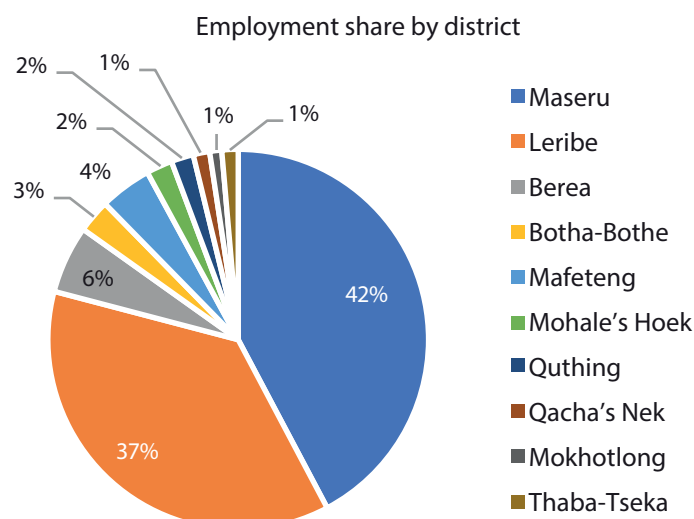


Sources: For Lesotho, Bureau of Statistics 2015; for other countries, Merotto, Weber, and Aterido 2018.



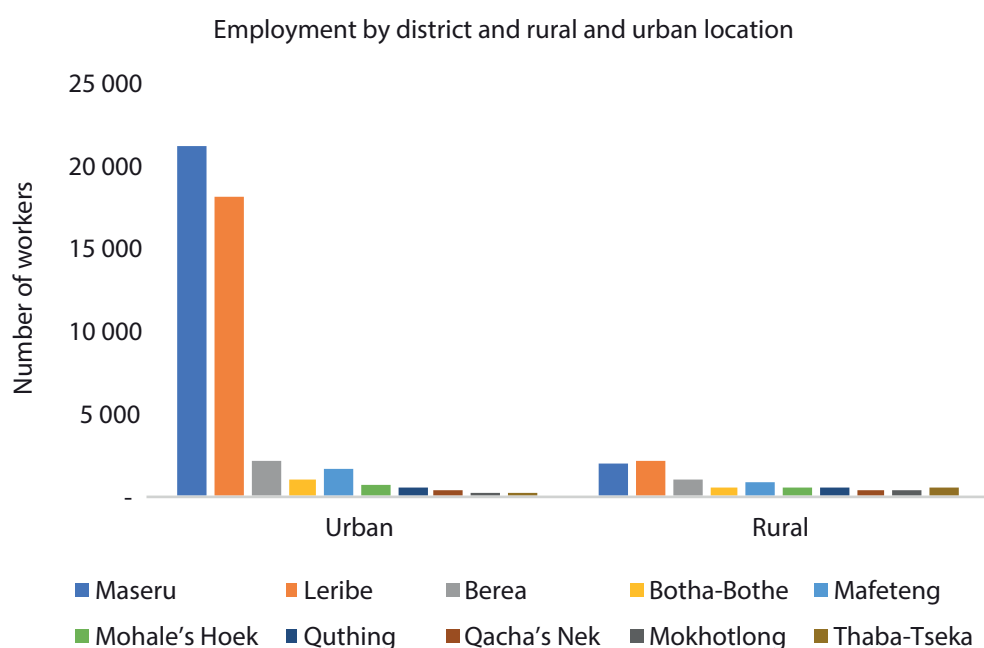
ANNEX B. DISTRIBUTION OF JOBS BY DISTRICT AND URBAN VS. RURAL LOCATIONS

Figure B.1. Most jobs are in Maseru and Leribe



Source: Bureau of Statistics 2015.

Figure B.2. Rural areas have little economic activity



Source: Bureau of Statistics 2015.



ANNEX C. DETERMINANTS OF LABOR PRODUCTIVITY

Determinants of Labor Productivity		
	(1)	(2)
sz_10to19	0.267** (0.111)	0.271*** (0.101)
sz_20to49	0.327 (0.243)	0.391 (0.236)
sz_50to249	1.071*** (0.365)	1.110*** (0.358)
sz_250to499	0.539 (0.521)	0.629 (0.423)
sz_500plus	-0.757** (0.337)	-0.754** (0.340)
age_6to9	0.0884** (0.0384)	0.0932** (0.0366)
age_10to19	0.189*** (0.0454)	0.198*** (0.0441)
age_20to29	0.240*** (0.0691)	0.239*** (0.0737)
age_30plus	0.176** (0.0835)	0.175** (0.0838)
Foreign	0.762*** (0.111)	0.720*** (0.116)
Apparel		-1.397*** (0.151)
Metals		-0.225 (0.280)
Other manufacturing		-0.363** (0.177)
Construction		0.616** (0.249)
Retail-wholesale		0.487*** (0.118)
Other services		0.496** (0.193)
Constant	10.16*** (0.183)	10.16*** (0.138)
Observations	5,885	5,885
R-squared	0.226	0.205
Sector dummies	YES	NO
Location dummies	YES	YES
Year dummies	YES	YES

Note: Omitted categories: micro, young, domestic, and food and beverages (column 2 only).

Robust standard errors are in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1.

Source: World Bank staff calculations based on Bureau of Statistics 2015.



ANNEX D. TOP TEN APPAREL EXPORTS TO THE UNITED STATES AND SOUTH AFRICA, 2016

HS	Product	Value (US\$ 1,000)	MFN tariff for this product (%)	MFN tariff for this product in the EU (%)
Top Ten Exports to the United States				
610463	Women's or girls' trousers, breeches and shorts of synthetic fibers (knitted or crocheted)	77,126	14.9-28.2	12
620342	Men's or boys' trousers, breeches and shorts of cotton	69,323	0-16.6	12
611030	Jerseys, pullovers, cardigans (knitted or crocheted) of man-made fibers	43,941	6-32	12
610520	Men's or boys' shirts (knitted or crocheted) of man-made fibers	43,370	13.6-32	12
620462	Women's or girls' trousers, breeches and shorts of cotton	22,410	0-16.6	12
610990	T-shirts, singlets and other vests (knitted or crocheted) of other textile materials	11,949	2.6-32	12
610343	Men's or boys' trousers, breeches and shorts of synthetic fibers	9,188	14.9-28.2	12
610433	Women's or girls' jackets and blazers of synthetic fibers	6,627	28.2	12
610510	Men's or boys' shirts (knitted or crocheted) of cotton	6,579	19.7	12
610462	Women's or girls' trousers, breeches and shorts of cotton	2,701	10.3-14.9	12
610620	Women's or girls' blouses, shirts (knitted or crocheted) of man-made fibers	2,065	14.9-32	12
620920	Babies' garments and clothing accessories of cotton	1,802	9.3-14.9	10.5
Top Ten Exports to South Africa				
620342	Men's/boys' trousers, breeches and shorts of cotton	18,586	45	12
610910	T-shirts, singlets and other vests (knitted or crocheted) of cotton	13,699	45	12
620419	Women's or girls' suits of other textile materials	11,066	45	12
620349	Men's or boys' trousers, breeches and shorts of other textile materials	7,072	45	12
610342	Men's or boys' trousers, breeches and shorts of cotton (knitted or crocheted)	5,267	45	12
620339	Men's or boys' jackets and blazers of other textile materials	5,084	45	12
610990	T-shirts, singlets and other vests (knitted or crocheted) of other textile materials	4,871	45	12
620520	Men's or boys' shirts of cotton	3,746	45	12
620333	Men's or boys' jackets and blazers of synthetic fibers	2,628	45	12
620590	Men's or boys' shirts of other textile materials	2,258	45	12

Source: UNCOMTRADE.

Note: In the United States, tariffs vary depending on the particular product line within a given HS code. Further product disaggregation is not available on UNCOMTRADE.



ANNEX E. TAX INCENTIVES IN LESOTHO APPLICABLE TO THE APPAREL INDUSTRY AND HORTICULTURE

Investment Incentives
Main Tax Incentives
Corporate Income Tax <ul style="list-style-type: none">• Corporate tax rate of 10% on manufacturing profits (compared with 25% for services)• Corporate tax rate of 10% on profits generated from the sale of goods produced from agricultural activities• Training and tertiary education costs for Lesotho citizens are deductible at 125%• Research and development expenses are deductible provided they are incurred in production of income subject to tax
Withholding Tax <ul style="list-style-type: none">• 15% withholding tax on payments made in respect of external management/technical fees, interest and royalties related to manufacturing income (compared to 25% of withholding tax for non-manufacturing activities)
Non-tax incentives
<ul style="list-style-type: none">• Subsidized leases of LNDC factory shells• Partial credit guarantee schemes, administered by LNDC and the Ministry of Small Business Development, Cooperatives and Marketing

Source: LNDC 2016; Lesotho Revenue Authority.



ANNEX F. REVENUE PER HECTARE AND PER TREE FOR DIFFERENT FRUIT VARIETIES

Peaches tend to offer the best revenue-generating opportunities

Product	Variety	Total sales (M)	Ha	M/ha	Est. no. trees	Est. M/tree
Peaches	Early Grande	70,566.50	0.45	156,814	660	107
	Oom Sarel	34,155.00	0.65	52,546	980	35
	Kakamas	1,922.00	0.05	38,440	20	96
	Star Peach II	25,450.00	0.27	94,259	400	64
	San Pedro	57,630.00	0.66	87,318	980	59
Apricots	Palestyn	30,512.00	0.93	32,809	1,380	22
Plums	Harry Pickstone	27,413.20	0.65	42,174	957	29
	Fortune	35,869.00	0.54	66,424	800	45
Apples	Royal Gala	74,435.10	1.34	55,549	1,980	38
	Golden Delicious	18,281.80	2.55	7,169	3,780	5
	Early Redone	42,176.50	2.15	19,617	3,180	13
	Granny Smith	12,961.00	0.51	25,414	760	17
Dried apples		2,100.00				
Total		433,472.10				

Source: Ministry of Trade and Industry 2017b.

Note: Values are based on data for the Likhothola pilot farm, with a size of 11.4 hectares; the farm was in its fifth year of operation at the time of data collection and yields and revenues are expected to improve with time. Ha = hectares; M = maloti.



ANNEX G. STRATEGIC SEGMENTATION OF THE GLOBAL FOOD INDUSTRY

There are several distinct segments in the food industry, with different entry barriers and requirements to compete (figure G.1). Fresh food typically commands higher value than processed food. For example, in the United States, the cost of fresh blackberries is 70 percent higher than that of frozen blackberries (World Bank 2018). Where the shelf life of a product is short (fresh products), the capacity to deliver to consumers becomes a significant barrier to entry for many of the world's producers. Competitiveness in this segment is influenced by proximity to consumers and access to advanced logistic service providers. By contrast, stockable products with a long shelf life allow all global producers to compete. This segment requires high volume and economies of scale and is frequently dominated by multinationals (World Bank 2018).

Highly processed products are not necessarily of greater value than primary items of agricultural production, once the contribution of services is taken into account. Agribusiness services add value through financing, certification, packaging, storage, distribution, and branding and contribute more to gross domestic product (GDP) than primary production. For example, in the United States, supporting activities contribute 13 times more to GDP than primary production alone (World Bank 2018). Development of these services is thus an important element for the growth of commercial agriculture.

Figure G.1 Strategic segments in the food industry

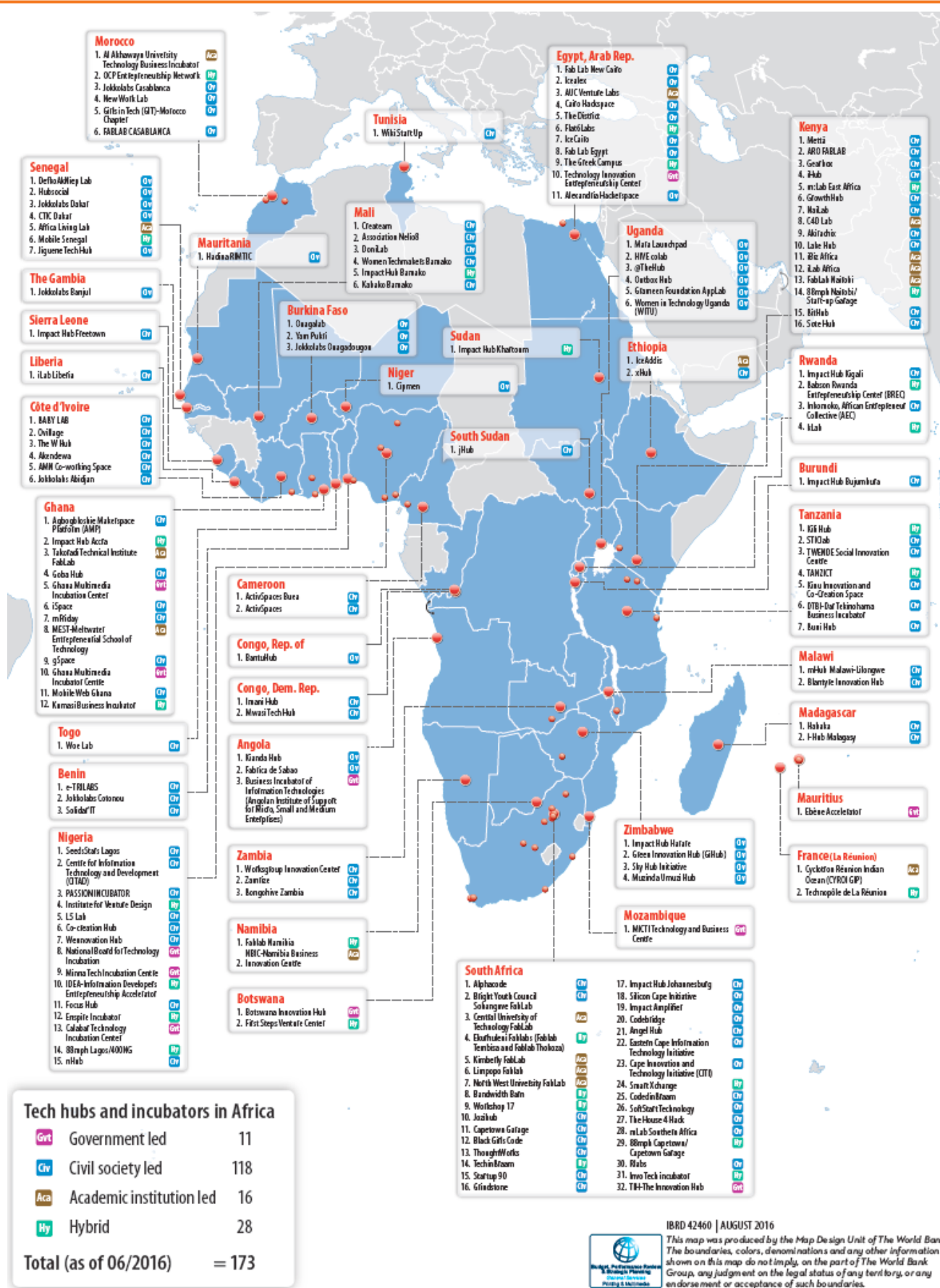
			Daily use	Convenience
Frequency of delivery	Frequent	Short shelf life – fresh	Product: fruit (e.g., apples) and vegetables (tomatoes) Typical companies: products are likely to be traded in bulk and sold through supermarkets. In less developed markets, products are sold through wet markets.	Product: Products frequently consist of a combination of fresh produce from different suppliers put together in a meal (e.g., packaged fresh salad, pre-cut fruit, stir-fry mix, fresh packaged pasta) Typical companies: mostly small and medium-size enterprises, since product differentiation is key to survival. Firms tend to invest in anticipating consumption trends and often maintain strong cooperation with logistic companies and retailers.
	Infrequent	Long shelf life – stockable	Products: cereals, canned and bottled goods (canned tomato pasta, sunflower oil), raisins and dry fruit Typical companies: companies tend to be large, e.g., Louis Dreyfus, Nestle, Del Monte	Products: microwaveable TV dinners Typical companies: most companies are large given the economies of scale. The segment is dominated by multinationals such as Nestle.

Source: Adapted from World Bank 2018.

Note: There is also a third segment, "indulgence" (examples of perishable products include raw oysters, truffle mushrooms, and macaroons; examples of products with long shelf life are high-end tea and gourmet olive oil), which is not covered by the analysis, as it is currently not relevant for Lesotho's context.



ANNEX H. TECH HUBS IN AFRICA



Source: Firestone and Kelly 2017.



REFERENCES

- A2F Consulting. 2018. "Establishment of an Agricultural Finance Department within Lesotho Post Bank." A2F Consulting, Bethesda, MD.
- Arenas G., J. Engel, B. Kotschwar, and M. Maliszewska. 2018. "Supporting Lesotho's Economic Diversification and Trade Integration: Structural Transformation through Greater Export Competitiveness." World Bank, Washington, DC.
- BDRC. A Global Study of Broadband Pricing <https://www.bdrc-group.com/opinions/global-study-broadband-pricing/>
- Beuermann, D. W., J. Cristia, S. Cueto, O. Malamud, and Y. Cruz-Aguayo. 2015. "One Laptop per Child at Home: Short-Term Impacts from a Randomized Experiment in Peru." *American Economic Journal: Applied Economics* 7 (2): 53–80.
- Bright, J. 2017. "Mastercard Launches 2KUZE Agtech Platform in East Africa." *TechCrunch*. <https://techcrunch.com/2017/01/18/mastercard-launches-2kuze-agtech-platform-in-east-africa/>.
- BuraHappold Engineering. 2015. "Pre-Feasibility Study for the Pilot Commercialization of Industrial Sites in Lesotho." Stage 2 Report: National Prefeasibility Analysis. 033218. Revision 01. BuroHappold Engineering, Bath, U.K.
- Bureau of Statistics. 2015. *Business Register 2015*. Bureau of Statistics, Maseru, Lesotho.
- . 2016. *Horticulture Statistics Report 2015/16*. Bureau of Statistics, Maseru, Lesotho.
- . 2018. *Performance of the Manufacturing Sector in Lesotho. Second Quarter 2017*. Bureau of Statistics, Maseru, Lesotho.
- Byamugisha, Frank. 2013. "Securing Africa's Land for Shared Prosperity: A Program to Scale Up Reforms and Investments." World Bank, Washington, DC.
- Casaburi, L., M. Kremer, S. Mullainathan, and R. Ramrattan. 2014. *Harnessing ICT to increase agricultural production: Evidence from Kenya*. Agricultural and Resource Economics, University of California Davis.
- Department of Agriculture, Forestry and Fisheries. 2017. *Abstract of Agricultural Statistics 2017*. Pretoria, South Africa: Department of Agriculture, Forestry and Fisheries.
- Desai, S., and N. Jasuja. 2016. *India Stack: The Bedrock of a Digital India*. Wharton FinTech, <https://medium.com/wharton-fintech/the-bedrock-of-a-digital-india-3e96240b3718>.
- eBay. 2013. "Commerce 3.0 for Development: The Promise of the Global Empowerment Network." eBay Report, eBay, Inc., Washington, DC.
- Edcon. 2017. "Edcon United Nations Global Compact (UNGC): Communication of Progress (COP)." Edcon, Johannesburg, South Africa.
- FAO (Food and Agriculture Organization). 2011. "Strengthening Capacity for Climate Change Adaptation in Agriculture: Experience and Lessons from Lesotho." FAO, Rome.
- Firestone R., and T. Kelly. 2017. "The Importance of Mapping Tech Hubs in Africa, and Beyond." World Bank, Washington, DC, <http://blogs.worldbank.org/ic4d/importance-mapping-tech-hubs-africa-and-beyond>.
- Forbes. 2016. "How Kisua Is Bringing African Fashion to the Forefront?" <https://www.forbes.com/sites/barrysamaha/2016/06/13/how-kisua-is-bringing-african-fashion-to-the-forefront/2/#6a8b2d062b6a>.
- GDS (Global Development Solutions). 2016. "Lesotho Smallholder Agriculture Development Project: Horticulture Crops (Vegetables and Fruit)." GDS, Reston, VA.
- Gillwald, A., M. Deen-Swararay, and O. Mothobi. 2017. "The State of ICT in Lesotho." Lesotho Communications Authority, Maseru, Lesotho.
- Government of the Kingdom of Lesotho. 2014. "Draft Lesotho National Broadband Policy 2014-18", Maseru, Lesotho.
- GSMA Intelligence <https://www.gsmainelligence.com/>
- HORTGRO. 2017. "Key Deciduous Fruit Statistics 2016." HORTGRO, Paarl, South Africa.
- Hubbard, D. 2017. "Analysis of Lesotho Data Protection Act, 2011." In *R. Lesotho Identity System Analysis*, edited by R. Palacios. Washington, DC: World Bank.
- IFPRI (International Food Policy Research Institute). 2016. "Agricultural R&D Indicators: Lesotho, 2016." IFPRI, Washington, DC.



- IMF (International Monetary Fund). 2018a. "Kingdom of Lesotho: Staff Report for the 2017 Article IV Consultation." IMF, Washington, DC.
- . 2018b. "World Economic Outlook Database." IMF, Washington, DC.
- Jain, S. 2018. "Infrastructure for Transformation." In *India Stack: The Transformational Possibility of a Digital Platform*. Washington, DC: World Bank.
- Kuriakose, S., T. Farole, and C. Staritz. 2012. "Lesotho: Economic Diversification and the Role of FDI Policies." World Bank, Washington, DC.
- Lall, S. 2005. "FDI, AGOA and Manufactured Exports by a Landlocked, Least Developed African Economy: Lesotho." *Journal of Development Studies* 41 (6): 998–1022.
- Lamprecht, K. 2017. "Chapter 7: Industrial Rentals and Vacancies" Rode's Report 2017: 4.
- Lesotho Government Gazette. 2012, Communications Act 2012, Vol. 57. No 18
- Lesotho Government Gazette. 2017. Extraordinary 62, July 21.
- LINPICO Sarl and KOIOS Associates LLC. 2017. "Review of the Structure and Functioning of the Lesotho National Development Corporation: Diagnostic, Benchmarking and Options Report." LINPICO and KOIOS Associates.
- LNDC (Lesotho National Development Corporation). 2016. *Guide to Doing Business in the Kingdom of Lesotho*. Maseru: LNDC.
- Louw, Daan. 2017a. *Business Development Plan for Likhothola Farm*. OABS Development, Pty, Paarl.
- . 2017b. "Proposed Lesotho Horticulture Development Strategy." Second Private Sector Competitiveness and Economic Diversification Project, OABS Development (Pty), Ltd, Paarl.
- Mapeshoane, T. J., and S. Pather. 2016. "The Adoption of e-Commerce in the Lesotho Tourism Industry." *Electronic Journal of Information Systems in Developing Countries* 75 (1): 1–24.
- McKinsey & Company. 2017a. "The Apparel Sourcing Caravan's Next Stop: Digitization." McKinsey Apparel CPO Survey 2017. McKinsey & Company, New York.
- . 2017b. *The State of Fashion 2018*. New York: McKinsey & Company.
- Merotto, D., M. Weber, and R. Aterido. 2018. "Facts and Findings from Jobs Diagnostics." World Bank, Washington, DC.
- Ministry of Agriculture and Food Security. "Smallholder Agriculture Development Project: 2016 Indicators Mini Survey." Ministry of Agriculture and Food Security, Maseru, Lesotho.
- Ministry of Trade and Industry. 2017a. "Private Sector Competitiveness and Economic Diversification Project Progress Report." Ministry of Trade and Industry, Maseru, Lesotho.
- . 2017b. "PSCEDP II Project. Horticulture Investment Strategy." Ministry of Trade and Industry, Maseru, Lesotho.
- Mosola, N. 2017. "National University of Lesotho Graduates." (MACS). National University of Lesotho, Roma, Lesotho.
- Palacios, R. 2017. "Lesotho Identity System Analysis." World Bank, Washington, DC.
- Schwab, K. 2016. *The Fourth Industrial Revolution*. World Economic Forum, Cologny, Switzerland.
- South African Council for Shopping Centers, <https://sacsc.co.za/news/south-africa-has-the-sixth-largest-number-of-shopping-centres-globally>.
- Spaethe, O. 2017. "Moovr: An Uber for Cows." Startup.Info.
- Staritz, C., and S. Frederick. 2016. "Harnessing Foreign Direct Investment for Local Development? Spillovers in Apparel Global Value Chains in Sub-Saharan Africa." Austrian Foundation for Development Research, Vienna.
- Stott, A. 2014. "Open Data for Economic Growth." World Bank, Washington, DC.
- TeleGeography. 2017. "GlobalComms Database: Lesotho", Washington DC
- World Bank. 2008. *Special Economic Zones: Performance, Lessons Learned and Implications for Zone Development*. Washington, DC: World Bank.
- . 2013. *Growing Africa: Unlocking the Potential of Agribusiness*. Washington, DC: World Bank.
- . 2015. "Lesotho Systematic Country Diagnostic." World Bank, Washington, DC.
- . 2016a. "Lesotho Enterprise Survey 2016." World Bank, Washington, DC.



- . 2016b. "Lesotho Water Security and Climate Change Assessment." World Bank, Washington, DC.
- . 2016c. "Linking Farmers to Markets through Productive Alliances: An Assessment of the World Bank Experience in Latin America." World Bank, Washington, DC.
- . 2016d. World Development Report 2016: Digital Dividends. Washington, DC: World Bank.
- . 2017a. "Apparel GVC Analysis: Bangladesh, Sri Lanka and Turkey." World Bank, Washington, DC.
- . 2017b. Doing Business 2018. Washington, DC: World Bank.
- . 2017c. "First Draft Proposal on Agricultural Productivity Programme for Southern Africa (APPSA): Lesotho (2018-2023)." Released December 2017. World Bank, Washington, DC.
- . 2017d. Global Investment Competitiveness Report 2017/18. Washington, DC: World Bank.
- . 2017e. "Lesotho Gender Study: Female Migration in Lesotho: Determinants and Opportunities." World Bank, Washington, DC.
- . 2017f. "Smallholder Agriculture Development Project. Project Paper on a Proposed Additional Credit to the Kingdom of Lesotho." World Bank, Washington, DC.
- . 2017g. South Africa Economic Update #10. Washington, DC: World Bank.
- . 2018. A Strategic Segmentation of the Food Sector. Washington, DC: World Bank.
- . World Bank Data, accessed April 10, 2018, <https://data.worldbank.org/indicator/SN.ITK.DEFC.ZS?end=2015&locations=LS&start=2000&view=chart>.
- . Lesotho Overview <http://www.worldbank.org/en/country/lesotho/overview> accessed April 27, 2018.

