SME COMPETITIVENESS OUTLOOK 2018

Business Ecosystems for the Digital Age

5 Thought leaders

5 Case studies

50 Country profiles

International Trade Centre

TRADE IMPACT FOR GOOD

The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.

Street address: ITC
54-56, rue de Montbrillant
1202 Geneva, Switzerland

Postal address: ITC
Palais des Nations
1211 Geneva 10, Switzerland

Telephone: +41-22 730 0111

Fax: +41-22 733 4439

E-mail: itcreg@intracen.org

Internet: http://www.intracen.org

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Business Ecosystems for the Digital Age

Digitalization and the rise of the platform economy are rapidly changing the way in which firms do business. A strong business ecosystem is necessary to manage this change. This year's *SME Competitiveness Outlook* tells how to build it.

The report combines data analysis, academic insights, thought leader views and case studies to guide policymakers, businesses, and trade and investment support institutions in designing the business ecosystem that is necessary for small businesses to embrace and benefit from industry 4.0.

This year's edition includes 50 country profiles on SME competitiveness, with a focus on strengths and weaknesses in the business ecosystem.

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Acronyms

Unless otherwise specified, all references to dollars ($) are to United States dollars.

B2B	Business-to-business
B2C	Business-to-consumer
EU	European Union
FDI	Foreign direct investment
GDP	Gross domestic product
ICT	Information and communications technology
IoT	Internet of Things
IPA	Investment promotion agency
ISO	International Organization for Standardization
IT	Information technology
ITU	International Telecommunication Union
LDC	Least developed country
MENA	Middle East and North Africa
MSME	Micro, small and medium-sized enterprise
P2P	Peer-to-peer
SDG	United Nations Sustainable Development Goal
SME	Small and medium-sized enterprise
TIPO	Trade and investment promotion organization
TISI	Trade and investment support institution
TPO	Trade promotion organization
TVET	Technical and vocational education and training

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Foreword

Digital technologies are changing the way firms do business. New technologies are connecting buyers and suppliers across more locations and activities, opening opportunities for some but putting others under pressure. Nevertheless, one thing is clear for all firms: those who do not adjust will find it harder to thrive in the digital age.

Policymakers at national and international levels are aware of the challenges ahead. The Group of 20 leading economies organized its first digital ministerial meeting in 2017. United Nations Secretary-General António Guterres established a High-level Panel on Digital Cooperation in July 2018. International organizations such as the International Telecommunications Union (ITU), the UN Conference on Trade and Development (UNCTAD), the World Bank, and the World Trade Organization (WTO) have published or are preparing major publications on the digital economy. And there is increasing focus on the role of women in the digital age reflected by the launch of initiatives such as Equals partnership, which aims to bridge the digital divide for women and girls; and the International Trade Centre's (ITC) own SheTrades initiative, which also helps support women entrepreneurs to climb the digital ladder.

At ITC, we are particularly interested in understanding how these changes affect small and medium-sized enterprises (SMEs), in keeping with our mandate to assist such businesses to become more competitive. This fourth annual edition of the *SME Competitiveness Outlook* finds that to flourish in the digital age, SMEs need a strong ecosystem with institutions providing business support and skills training.

ITC focuses on SMEs because they form the backbone of any economy, representing over 90% of firms and over 70% of employment in most countries. If SMEs remain disconnected from new technologies, the benefits of changes almost certainly will not be shared broadly across the population. Moreover, the nature of new technologies may lead to the emergence of few dominant players, bringing market distortions that could harm consumers as well as smaller firms. Creating an ecosystem that allows SMEs to absorb technological change is therefore crucial for inclusive growth and fostering competitive markets.

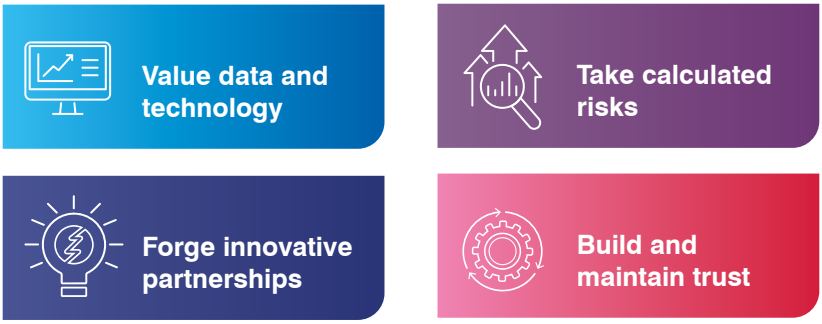
In this report, we put the spotlight on three players in the business ecosystem that are key in ensuring SMEs can adjust successfully to the digital age:

- Trade and investment promotion organizations (TIPOs) and how they can effectively serve 'small' firms in the age of 'big' data;
- Education, skills and training providers and their importance for getting SMEs ready for the digital age;
- Quality infrastructure providers and their role in ensuring trust and interoperability among digital products, and in facilitating privacy and security.

The *SME Competitiveness Outlook 2018* urges these actors to become 'cautious revolutionaries' – to embrace data and technology, be open to new partnerships and innovation, and take measured risks in the face of novelty.

Trade and investment promotion organizations are a core ITC constituency; ensuring that they are equipped for the digital age is a key priority of this report. Successful trade and investment promotion relies on accessing information on target markets tailored to the needs of potential exporters or investors. Such information, traditionally provided by these organizations, is now also available from digital platforms, calling for TIPOs to adapt their services portfolio to new business realities.

Business ecosystem 4.0
Checklist for cautious revolutionaries

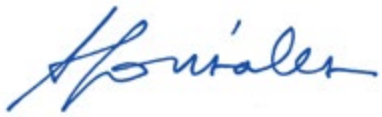


Past research by ITC and the University of Geneva has found that increases in the budget of TIPOs raise export growth. ITC findings presented in this report show that concentrating a higher share of trade promotion budgets on new exporters tends to expand the number of businesses engaged in exporting. More specifically, a 10% increase in the share of trade promotion spending on new exporters (with budgets constant) leads to a 4.6% rise in the number of exporters by destination. This implies that the tailoring of support matters. New technologies and digital platforms have the potential to change the way businesses access tailored market information. They can profoundly transform trade and investment promotion activities, enabling more effective targeting. Yet big data are most easily used to help big players with deep pockets. This report discusses what TIPOs can do to make big data work for small firms.

For SMEs to use digital technologies for internationalization, they must be connected to ICT and transport infrastructure. This continues to prove a challenge, particularly in remote areas. Currently, around 1 billion people in low income countries live more than 2 km from an all-weather road. About half of the world's population – 3.9 billion people, 90% of them in the developing world – do not use the internet. New technologies are emerging with the potential to reduce infrastructure costs. But old problems such as inadequate hard infrastructure and connectivity issues remain. It is here that public-private partnerships need to find ways to share costs and responsibilities.

As an international organization supporting SMEs, ITC is itself a player in the business ecosystem described in this report. We take the digital challenge seriously, constantly assess our own use of digital solutions, and update our portfolio of services. Technological change will play a central role in the 2018 edition of ITC's World Trade Promotion Organizations Conference (WTPO) that will take place in Paris in October and focuses on 'Trade and Investment Ecosystems: Delivering for Growth'.

In this way, ITC aims to contribute to building the strong business ecosystems that will be key to ensuring that technological change contributes to improved and more equitable well-being, instead of triggering social disruption. Here, ITC also positions itself as a 'cautious revolutionary' to stay abreast of change, ahead of the curve, and deliver innovative solutions for our clients.



Arancha González
Executive Director,
International Trade Centre

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Executive Summary

New technologies such as advanced robotics, 3D-printing, big data and the Internet of Things are rapidly changing the way firms do business. The far-reaching nature of the transformation has led many to identify it as a fourth industrial revolution, or 4.0 for short. A strong business ecosystem is necessary to manage this change. This year's *SME Competitiveness Outlook* proposes how to create it.

This report focuses on technological changes related to digitalization and the rise of the platform economy. The digital platform revolution has greatly altered the way firms connect to others, be they buyers, suppliers, peers or supporting institutions at home and abroad. It could be argued that it is entirely reshaping the business environment, or ecosystem, of small and medium-sized enterprises (SMEs) that export or intend to export.

This report suggests how to gain most from these developments and identifies potential pitfalls for SMEs. It highlights the role for traditional actors in the business environment in helping SMEs to adopt new technologies and manage risks. Such players are involved in promoting trade and investment, providing skills and education, and ensuring that products and services meet quality standards. They will have to embrace new technologies, forge fresh partnerships, build trust, and take calculated risks to help SMEs manage the transition.

Most of the potential benefits of changes in the ecosystem will be inaccessible if SMEs are not connected to physical and digital infrastructure. SMEs without internet connections cannot take advantage of services provided through the platform economy. SMEs without access to adequate and affordable transport infrastructure find it impossible or unaffordable to trade.

Ensuring universal access to high-quality telecommunications and transport infrastructure is a challenge even in some of the wealthiest industrialized economies. It is therefore valid to ask how to create local infrastructure for SMEs in developing countries. This question needs to be answered if technological change is to be beneficial for SMEs, which create employment for many of the world's poorest and most vulnerable households.

Questions addressed in this report

This report addresses a number of central questions:

- What is the nature of the changes that affect or will affect the business ecosystems of SMEs?
- How can big data be tailored to the needs of small enterprises?
- Which skills do SMEs need to cope with technological change?
- What can be done to instil trust in new technologies and to facilitate their use by SMEs?
- How can traditional market failures, such as lack of universal access or information asymmetries, be addressed?

1. The business ecosystem in transition

Emerging technologies are changing the business ecosystem in three key ways: Information, finance and logistics

Over the past two decades, new digital technologies have led to the creation of platforms that can instantly match global buyers and sellers in countless sectors. In addition, automation has opened the door to new ways of interacting with clients, whether in delivering goods and services or providing customer service.

The consequences for SMEs are profound

The digital platform revolution has ushered in a new era of doing business. From firms that own and control their resources to those that manage and orchestrate them, technological change has revolutionized production, connectivity and distribution. A key feature of this revolution is the digital platform – an online intermediary that links producers, consumers and service providers, and takes advantage of its reach and network.

Fuelled by cost reductions in the storage and manipulation of data, digital platforms are taking over a number of brick and mortar business activities, blurring the lines between the physical and the digital world. Face-to-face purchases are replaced with a click of a keyboard button, and money transfer operators are now an interface on a mobile phone. Digital platforms are also increasingly extending their reach, expanding the services they offer. Apple now provides mobile payments through Apple Pay, Alibaba offers logistical services, Facebook has an online marketplace, and Amazon offers cloud computing services.

Digital platforms are extending their reach and are becoming dominant players

New technological developments offer immense opportunities for SMEs. Access to market-relevant information and customers abroad is becoming cheaper, and new ways of obtaining finance are opening up. Moreover, reputation building via the web can be more rapid than through traditional methods, and access to transport and ICT infrastructure may become more affordable in remote regions.

Yet, the high levels of market concentration that have come with the platform economy can also make SMEs more vulnerable to abuses of market power by dominant players. While the benefits of using new matchmaking systems are clear, SMEs may become overly reliant on systems and algorithms they understand little and over which they have virtually no power. The data trail left by companies, including user reviews, serves increasingly to assess creditworthiness. This may help some SMEs but can stymie their ability to raise funds if they are unaware of this use of their data trail. Moreover, rules for data use have yet to be established, opening the way for misuse of firms' data. SMEs have to enhance their understanding of these potential pitfalls.

It is also crucial that SMEs learn how to take advantage of newly available solutions while managing potential risks, and that they are able to distinguish between the technological changes that bring real gains and those that are mere fads or fashions. Lastly, they must be able to implement the technological changes that can be to their advantage.

To benefit from new digital offerings, SMEs must have access to the internet and transport networks, which is not always the case. While new technologies may facilitate such access, it is not yet clear how the combination of new delivery technologies and increased concentration within ICT and logistics systems will play out for SMEs in remote areas. Significant regulatory issues, including questions of liability, such as insurance against damage, remain unresolved.

Strong business ecosystems are needed for SMEs to handle change successfully

With online platforms shaking up the ecosystem surrounding SMEs in the connect pillar and in the areas of finance and logistics, the quality of other aspects of a country's ecosystem will largely determine whether or not SMEs manage to cope with ongoing changes.

Inspired by the concept of environmental ecosystems, the term 'business ecosystem' has gained prominence in management science and business literature. As is the case with environmental ecosystems, there is no single definition for the term.

ITC's *SME Competitiveness Outlook* focuses on small and medium-sized enterprises that export or intend to export. The ecosystem described in this year's report is therefore the one most relevant for SMEs that trade or seek to trade. The business ecosystem for exporters is composed of a network of for-profit organizations – such as buyers, suppliers, distributors, financial actors and certifying bodies – and non-profit institutions – such as education providers, standard-setters and chambers of commerce. The report also considers local infrastructure to be part of the business ecosystem of exporters, as high-quality local digital and transport infrastructure is a prerequisite for using new, digitally driven technologies for international trade.

This report therefore identifies the business ecosystem as starting at the boundary of the enterprise and ending at the border of the country and at the level of national institutions or regulations. While these national institutions and regulations influence the business ecosystem, the report defines them as part of the national environment.

The business ecosystem is particularly important for SMEs, because smaller firms tend to have less control over their business environment. In contrast, large enterprises are often in a position to shape their business ecosystems, either directly or by expressing their concerns to those in positions of influence. For example, large firms can set up their own logistics systems to meet time requirements and generate investments by local or national authorities in local infrastructure. SMEs, on the other hand, tend to depend on access to external logistics providers and on the quality of existing infrastructure.

The business ecosystem also plays a significant role in a country's ability to attract investors, especially given that value chains are increasingly footloose. This report emphasizes that the ecosystem strongly influences how technological change affects future SME competitiveness in the digital age.

2. The digital platform revolution

In 2017, the market capital valuation of the top 10 internet platform companies reached more than $3.3 trillion, a value close to the $3.4 trillion nominal GDP of Germany, Europe's largest economy. This value also indicates positive investor expectations of these companies and their potential.

This report identifies three trends exhibited by digital platforms:

- Growing markets, as digital platforms' market share grows at a much higher rate than traditional brick and mortar markets;
- Growing scope, as platforms are able to offer aggregated services either by providing them themselves, or ensuring integration with third-party service providers;
- Growing communities, as platforms reinforce collaboration among people with common interests and play an increasingly important role in community building.

While these changes are still taking place, it is already clear that digital platforms have significantly transformed three especially crucial areas for SME competitiveness: conduct of financial transactions, access to and use of information, including for matchmaking and quality signalling, and logistics services operations.

New technologies are changing models for providing services

Digital technologies have contributed to significantly reducing search costs and other costs related to matching buyers and sellers. Digital platforms work as online intermediaries that connect buyers and sellers; exchange information, goods and services; and make use of network effects with every additional user. They are also increasingly important players in the matching of supply and demand.

These platforms can be different in type depending on their end-customers, inventory business model, the value unit they provide, and the extent of their open access. However, they have all grown in market reach, scope and in the communities they serve. Moreover, they have expanded from mere matchmaking to providing many more services for their customers including logistics, software and even hardware sales. Finally, with every increase in community reach, more information and knowledge is generated through them, increasing the value they provide for SMEs.

Platforms share information, signal quality

Digital platforms provide SMEs with a particularly crucial tool to receive and share information about suppliers, buyers, products and services, as well as general market trends. Traditionally, trade and investment promotion organizations (TIPOs) have been providing such information to SMEs.

As most SMEs are too small to be able to generate and access such information, these platforms significantly reduce information asymmetry and improve decision-making. They also provide services such as e-marketing for sellers and the use of big data analytics for more targeted advertising. In addition, the popularity of peer platforms has turned them into quality assessment tools through ratings and reviews, which help SMEs improve their products and services further as well as build trust and loyalty with clients. SMEs are increasingly using these tools to their benefit and growth.

ICT-enabled services ease financial constraints

Access to financial services is crucial when an enterprise starts operating and for its further growth and development. These services remain a constraint for many SMEs, because the banks that dominate them often have stringent requirements, cumbersome processes and high service fees. Globally, over half of trade finance requests by SMEs are rejected, compared with just 7% for multinational companies, for example.

However, while traditional banking remains the most common source of external finance, alternative financing methods have emerged, especially in developing countries. These include supply chain finance and solutions based on information and communications technology (ICT). Such solutions allow for online payments and online money transfer services, for example, as well as ease funding for SMEs based on the history of their transactions and even on their savings. Innovations through digital platforms have also allowed for a rise in peer-to-peer lending and crowdfunding. Moreover, while still in its nascent stage, there has also been an uptake of blockchain technology in trade finance.

Alternative finance and ICT-based solutions are growing in most regions, with notable increases in Europe and the Americas. In Asia, as well as globally, China is making its mark, accounting for most of the global alternative finance market, while Africa and the Middle East show potential for growth. One of the main advantages of these solutions is that they can be tailored to specific contexts, promising growth even for SMEs with a limited digital footprint.

Platform-based solutions are changing logistics

Logistics services are important for the firm's competitiveness, ensuring that the right product gets to the right buyer, with reasonable costs and timeframes. Strong logistics services are a sign of a dynamic business ecosystem. Developing countries in particular assign these services great importance. Given that many SMEs do not have the resources for in-house logistics operations, many have opted to outsource them.

These logistics suppliers have in turn seen much innovation, from automated operations in warehouse and storage management to significant progress in tracking and tracing, as well as the early use of drones to deliver products to sometimes remote locations. New business models have also emerged within the e-commerce environment offering crowd-logistics and platform-based solutions to tap into the sharing economy by matching available capacity with delivery needs.

Despite having less access to technology, women use digital platforms to their advantage

Women are 11.6% less likely to use the internet than men. Yet, where women have access to digital platforms, they use them.

- Procedural obstacles to trade that women often face can be reduced through increased use of digital single windows;
- Women-owned firms are relatively more active in e-commerce than in traditional trade;
- Mobile money solutions have allowed women in some countries to overcome traditional barriers to accessing finance.

A business ecosystem's strength determines whether the benefits of technology are spread evenly

Online platforms are progressively increasing SME visibility and access to markets, lowering costs of entry and exit, simplifying buying and selling, and encouraging innovation and entrepreneurial spirit. However, the new business model is increasingly raising concerns about the market power and potential monopolistic/oligopolistic behaviour of platforms: they enable intense competition by SMEs but face relatively few competitors themselves. These platforms have also highlighted a digital divide not only between countries but also within them. Finally yet importantly, there is increasing awareness that automated analyses of big data do not necessarily lead to unbiased outcomes, given that the algorithms used for the analysis may have in-built biases.

For these and other reasons, the role of not-profit institutions remains important if business environment 4.0 is to function smoothly. Those institutions will have to embrace new technologies and may have to offer services that address distortions brought by these new technologies.

3. Foundations for SME success in a 4.0 world

Information, skills and quality create foundations for success in a 4.0 world

To take advantage of new opportunities in the digital age, firms have to deal with and often adopt new technologies. Whether and how to do this depends on the skills and capacities available in firms. It also depends on signals that firms receive about the reliability of new technologies and their likelihood of standing the test of time.

For exporters, success in a 4.0 world therefore depends on a number of aspects of the business ecosystem:

- Offers related to market information, market access and export promotion are likely to change significantly over coming years and may increasingly be provided by private sector companies. It is unclear whether the relevant services will satisfy the needs of exporters, in particular SMEs.
- Exporters will have to be able to hire or generate the skill sets needed for them to function successfully in a 4.0 environment. Whether they manage to find those skills will depend on the capacity of training and education institutions to adjust.

- Exporters, especially small and vulnerable ones, will be looking for guidance on the quality, interoperability and safety of new technologies. Whether they receive adequate guidance, will largely depend on the ability of countries' quality infrastructure to react to technological change. Standard-setters and regulators may play a special role in this area.

The so-called data revolution is a key feature of the fourth industrial revolution. The rapid growth in amounts of data has led to the perception that everybody has, or will soon have, unlimited access to many types of information. This is not the case today, however. Currently, only limited numbers of economic actors have access to usable big data. While technology could allow many other individuals or firms to generate data, doing so is not straightforward. This report provides analysis and practical advice for three types of institutions – those that promote trade and investments, build skills, and ensure quality.

Tailored support increases number of exporters

Successful trade and investment promotion relies on accessing information on target markets tailored to the needs of potential exporters or investors. Recent ITC findings show that a 1% increase in the budget of trade and investment promotion organizations raises export growth by 0.03 to 0.08%. Regarding exports, TIPOs tend to encourage the dynamic side of exports, such as new products or markets, more than volume.

Findings in this report suggest that TIPOs have been successful in supporting national exporters to enter and survive in targeted markets. The measured ability of institutions to provide appropriate market support abroad seems to be positively linked with the survival rate of exporters.

ITC research shows that countries in which TIPOs spend a higher share of their budget on new exporters tend to have more exporters. More specifically, a 10% increase in spending on new exporters, without increasing the total budget, leads to a 4.6% rise in the number of exporters per destination. The magnitude is significant. If a TIPO with an average budget for new exporters of around $5-$15 million, such as the organizations PROCHILE, PROMEXICO or Turkish IGEME, reallocate another 10% of their budget on supporting new exporters ($0.5 million to $1.5 million) the number of new exporting companies or companies exporting to new destinations would increase by 4.6% per destination market.

There is less empirical evidence available to assess the impact of investment promotion agencies (IPAs). A cross-country analysis of foreign direct investment (FDI) from the United States to 124 destination countries shows that each additional dollar spent on investment promotion increases FDI inflows by $189. Furthermore, the sectors prioritized for investment promotion experience 68% more employment than those that are not given priority.

The rise of platforms changes the way of providing tailored information

New technologies and data platforms have the potential to transform the way tailored market information is delivered and may therefore have profound effects on activities to promote trade and investment. With digital platforms increasingly providing market information, matching buyers and sellers, and ranking the quality of offering, there is a question mark over how trade and investment promotion organizations and investment promotion agencies will adjust to this change. There is also uncertainty over whether new providers of information and matching services will be interested in and able to provide the targeted services offered by TIPOs and IPAs, which have been proven to be successful.

Training and education systems are key for providing tomorrow's skills

Industry 4.0 also has the potential to change labour markets dramatically, particularly regarding the skills that enterprises require from employees. According to one estimate, the skills demanded across industries will change by 35% within a handful of years. Such shifts put enormous pressure

on countries' education and training systems to adjust. Yet, in many countries those systems are notoriously inflexible, portending serious challenges.

Though both firms and employees have incentives to invest in new skills, markets for education and training are known for not functioning efficiently. This is among the reasons that the public sector has traditionally played a major role in education and training. Another cause for this role is concern for equality of opportunity, with government intervention aiming to ensure that low income households and SMEs can make the necessary investments in skills even if their access to finance is limited.

Governments are therefore likely to pay part of the training and education bill that will come with industry 4.0. This report addresses the question of how that bill is divided between the public sector and individuals or firms.

Another major challenge is to ensure that skills taught today remain relevant tomorrow. This is difficult, given rapidly changing skill demands. Forms of public-private collaboration, such as those inherent in technical and vocational training (TVET) systems, are likely to be instrumental in ensuring that workers get the right skills for the job. Such collaboration has been successful in countries such as Germany and Switzerland, but it has not always been easy to replicate elsewhere.

Technical and vocational education and training systems have also not always been able to react to fundamental technological change. There is uncertainty over whether they will be able to do so in the future. In this context, it is important to underline that traditional TVET systems have relied on various forms of coordination among peers in the private sector. This notion may not fit easily with business models that consider themselves 'disruptive' and a time where the peers of today are not those of tomorrow.

Quality infrastructure is key for trust in new technologies

A product's perceived quality is significant in influencing consumer-buying decisions, and a product's actual quality is significant in determining whether people become repeat customers. Where customers are disappointed, sales are likely to go down, and where trust in certain products is lost, entire markets may disappear.

Emerging technologies are introducing new products and processes, many of which contain quality aspects that are not immediately discernible to consumers. Are the customer comments on hospitality webpages authentic, or manipulated? How secure are electronic banking tools? What is the likelihood that a self-driving car will crash? For markets to function well, they need quality control and monitoring mechanisms. These often involve standards or regulations designed to take into account customer expectations, industry standards and national policy objectives, such as public health or national security.

The business ecosystem in certification and standards usually consists of five core actors, each with specific roles: metrology, accreditation, standards authorities, testing and certification laboratories, and inspections authorities. Collectively these are often known as 'quality infrastructure'.

The rapid evolution of technologies requires speedy adjustments from all these players to:

- Ensure trust for digital goods;
- Promote interoperability among digital products;
- Address privacy and security challenges.

Transmitting knowledge about quality certification and related processes is key to promoting certification. SMEs, especially in developing countries, may not be able to shoulder these costs fully, and public or public-private entities have a role to play. The returns on investment are likely to be significant.

SMEs may require support to be certified

Among firms that receive assistance to be certified – for example, in a group of 14 Latin American countries – the share of firms with quality certification is about seven times higher than among firms that have not received any assistance. Similarly, firms that have received assistance in obtaining quality certification are three times more likely to export. This evidence relates to quality certification in 'traditional' goods and services. However, it suggests that supporting SMEs may also apply to the field of digital certification.

4. Shortening infrastructure's last mile

The fourth industrial revolution has been heralded as having the potential to connect billions more people and to improve dramatically the efficiency of organizations. The underlying assumption is that people and enterprises are actually connected to one another and to new technologies via the internet or transport infrastructure.

Last mile barriers are colossal for many SMEs

In fact, however, 1 billion people in low income countries live more than 2 km from an all-weather road. About half of the world's population – 3.9 billion people, 90% of them in the developing world – do not use the internet. For industry 4.0 to benefit everyone, existing infrastructure gaps need overcoming. This will be most challenging for households and firms in remote areas. According to Amazon executive Brittan Lad, 'The last mile on average makes up nearly 30% of transport costs. And it is very hard to bring those down.'

New technologies may help to close the last mile

The good news is that industry 4.0 is ushering in new technologies that can make it easier to close existing infrastructure gaps, including last mile gaps, to connect remote households and SMEs to infrastructure nodes or hubs.

Many of these technologies, however, are still in the experimental stage. It is not yet entirely clear, how economically viable these technologies are, and major issues of financial and regulatory responsibilities need solutions.

The term last mile also describes the final leg of the communications networks that connect to end-consumers. The last mile is usually a speed bottleneck because the final link between the major hubs and end users such as SMEs is disproportionately expensive and technologically complex to solve, and yet the most valuable. For SMEs in remote areas, the last mile problem can equally be a 'first mile' issue when they function as suppliers to the hubs. It is a big challenge offering high-end telecommunication services in distant and rural areas because of the high costs of fitting and maintaining fibre optic cables or wireless networks.

New technologies can help to close the last mile. For example, mobile telecommunications have permitted many Africans to leapfrog fixed-line networks and move directly into wireless technology. In addition, 3D printing of bridges, use of cargo drones for delivery, and balloons to provide internet access are being exploited as potential solutions. To facilitate the increased use of new technologies to close the last mile gap, financial and regulatory challenges will need to be addressed.

Old challenges regarding funding and responsibilities remain

First, investment in last mile infrastructure solutions is not necessarily profitable. The cheaper the infrastructure and the larger the number of users, the more likely it is that such investments will be made by the private sector. Yet, traditional questions around the funding of and payment for last mile

infrastructure may not entirely disappear. It is also necessary to keep in mind that the public sector remains by far the largest source of overall infrastructure financing, accounting for 70% of the total. The private sector finances about 20%, and the remaining resources come from official development assistance.

Second, there are difficult regulatory issues to be resolved, particularly regarding liability in the event of an injury. In the case of traditional infrastructure technologies, this may involve injuries caused by collapses of bridges or damage in roads. In the case of new technologies, this may refer to injuries caused through accidents involving autonomous drones. Should the manufacturer pay, the software developers who designed the artificial intelligence system, or the service provider who operates the drone?

5. Embracing change for business ecosystem 4.0

The digital revolution has already transformed our economies and society. It has changed the way in which information is generated and accessed to such an extent that some have argued that data is 'the new oil'. New technologies and tools have entered our daily lives at home and in the workplace. Companies have new ways of doing business, and digital platforms now provide services that used to be the bread and butter of retailers, travel agents, banks and trade and investment promotion organizations.

These changes are creating immense opportunities for many. At the same time, however, they pose risks to economic growth and inclusiveness when the business ecosystem is not set up to harness the power of new technological possibilities.

Institutions in charge of furnishing market information, providing skills and monitoring quality have an important role to play, as they are key to determining the quality of the business ecosystem. In many places these institutions are either entirely public or are public-private non-profit service providers. In the past, they were not often known for being very dynamic or innovative. This report argues that such institutions need to fully embrace change and become 'cautious revolutionaries' to remain relevant.

In this period of disruption, those sticking to old methods may well be displaced by new actors, often from the private sector. Such a development would not necessarily benefit SMEs and inclusiveness, as weaker economic players are most likely to suffer from market failures and malfunctions that non-profit service providers can address but private sector players are free to ignore.

Cautious revolutionaries needed

For the benefit of SMEs around the world, the business world needs cautious revolutionaries in the fields of trade and investment promotion, training and education, and quality control and certification.

Cautious revolutionaries:

- Value and embrace data and technology;
- Are open to new partnerships;
- Take risks, as the digital transformation is too recent for evidence and experience to identify clearly what works and what does not;
- Are prudent in the face of risks and novelty, because their main role in the business ecosystem is to instil and preserve trust in markets while new technologies emerge.

Trade and investment promotion organizations: Make big data accessible to small firms

Given the importance of data and the difficulties that SMEs have in accessing and using them, TIPOs should consider using new technologies and data analysis to collect their own data and learn more about clients and partners in their networks. For this purpose, they can create their own online platforms to facilitate contacts between local businesses and potential buyers in foreign markets, modernizing their traditional matchmaking services. A promising initiative – already exploited by a number of TIPOs – is to build partnerships with other digital platforms.

In this rapidly changing environment, TIPOs must manage risks associated with the choice of technology, tools and partners. They also have a role in helping SMEs to assess and manage similar risks.

To make big data work for small firms, TIPOs should follow this action plan:

- Allocate resources for IT and communications;
- Adopt technologies and train personnel;
- Provide tailored solutions to SMEs;
- Form partnerships with platforms offering digital commerce, logistics and e-payment services;
- Signal trustworthy partners and technologies;
- Signal which standards are important;
- Represent SME interests in negotiating with platforms and communicating with regulators.

Education and training providers: Anticipate, act and adjust

Training institutions must teach today the skills that trainees and students will use in the labour market years from now. This is very difficult given that skills predictions change every few months. Nonetheless, these institutions need to react even if information is lacking. Failure to adjust may put entire cohorts of young people at risk. This means that decisions about curriculums and investments in technology have to be made in an environment of uncertainty.

Recent studies on skills demand indicate that a combination of complex problem-solving skills, technical skills, and social and emotional skills will be required in the near future. As to technical skills, there is a distinction between digital skills and technical skills associated with the machinery, technology and robots that are specific to a particular job. Regarding digital skills, many experts advise that basic digital skills should be included in the compulsory school curriculum. Science, technology, engineering and mathematics (STEM) education in the compulsory school curriculum prepares students for the advanced digital skills they will acquire in tertiary education.

For SMEs, advanced skills in digital entrepreneurship and cybersecurity are of particular importance. They also need a thorough understanding of the platform economy, including the role of financial information in that environment.

It is harder to generalize about the technological skills needed for specific jobs. The role of design tools is different for a carpenter than for a baker. The role of robotization may vary from hotels to health spas. In such cases, technical and vocational education and training institutions may have to take difficult decisions within a context of uncertainty – and it would be inadvisable to postpone such decisions.

Partnerships between company coalitions, government and local education institutions are likely to be key for sector-specific upskilling and reskilling, combining theoretical and applied training.

On-the-job training and learning by experience can be useful in a changing environment where skills quickly become obsolete. On-the-job adult learning or informal learning outside the workplace is especially relevant for SMEs, which are less likely to participate in formal training courses.

Yet, building sustainable public-private partnerships for vocational training and education is not straightforward. It has not proven easy to replicate successful apprenticeship systems, such as those in German-speaking countries, in countries that lack the relevant historical and institutional arrangements. Current technological change entails the additional difficulty of identifying the appropriate companies to work with. In fast-changing markets, some of today's successful gazelles may no longer be around tomorrow.

There is no time to design perfect solutions. Vocational education and training providers could identify the most successful national players in new technologies and find ways to involve them in their training and education offering.

The report suggests the following action plan:

- Facilitate adoption of technology, especially among women, youth and SMEs in remote locations, and anticipate needs for skills;
- Identify 'gazelles' (firms with high growth potential) and involve them in training;
- Decide which new skills to teach;
- Anticipate and provide relevant skills that make people confident about the future.

Quality infrastructure bodies: Build trust in new technologies

Despite the growing share of digital goods in international trade, many national quality infrastructure systems are not fully engaged in designing and certifying standards for digital products. Moreover, roles and responsibilities for quality assurance in the digital era are less well defined than for physical goods. Standards today tend to be developed and maintained by private sector companies, trade associations, consortia or alliances, sidestepping traditional quality infrastructure.

However, traditional quality infrastructure still plays a role, particularly in finding the right equilibrium between governance and innovation. Striking this balance is crucial to building and maintaining trust in new technologies. It is also key to ensuring interoperability and facilitating adoption of new technologies, especially by SMEs.

Regulation is often associated with burdens on business or innovation. Indeed, it can remove some of the freedom that is inherent to entrepreneurship. At the same time, however, it can foster innovation by creating a more secure environment. Regulation may also be necessary to prevent new technologies from disappearing because consumers lose trust in them.

In times of technological disruption, it is difficult to assess which regulation or standard strikes the right balance. To avoid a situation where the lack of regulations and standards leaves people and companies unprotected and exposed, regulators often have to intervene, taking a calculated risk that they may be overregulating.

Given that SMEs are economically vulnerable, it is in their interest for quality infrastructure bodies to be stronger and more proactive in setting standards and assessing conformity for digital goods, especially regarding cybersecurity and data privacy. National quality organizations can adopt international standards and recognize competent testing authorities outside of the country, while also participating in regional and international standard-setting bodies.

Technology can close the last mile in transport and communications, but challenge of funding and responsibilities remains

Funding is necessary to close existing transport and ICT infrastructure gaps, particularly in remote regions. The extent of the required funding is such that private sector finance will be a prerequisite, as recognized in numerous international policy documents.

New technologies hold the promise of reducing the amounts of funding needed to close last mile infrastructure gaps. Yet, two old challenges remain on how to create incentives for the private sector to invest in the last mile and how to define the roles and responsibilities of the public and the private sectors. Transport and ICT infrastructure are collective goods, and leaving investment solely to the private sector can lead to the abuse of market power resulting in high user fees or lack of incentives to invest in maintaining infrastructure.

For the private sector, disincentives to investments in last mile transport and ICT infrastructure remain, given the greater risks, lower profitability and longer timeframes for building transport and ICT infrastructure in rural areas.

Public-private partnerships can offer a path for completing the last mile in infrastructure connectivity. To boost private participation in last mile projects, governments must enhance incentives and create a conducive environment for private actors. The success of these partnerships hinges on the quality of governance and the proper drafting and structuring of contracts, while sharing costs and responsibilities.

The report suggests that quality assurance bodies follow this action plan to create trust in today's digital age:

- Facilitate adoption of technology, especially among women, youth and SMEs in remote locations;
- Involve new players early;
- Favour international approaches to standards;
- Strike a balance between governance and innovation in a fast-changing environment;
- Ensure privacy, safety and interoperability;
- Build and maintain trust in technology through quality assurance and certification.

Learn from the past: Build strong ecosystems to manage change

Amid discussions of a new industrial revolution and technological disruptions, it is important to underline that this is neither the first industrial revolution nor the first technological disruption. The challenges that various stakeholders face are also not entirely new. Steam power and the electric telegraph arguably led to challenges and questioning similar to those seen today.

People who play a role in shaping business ecosystems can therefore learn from the past when deciding how to think about partnerships, how to assess risks and how to instil trust in times of change and potential market failures. This can help to avoid mistakes and build new ecosystems more rapidly.

One lesson from the past is that technological disruption and expanded globalization – particularly when combined – can trigger social unrest and popular resentment if not managed well. A strong business ecosystem will be key for managing change, and this report aims to provide practical steps towards building such an ecosystem.

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Business Ecosystems for the Digital Age

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CHAPTER 1

The business ecosystem in transition

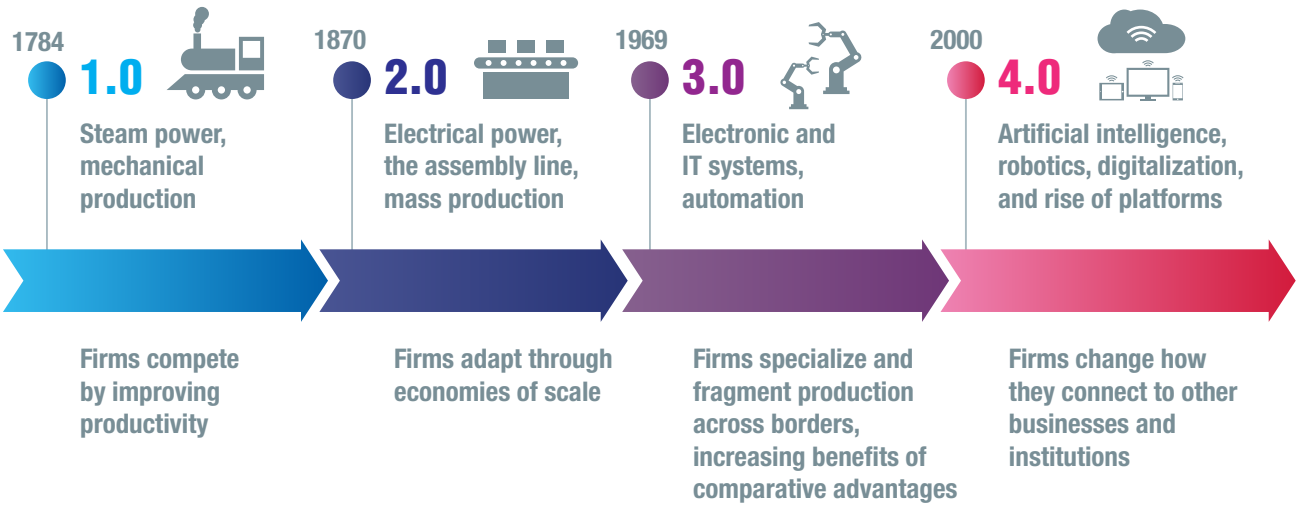
Technological change is creating a new landscape for businesses today. Fast-paced advances in areas such as artificial intelligence, robotics, 3D printing, nanotechnology and quantum computing are helping to blur the lines between the digital and physical worlds. The far-reaching nature of the transformation has led many to identify it as a fourth industrial revolution, or 4.0 for short.

The impact on trade is extensive, with new technologies connecting buyers and suppliers across a greater range of locations and industries than ever before. The rise of digital platforms, which spur big data, and the growth of networks are transforming in particular the way firms access information and connect to others (Figure 1).

This report focuses on those aspects of technological change that are driven by digitalization and the rise of the platform economy. The digital platform revolution has greatly changed the way in which firms connect to 'others', be they buyers, suppliers, peers or supporting institutions at home or abroad. It could be argued that it is entirely reshaping the business ecosystem of small and medium-sized enterprises (SMEs) that export or intend to export.

This report suggests how best to gain from these developments and identifies potential pitfalls for SMEs. It highlights the role for traditional actors in the business environment in helping SMEs to adopt new technologies

FIGURE 1 How industrial revolutions affect the business ecosystem



Source: ITC.

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and manage risk. Such players are involved in promoting trade and investment, providing skills and education, and ensuring that products and services meet quality standards. They will have to embrace new technologies, forge fresh partnerships, build trust, and take calculated risks to help SMEs manage the transition.

Digital platforms on the rise

Over the past two decades, new digital technologies have led to the creation of platforms that enable instant matching of global buyers and sellers across countless sectors. In addition, automation has opened the door to new ways of servicing clients, whether in delivery or customer service.

This transformation is profound, and the consequences for SMEs have not yet been explored in detail. Three major aspects of this rapidly accelerating shift in the business ecosystem faced by exporters or those seeking to export can be identified:

Information, the currency of the digital world: Collecting large amounts of information, known as big data, through platforms allows platforms to produce valuable market insights with unparalleled levels of speed and precision. Information relevant to markets, such as customer profiles, has generated new ways to analyse markets and match buyers and sellers. It has also led to new ways to signal quality via online rating systems, rather than via the more traditional quality infrastructure system. For example, customers booking hotels online increasingly rely on user-generated five-star ratings, rather than on the better-known five-star system for hotels. Irrespective of which system is better, this shift is significant.

New ICT-enabled tools in finance: New matchmaking technologies are also affecting the world of finance. Businesses traditionally have depended on the formal banking sector for financing, and SMEs have struggled to secure loan conditions as favourable as those offered to larger firms. Financing of enterprises is changing, however. SMEs, especially start-ups, have an increasing number of options for securing capital to launch or expand their business. Platforms offering peer-to-peer lending, crowdfunding and cryptocurrency-based securities are growing.

Logistics, en route to digitalization: Logistics services are increasingly provided through logistics hubs, and online platforms are able to connect and influence logistics. In developing countries, the costliest part of the logistics chain is the first mile for picking up and the last mile for delivery. This is usually due to lack of hard and soft infrastructure. New technologies promise to transform logistics operations in the near future. Automated drone delivery systems, internet balloons and cube satellites can connect remote areas to the global economy.

TABLE 1 Business ecosystem in the SME competitiveness grid

PILLAR	THEME	LEVEL		
Compete	Quantity and cost requirements	Firm capabilities	Business ecosystem	National environment
	Time requirements			
	Quality requirements			
Connect	Connecting to buyers			
	Connecting to suppliers			
	Connecting to institutions			
Change	Financing requirements			
	Skills requirements			
	Innovation and intellectual property requirements			

Source: ITC.

Impact on small businesses

Online platforms are increasingly powerful forces in the business ecosystem and are key drivers of change. In addition to their growing dominance in connecting market players, they are becoming active in the other pillars of competitiveness, for example offering financial and logistics services.

The connect pillar, which has long been part of the ITC SME competitiveness grid (Table 1), describes firms' ability to 'connect', which means interacting with customers, businesses and institutions, and be literate in information and communications technology (ICT). This is of particular interest in this report, as the pillar is undergoing significant changes through the emergence of online platforms. The ability of SMEs to handle those changes will largely determine their future performance.

With online platforms shaking up the ecosystem surrounding SMEs in the connect pillar and in the areas of finance and logistics, the quality of other aspects of a country's ecosystem will largely determine whether SMEs will manage to cope with ongoing changes or not. The business ecosystem is particularly important for SMEs, because smaller firms tend to have less control over their business environment, or ecosystem. In contrast, large

enterprises are often in a position to shape their business ecosystems, either directly or by expressing their concerns to those in positions of influence. For example, large firms can set up their own logistics systems to meet time requirements and trigger investments by local or national authorities in local infrastructure. SMEs, on the other hand, tend to depend on access to external logistics providers and on the quality of the existing infrastructure.

The business ecosystem also plays a significant role in a country's ability to attract investors, especially given that value chains are increasingly footloose. For these reasons, the ITC SME competitiveness grid has had a specific focus on the business ecosystem. This report emphasizes that the ecosystem also strongly influences how technological change affects future SME competitiveness.

New technological developments offer immense opportunities for SMEs. Access to market-relevant information and customers abroad is becoming cheaper, and new ways of accessing finance are opening up. Moreover, reputation building via the web can be more rapid than through traditional methods, and access to transport and ICT infrastructure may become more affordable in remote regions.

Yet the high levels of market concentration that are inherent to the platform economy can also make SMEs more vulnerable to abuses of market power by dominant players. While the benefits of using new matchmaking systems are clear, SMEs may become over-reliant on systems and algorithms they understand little and over which they have virtually no power. The data trail left by companies, including user reviews, serves increasingly to assess creditworthiness. This may help some SMEs but can stymie their ability to raise funds if they are unaware of this use of their data trail. Furthermore, rules for data use have yet to be established, opening the way for misuse of firms' data. SMEs have to enhance their understanding of these potential pitfalls.

It is also crucial that SMEs learn how to take advantage of newly available solutions while managing potential risks, and that they are able to distinguish between the technological changes that bring real gains and those that are mere fads or fashions. Lastly, they must be able to implement those technological changes that can be used to their advantage.

To profit from new digital offerings, SMEs must have access to the internet and transport networks, which is not always the case. While new technologies may facilitate such access, it is not yet clear how the combination of new delivery technologies and increased concentration within ICT and logistics systems will play out for SMEs in remote areas. Significant regulatory issues, including questions of liability, such as insurance against damage, remain unresolved.

Implications for the business ecosystem

Inspired by the concept of environmental ecosystems, the term 'business ecosystem' has gained prominence in management science and business literature. As is the case with environmental ecosystems, there is no single definition of the term. It commonly refers to the environment in which organizations operate.[1] Components of an ecosystem differ, depending on whether the centre of gravity is a small or a large enterprise, a start-up or a mature firm, a high-tech or a low-tech firm.[2] There are also different approaches to defining the boundaries of the business ecosystem.

ITC's *SME Competitiveness Outlook* focuses on small and medium-sized enterprises that export or intend to export. The ecosystem described in this year's report is therefore the one most relevant for SMEs engaging or wanting to engage in trade. The business ecosystem for exporters is composed of a network of for-profit organizations – such as buyers, suppliers, distributors, financial actors and certifying bodies – and non-profit bodies – such as education providers, standard-setters and chambers of commerce. The report also considers local infrastructure to be part of the business ecosystem of exporters, as high-quality local digital and transport infrastructure is a prerequisite for using new, digitally driven technologies for international trade.

As for technological change, it is largely driven by private, for-profit actors in the ecosystem. Their impact on SMEs depends to a great extent on how others in the ecosystem adapt to change. As a result, this report puts the spotlight on non-profit service providers in the evolving ecosystem.

The report's focus on such institutions is in line with past ITC reports, which considered that the business ecosystem is strongly anchored in the direct experience that individual SMEs have with their local or sectoral environment.[3] SMEs in a remote rural area can experience a very different ecosystem than SMEs in large cities. Such differences are particularly striking in developing countries. SMEs in the agricultural sector, for example, may also experience a different ecosystem than SMEs in the chemical sector, reflecting the accessibility of relevant buyers, suppliers, certification bodies and training institutions. Enterprises within the same national environment may experience very different business ecosystems.

This report identifies the business ecosystem as starting at the boundary of the enterprise and ending at the border of the country, and at the level of national institutions or regulations. While these national institutions and regulations influence the business ecosystem, the report defines them as part of the national environment (Table 1).

Three areas key to ecosystem 4.0

Technological developments are fundamentally changing the way in which firms operate. Online platforms have become the place where buyers connect to sellers and increasingly provide other market-relevant information. Contracts are established online and payments are made online, too. In order to take advantage of new opportunities, firms have to deal with and often adopt new technologies. Whether and how to do this will very much be determined by the skills and capacities available in firms. It will also depend on signals firms receive about the reliability of new technologies and how likely they are to stand the test of time. This report looks at three areas that are key to building an ecosystem adapted to the 4.0 world:

- **Export and investment promotion services:** Trade and investment promotion organizations (TIPOs) may see the matchmaking element of their service portfolio partly replaced by platforms. However, platforms will not address some of the more difficult coordination challenges facing firms. For instance, some types of products require regulatory approval in the destination market, traditionally lobbied for by trade and investment promotion organizations. Access to tailored market information based on big data is also not necessarily available at an affordable price to SMEs through online platforms. TIPOs and other trade and investment support institutions therefore continue to have a role. They will nonetheless need to change their business models in order not to be (partly) displaced by new service providers.
- **Quality infrastructure for digital goods:** New technologies require new standards. The private sector is leading the creation of standards on digital goods and services. This is also common in other industries and helps to drive innovation. National quality infrastructure bodies, however, need to be ready to intervene to guarantee that these emerging standards are transparent, interoperable, inclusive, secure, and protect privacy. Where the private sector fails to respond to customer demands, national quality infrastructure bodies will need to create new standards of their own.
- **Skilling up for the future:** Educational institutions will have to adapt to provide the rapidly changing skills required by companies. Two features of the 4.0 economy are likely to drive changes in the skills market. First is the shortage of skills needed to leverage the rise of new technologies effectively (programming and complex problem-solving, for example). The second is increased demand for retraining as new technologies replace workers. Educational institutions will have to respond to these changes by working with the private sector. Such collaboration is non-existent or unusual in many countries and may be difficult to build and maintain when the private sector is undergoing rapid change. Virtual learning, which is better suited to working-age adults and encourages lifelong learning, may help. Investing in better hardware to quicken the pace of skills delivery will also be necessary.

Ecosystem 4.0 in remote areas: Utopia or reality?

Most of the potential benefits of changes in the ecosystem described so far will be inaccessible if SMEs are not connected to physical or digital infrastructure. SMEs without internet connection will not be able to take advantage of services provided through the platform economy. SMEs without access to adequate and affordable transport infrastructure will find it impossible or unaffordable to conduct trade via online platforms.

Descriptions of business ecosystems in high-tech centres refer to connected online sales and logistics providers and the need for high-quality and connected digital and physical infrastructure. While many countries may be able to create such high-quality infrastructure hubs in selected urban areas or industrial zones, it is much harder to envisage extending this to the country as a whole, especially to the remotest areas.

Universal access to high-quality digital and transport infrastructure is a challenge even in some of the wealthiest industrialized economies. It is therefore valid to ask how to create local digital and transport infrastructure for SMEs in remote rural areas in developing countries. This question will need to be answered if ongoing technological change is to be beneficial for SMEs that create employment for many of the world's poorest and most vulnerable households.

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THOUGHT LEADER

Growing MSMEs, a path to national development

Gabriela Michetti

Vice President of Argentina

Micro, small and medium-sized enterprises (MSMEs) play an important role in economic development, especially in regional economies like that of Latin America. Today more than ever, strengthening these firms is viewed as a means to achieve more inclusive, genuine and sustainable socioeconomic progress.

We Argentines have taken ownership of that philosophy, and we are increasingly aware of the impact that MSMEs have on working families, production, and access to goods. Above all, we have embraced the notion that an idea, which starts out small, can be nurtured and transformed into something big.

Fostering a stronger business ecosystem for the MSME sector is part of Argentina's agenda for growth. The agenda calls for actions that benefit SMEs – which comprise 99.3% of national enterprises – and provide support to their workers who represent 70% of employees in the formal economy.

Fostering dialogue between industry, producers and government

Although there are many paths to meeting those goals, the one we chose was to engage in dialogue with industry leaders and producers, becoming acquainted with their problems and responding to each one as appropriate. As a result, the government has focused on measures that are fundamental parts of the entrepreneurial system.

We introduced a more flexible regulatory framework for MSMEs. Moreover, we have provided stimuli for their creation and support. In 2016, for example, the Productive Recovery Programme Act was adopted; in 2017, the Venture Capital Support Act; and in 2018, the Act on Financing for Production. Many of the 603,000 Argentine enterprises with less than 200 employees represent an opportunity for young people who find it difficult to enter the labour market, for adults who have spent years unsuccessfully seeking work, and for women hoping to play a more productive role in society.

Connectivity, a key to competitiveness

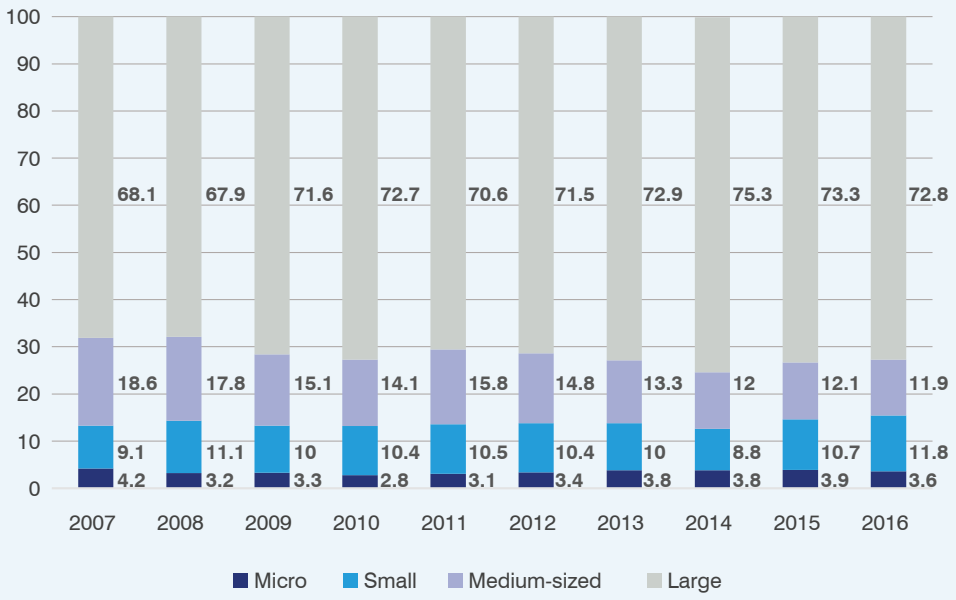
Small and large enterprises also need to access information on consumer habits and patterns, and on local and international competition. In other words, they need more and better connectivity, which allows them to grow both locally and internationally. The Argentine economy stagnated over the past decade, with the export value of MSMEs declining by around 27% (see Figure).

Fostering a stronger business ecosystem for the MSME sector is part of Argentina's agenda for growth.

With this need in mind, in 2017 the Federal Internet Plan was launched to create greater social and productive opportunities nationwide by reducing the digital divide. To date, 472 small Argentine localities have been connected to the country's largest and most extensive fiber optic network, with a potential reach of 15 million people. Another 50 will be connected shortly, for an expected total of 1,300 localities online by 2020.

This progressive improvement in connectivity infrastructure has been accompanied by the development of a road network, which connects the most remote localities to big cities, allowing them to expand their markets nationally and internationally, and to improve coordination between suppliers, logistics and distribution.

Export share of MSMEs in Argentina remained stable in the last decade



Source: Ministry of Production of Argentina.

For those MSMEs that have faced obstacles to exporting, we have instituted a simplified export regime, 'EXPORTA SIMPLE' (EXPORT SIMPLY), which allows small-scale producers to export through postal service providers. This means that more MSMEs can become MSME exporters.

Argentina's G20 leadership: Enhancing the business ecosystem for MSMEs

Small and large enterprises need more and better connectivity, which allows them to grow both locally and internationally.

Argentina is chairing the G20 in 2018 on the theme of 'building consensus for equitable and sustainable development'. In this age of digital transformation, the Digital Economy Group has acquired new relevance. So far this year, an analysis of the impact of technology on growth and employment has been approved, which is expected to generate tools for exploiting the opportunities created by technological change.

Work is also under way to improve the environment in which MSMEs operate, but this ecosystem is a complex structure that requires input from all the actors involved in the productive chain. For this reason, productive policy today tries to listen to the sector's concerns, analyse its situation, and find the most appropriate solutions to its challenges.

Questions addressed in this report

This report addresses a number of central questions:

- What is the nature of the changes that affect or will affect the business ecosystems of SMEs?
- What can be done to instil trust in new technologies and to facilitate their use by SMEs?
- Which skills do SMEs need to cope with technological change?
- How can big data be tailored to the needs of small enterprises?
- How can traditional market failures, such as lack of universal access or information asymmetries, be addressed?

Given the role of the platform economy in driving change in the business ecosystem, Chapter 2 focuses on service providers that deliver for-profit services to enterprises. These seek to help enterprises carry out business functions such as distribution, marketing and product innovation, as well as to provide strategic management advice. Examples of such entities include logistics, telecommunications and financial service providers. The focus is on new business models for providing information and matchmaking services, financial services and logistics. The chapter also looks at how these three service areas are increasingly being merged under single platforms.

Chapter 3 focuses on three groups of non-profit actors who are affected by these changes and crucial to laying the foundations for an ecosystem 4.0 that meets the needs of SMEs. It considers the role of traditional institutions and associations active in the areas of trade and investment promotion, education and training, and quality infrastructure and suggests avenues they can follow to create an ecosystem 4.0 supportive of SMEs.

Chapter 4 examines local physical and digital infrastructure, with a focus on last mile bottlenecks. It explores how new digital technologies can enable the reduction of last mile transport and communications costs. It suggests that smart partnerships, with shared costs, opportunities and responsibilities can help resolve the last mile issue and ensure that the benefits of the technological progress reach everyone.

Chapter 5 provides best practices and policy recommendations for a business ecosystem 4.0 that integrates leapfrogging technologies and allows for overcoming market failures, while creating inclusive and sustainable growth. The chapter calls for important changes in how trade and investment promotion institutions, education and training providers, and players in the quality assurance system go about their work and encourages them to be 'cautious revolutionaries' that embrace and promote technological change while instilling trust in the transformed economy.

The report also includes five contributions from global thought leaders, five case studies and 50 country profiles. Contributions from thought leaders in policy and business complement the analyses provided in the report with informed opinions and novel ideas. Case studies on SME competitiveness show how countries adjusted their business ecosystems to skill youth in the Gambia, access market information in Saint Lucia, compete on quality in Morocco, improve access to certification information in Indonesia and Kenya, and cover the last mile in Rwanda. Country profiles contain indicators and charts on SME competitiveness and export potential, as well as analytical descriptions of the provided data, highlighting strengths and weaknesses of the business ecosystem in each country.

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CHAPTER 2

The digital platform revolution

The digital platform revolution has ushered in a new era of doing business. From firms that own and control their resources to firms that manage and orchestrate them, technological change has revolutionized production, connectivity and distribution. A key feature of this revolution is the digital platform – an online intermediary that links producers, consumers and service providers, and takes advantage of its reach and network.

In 2017, the market capital value of the top 10 internet platform companies reached $3.3 trillion,[4] a figure close to the nominal gross domestic product (GDP) of Germany and higher than traditionally strong sectors, such as oil and gas, aircraft and automotive manufacturing.

Fuelled by cost reductions in the storage and manipulation of data, this impressive rise of digital platforms is taking over a number of brick-and-mortar business activities,

BOX 1: The rise of digital platforms

Digital platforms: What they do

The digital platform can generally be defined as:

'A business based on enabling value-creating interactions between external producers and consumers. The platform provides an open, participative infrastructure for these interactions and sets governance conditions for them. The platform's overarching purpose: to consummate matches among users and facilitate the exchange of goods, services or social currency, thereby enabling value creation for all participants.'

While platforms provide a wide range of services, most of them offer two crucial benefits to their users, be they individuals or SMEs. They reduce search costs by facilitating matchmaking in one place at one time, and they save on shared costs for both buyers and sellers by providing an infrastructure for transactions.[5] They also enhance the efficiency of market and resource allocation through continuous gathering and processing of data.

Platforms and e-commerce: Not mutually exclusive

Although digital platforms include some e-commerce portals, not all e-commerce is carried out on a platform. As defined by the Organisation for Economic Co-operation and Development (OECD), e-commerce is 'the sale or purchase of goods or services over computer networks by methods designed for the purpose of receiving or placing orders'. This encompasses 'orders made over the web, extranet or electronic data interchange. To be excluded are orders made by telephone calls, facsimile or manually typed e-mail'.

Thus, e-commerce need not be conducted through online platforms and does not necessarily focus on matching buyers and sellers. It may involve sales and purchases made on companies' product websites, whereas online platforms enable interactions that must be conducted online and that involve multiple participants.

Sources: ITC; Geoffrey G. Parker et al. (2016). "Platform Revolution"; OECD (2013). "Glossary of Statistical Terms"; Antoine Gara (2017). "The Retail Apocalypse and Mall Die-Off Goes From Big Short to Contrarian Buy"; Andreas Lendle et al. (2016). "There Goes Gravity: Ebay and the Death of Distance".

blurring the lines between the physical and the digital world. Face-to-face purchases are replaced with a click of a keyboard button, and money transfer operators are now a user-interface on a mobile phone. Digital platforms are also increasingly extending their reach, expanding the services they provide. Apple now provides mobile payments through Apple Pay, Alibaba offers logistical services, Facebook has an online marketplace, and Amazon is offering cloud computing services.

The growing market, scope and users of digital platforms have significant impacts on SME competitiveness and performance. This chapter identifies three areas that are opening new opportunities for SMEs and have consequently changed the business ecosystem in which they operate: information, finance and logistics.

Digital platforms have, above all, widened SME access to information. They have increased transparency and improved buyer-seller matching, while at the same time providing a feedback mechanism through peer reviews and customer ratings. Digital platforms have also increased SME access to finance. Through their ICT-enabled tools, such as mobile money and peer-to-peer lending, platforms are now making finance available to SMEs, many of which are greatly underserved by traditional banking. Finally, through their data and process optimization technologies, digital platforms are reducing the cost of logistics services and increasing their reliability and speed. This enables SMEs to better manage their supply chain and decrease their input costs.

However, while many aspects of this business ecosystem 4.0 can be beneficial for SMEs, the costs and risks should not be ignored. These include a rise in the power of platform businesses on the one hand, while SME competition intensifies on the other, triggering a role for regulation. Moreover, for developing country SMEs, the digital divide remains a challenge.

Types of platforms

Digital platforms operate in distinct ways, attract various customers and create various types of values and exchanges. Every interaction involves three types of exchange: information, goods or services, and some form of payment (monetary or non-monetary).[6] There are four different drivers for their business models: customers, inventory, value and access.

Business-to-business or business-to-consumer

Different platform business models cater to different customers. There are business customers, captured through business-to-business (B2B) transactions, and individual customers, captured through business-to-consumer (B2C) transactions. This difference in turn affects platform design and operation.

B2C transactions tend to be stand-alone purchases and are less labour-intensive, allowing platforms to capitalize on the one-size-fits-all approach in the checkout process and across different product groups. The seller sends the product directly to the buyer via express delivery or postal parcel, as part of an ecosystem that includes e-commerce platforms, e-payment providers and delivery services (Box 1). This model presents challenges for regulators, particularly customs authorities, in handling the growing number of high-frequency, low-value items traded across borders.

With B2B transactions, which tend to be larger than B2C, the risks are bigger. Transactions levels are often higher, customers may have more specific expectations and be more demanding, and the process may involve a number of people in the decision-making. This calls for more communication to tailor the purchase to the customer's requirements,[7] making a one-size-fits-all approach less useful. B2B platforms thus focus much more on providing straightforward, useful information and more finely-honed customer service.

Global B2B e-commerce, of which platforms are an integral part, is almost eight times as large as B2C.[8] More than half of international trade in services is in intermediate services (B2B), as opposed to final services (B2C).[9] Moreover, global B2B e-commerce typically happens within, and in relation to, value chains, and is affected by compliance with the relevant technical requirements and associated governance structures. The enterprises involved in these transactions tend to be larger in size, such as online retailers selling medical equipment to hospitals. Developing countries – and their SMEs – generally have less access to the more lucrative B2B.

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Marketplace or inventory based

Platforms are usually based on the marketplace model or the inventory-based model. In the former, the platform acts as a facilitator for multiple retail companies, each managing its own inventory, while the platform itself owns none. In the latter – Amazon being a prominent example – the platform acts as both a facilitator and a vendor. It manages its own inventory, making use of economies of scale and dispatching orders directly to customers, while also allowing other firms to participate. There is, however, a potential threat to the latter model: platforms can behave in a non-competitive way. Since the platform sets the rules of engagement with businesses and customers and sells its own inventory, it can do so in its own interest, which may not always coincide with that of other sellers and buyers.

Wide-ranging exchanges

Many types of value units can be exchanged on platforms:

- Services (on such platforms as Uber, Airbnb and UpWork);
- Product marketplaces (Amazon and eBay);
- Payments (PayPal and WeChat Pay);
- Investments (Kickstarter and Crowdcube);
- Communications (WhatsApp and Skype);
- Social interactions (Facebook and LinkedIn);
- Software and application development (operating systems and application stores);
- User content (YouTube and Twitter);
- General search (Google and Bing);
- Social gaming.[10]

Platforms can expand their domain, modifying the value unit that they offer and the activities that support what they offer.

Free or fee based

While digital platforms are increasingly offering free access to their users, there remain at least some features that are provided only to those who subscribe and pay fees. Shopify, for instance, allows only its paying subscribers to list their products on its e-commerce platform, track delivery and receive payments. Gumroad and Big Cartel are fee-based niche platforms allowing artists to sell their products and offer other services, such as business and market analysis.

Growing markets, scope and communities

Digital platforms have grown rapidly in recent years and increased their role in the global economy. They have greatly diversified the services they provide, from primarily matching buyers and sellers to a host of complementary services and connections. They have expanded the sectors they cover and the business models they use.

Successful platforms have overhauled the traditional pipeline business model that was based on controlling a linear set of activities – the classic value-chain model. They have done so by managing, or orchestrating, resources instead of owning or controlling them; by using interactions between external players to add value instead of only optimizing internal resources; and by focusing on the entire ecosystem for value added instead of just the customer.[11]

Unlike traditional industry growth, which is based on supply economies of scale, a central feature of platform growth is the presence of network effects or demand economies of scale: platforms become more valuable and attractive as more users join them.

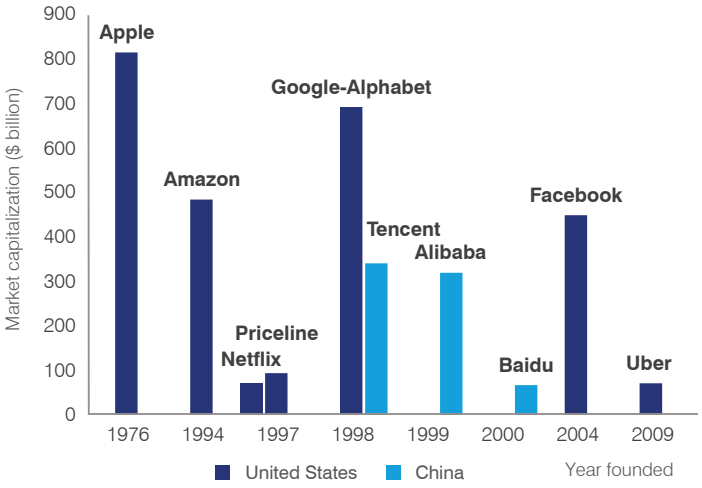
Platforms have grown in three main dimensions – markets, scope and community.

Markets: Value and connectivity

Many online platforms are now superseding the market value of traditional companies in the same industries, as exemplified by the market value of Airbnb, which has surpassed that of Marriott, the world's largest hotel chain.[12] Powered by increased worldwide internet connectivity, the digital platform ecosystem has been growing exponentially, propelled by network effects. Over the past decade, enterprises that have harnessed the benefits of digital platforms have grown considerably in both size and scale.[13]

As previously mentioned, by 2017, the market capital valuation of the top 10 internet platform companies[14] had reached more than $3.3 trillion (Figure 2), a reflection of company potential and investor expectations. E-commerce is now the 10th largest industry worldwide in terms of market value. Global e-commerce (domestic and cross-border) totalled $25.3 trillion in 2015, of which $22.4 trillion was B2B e-commerce and the remaining $2.9 trillion, B2C.[15] The number of customers who engage in domestic and cross-border online shopping has increased in parallel, according to a global Ipsos survey of PayPal customers.[16]

FIGURE 2 Top 10 digital platform companies



Source: ITC illustration based on KP Internet Trends Report 2017.

While some customers still have concerns about the cost and time of delivery of cross-border online purchases, and the amount of customs duties, fees and taxes,[17] recent studies show that the impact of distance matters much less for online international trade than for traditional cross-border trade.[18]

Scope: From matchmaking to aggregated services

In addition to their growing markets, digital platforms have also broadened in scope, transforming themselves from matchmaking spaces into one-stop shops offering aggregated services, with a bundle of complementary services or products. They are continuously evolving to create more value for their users.[19]

Facebook, for instance, began as an online social network and has recently introduced its marketplace. Amazon.com, in addition to providing its own goods and services as well as those of third-party producers, now has its own logistics and transaction services. Alibaba has expanded from its marketplace operations to offer logistics services, online payments and even travel services. Google has extended its services from a search engine to a provider of maps, a marketplace and its own operating system, spanning even the telecoms sector and devices (Google glasses). Similarly, Apple has added considerable complementary services to its hardware and software products, while other platforms are expanding to include logistics services and hardware. Some platforms have also begun to invest in the Internet of Things (IoT) devices and cloud computing. Table 2 illustrates the range of different services provided by four major online platforms.

Communities: Blurring lines between consumers and producers

One major outcome of the increase in digital platform usage has been the emergence of virtual communities.[20] These networks of people and organizations that use online communications are evolving rapidly: they generate knowledge and awareness, create trust and loyalty, and blur the lines between consumers and producers. While this can be a boon for entrepreneurial firms, it is also generating concerns about data privacy and illicit data mining.

Virtual communities may be discussion communities formed and enabled by conventional communication software, such as chats, bulletin boards and forums, or communities emerging from existing internet platforms that have other purposes, such as e-commerce and e-learning.[21] By allowing social interaction, they can create and maintain trust and loyalty as well as generating knowledge and awareness. They can also allow businesses to develop personalized and targeted strategies for their consumers.

Online communities blur the lines between consumers and producers, making consumers part of the co-production process.[22] YouTube and Facebook are filled with user-generated-content. New business projects now involve consumers in product design, production and delivery. Open-source coding communities cooperate in creating algorithms for various businesses.

As these communities expand, more information becomes available, such as profiles of customers' buying behaviour. This helps SMEs selling online target customers and interest groups and leverage this new information to make strategic improvements to their products and services.

Biz4Afrika provides an example from Africa. Serving as an online hub for African SMEs operated by Microsoft, the platform creates a sustainable and connected community of entrepreneurs. A free online directory allows small firms to showcase their products and services and to find businesses by sector, location and size.

Three critical areas for SME competitiveness

Among the many services that have been affected by the emergence of platforms, three areas are particularly crucial to SME competitiveness: access to information, to finance and to logistics. These areas are all highly information-intensive (and thus are well-suited to the platform revolution) and are already undergoing rapid technological change.

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TABLE 2 Services provided by major online platforms

SERVICE	PLATFORM			
	Amazon	eBay	Facebook	Alibaba
Matchmaking	Amazon Business (allows SMEs to get business offers on products, or inputs, that are much cheaper than personal Amazon account)	Marketplace	Facebook Marketplace	Marketplace
Information and communications technology	Amazon Cloud (Amazon Web Service)			Alibaba Cloud
Logistics and delivery	Multiple courier partners (Amazon transport services, FedEx), Track Your Package, Amazon Packaging + Fulfilment by Amazon (programme that lets sellers outsource shipping)	Offers different services through UPS, FedEx		Alibaba Logistics
Market information	Customer feedback, ratings, Amazon advertising, matching customer requests with sellers' products, Amazon Global Selling	Customer reviews	Facebook pages, Facebook ads	In addition to customer reviews, Alibaba provides trade info such as import duties, top sellers sorted by region, community (discussion forums, trade intelligence, answers)
Transactions	Amazon Pay, credit/debit card transactions	PayPal, PayPal Credit, credit or debit card processed through seller's internet merchant account, cash on delivery, Fraud Protection Programme		E-checking, telegraphic transfer, credit card secured by Alibaba.com's anti-fraud system
Quality signalling and certifications		Verified rights owner programme allows the owners of intellectual property rights and their authorized representatives to report listings that may infringe on those rights		Trade assurance, business identity (verification)

Source: ITC.

Information: The currency of the digital world

Firms need information to support their decision-making, manage risk and uncertainty in their business activities and add value to their supply chain.[23] They use this information to know more about their suppliers, competitors and customers, enabling them to build and adjust their plans accordingly. Connecting – being informed about what affects the enterprise and its business ecosystem – is a crucial ingredient of firm competitiveness.

Traditionally, institutions that centralize the collection and dissemination of relevant information have played an important role in helping enterprises, in particular SMEs, to overcome barriers related to market intelligence, distribution and reputation building.[24] Such institutions are trade support institutions, producer organizations (including chambers of commerce) or diplomatic representations. New data gathering and analysis technologies have led to the rise of a new central player for collecting and disseminating market-relevant data – the platform.

Redressing information asymmetry

One of the greatest impediments to the successful entry of developing country SMEs into the international market is their relative lack of access to information. Entering new markets usually requires substantial investment in

information gathering. To lower risks when exporting, it is necessary to acquire relevant market information (on foreign prices, consumer preferences, standards and testing requirements) and information regarding the establishment of appropriate distribution channels abroad (see case study on Saint Lucia in this chapter).

Marketing, advertising, research and analytics experts are the traditional providers of market-relevant information for exporters. Average prices for market reports are not necessarily affordable for SMEs, as these range from $1,500 to $8,000 for standard reports and from $15,000 to $35,000 for reports on specific product or service market trends.[25] When asked about their top priorities for boosting exports in a 2015 survey, firms ranked highest improved access to information about export opportunities.[26] The need for improvements in access to information on export opportunities had considerably more significance for SMEs (over 60% of responses) than for large firms (over 40%).

However, rapid technological developments are not only increasing access to this information but also lowering the costs of its collection and analysis. The rise of online platforms has enabled customers to become more engaged with sellers and to leave feedback and reviews, which can be valuable information. This allows firms to understand buyer expectations better and react to them more quickly and effectively. Such feedback can aid research and development (R&D), design, production and marketing processes, creating additional benefits by better matching consumer tastes.

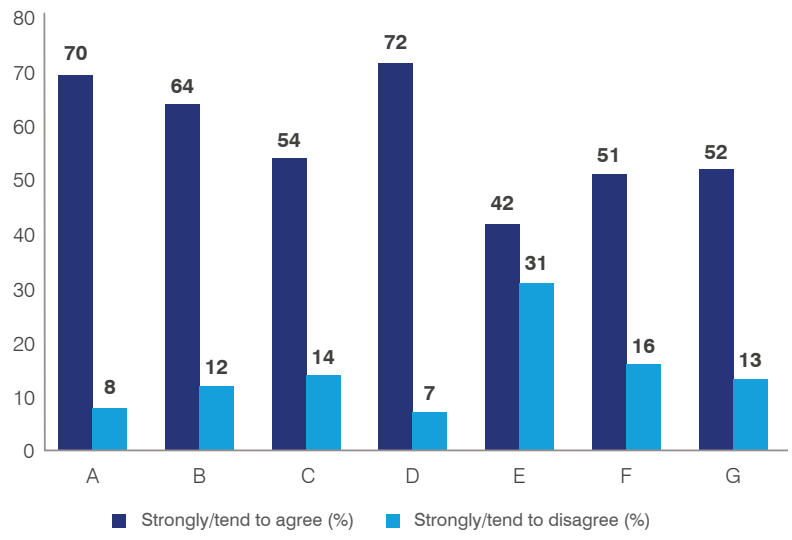
Online platforms have access to this information and are well placed to assess demand, examine the evolution of markets and to understand what sells and what does not at any given moment.

Better matching buyers to sellers

Platforms provide a centralized marketplace for widely dispersed individuals and organizations, bringing them under one roof and allowing for buyer-seller matching – a process called market aggregation.[27] Market aggregation offers platform users access to reliable and up-to-date market data. Platforms such as Amazon, Alibaba and Etsy use the market aggregation function to provide users with an online site of sellers from around the world, offering numerous and varied products. Similarly, Upwork makes the process of evaluating, comparing and hiring easier for employers by bringing a number of professionals together on one platform.

Online platforms reduce transaction and search costs by making large product selections available and allowing users to search for their desired products and services.[28] They also give sellers the option of affordable e-marketing to match better with buyers.[29] Google's AdWords platform, for example, allows users to run advertising campaigns without resorting to traditional advertising agencies or media channels. Such platforms slash the costs of advertising to a fraction of traditional rates.[30] E-marketing is less time-consuming and can be done instantaneously.

FIGURE 3 Consumer attitudes towards ratings on digital platforms



A. I will only ever consider using a seller/provider who has a good overall rating, e.g. 4 or 5 stars out of 5

B. Ratings and reviews of sellers/providers are more useful to me if they are recent – I pay less attention to older ones

C. I will only ever consider using a seller/provider who has a track record based on a minimum number of sales

D. Written reviews from other people are more useful to me than ratings alone

E. While ratings and reviews of sellers/providers can be useful, I will sometimes ignore them if I really want the item or service

F. I have seen ratings and reviews that I considered to be dishonest or fake – either in the way they praised a seller/provider, or in the way they criticized them

G. Many sellers/providers have high ratings, which can make it difficult to differentiate between them

Note: The letters A to G refer to the survey questions.
Source: ITC illustration based on OECD (2017), "Consumer Survey Findings".

Platform companies are also increasingly using big data analytics to provide targeted advertising and push information to the right customer, based on their search results, browsing history and social media posts. Registering on 'Google My Business', for example, is free and ensures that businesses are ranked higher in relevant Google searches and Maps.

Online marketplaces allow firms to access international markets without needing to be physically present in those markets.[31] Merchant platforms such as eBay and Etsy take small business products to the market, while social networks, recommendation engines and search engines help small sellers, who lack the resources to build widely recognized brands, to discover customers. For example, cattle farmers in East Africa use platforms to register information, such as cattle prices, vaccines, health, breed and various certifications, with traders across borders.[32] Using these platforms, buyers and sellers are informed about market supply and demand and market prices, and can reach trading agreements on the platforms, without traveling long distances at great costs. This enables more efficient coordination between buyers and sellers.

Rating the quality of goods and services

Platforms have helped to increase trust and satisfaction with products, services and sellers, thanks to community ratings and customer reviews.[33] Customers today tend to be more inclined to buy from sellers with a critical mass of ratings and reviews. In a survey conducted on United States-based consumers, the vast majority of respondents reported trusting online reviews as much as personal recommendations. Platforms such as Yelp, Facebook and Google are among the most trusted for reviews.[34] While consumers know that there are many fake or dishonest reviews and ratings, they nonetheless see value in these ratings (Figure 3).[35]

Similarly, sellers take advantage of positive feedback for better marketing, advertising, and growth. Negative feedback can also help firms rethink their strategies. In either case, customer feedback can have a huge impact on an SME's business, encroaching on a function previously dominated by review and standards institutions. In the United Kingdom, the Competition and Markets Authority estimates that £23 billion a year of consumer spending is influenced by online reviews.[36] Online reviews have therefore become an important complement to, or even replacement for, other quality assurance set-ups, and it is increasingly important for SMEs to understand how they affect their business.

Finance: New ICT-enabled tools

Another major pillar of SME competitiveness – and another key element of the platform revolution – is finance. This is in crucially short supply for SMEs in developing countries. On average, 38% of small businesses in low income countries rate access to finance as a major constraint on their operations, compared with only 14% of small businesses in high income countries.[37] In other estimates, of the 360 million to 440 million formal and informal micro, small and medium-sized enterprises (MSMEs) in developing countries about half are unserved or underserved by the formal finance sector,[38] especially by banks that dominate the sector today. This signals a relatively significant demand by SMEs and a financing gap.

In fact, many SMEs are hesitant to seek credit and/or unable to access financing due to burdensome requirements, such as collateral, potentially high interest rates and long timeframes for decisions on loans.[39] The suppliers of traditional finance – the banks – are also constrained by the high costs of assessing and serving SMEs and tend to restrict their lending to the largest of small businesses,[40] leaving many enterprises unserved.

ICT-enabled tools that use digital platforms fill some of this finance gap and significantly increase SME access to finance.

Traditional finance tools

In the absence of sufficient internal funds, SMEs have traditionally relied on cash for transactions and, whenever possible, on bank lending for investments.

Cash remains important in developing countries, even in the context of e-commerce. About 20% of MSMEs in developing countries use cash-on-delivery services as a means of payment for their e-commerce transactions, whereas in developed economies the use of cash payments is negligible.[41] As for bank lending, although access to it is difficult for SMEs, those that manage to obtain finance do so mostly through banks. SMEs depend largely on private commercial banks to finance business expansion, with about 58% of their funding coming from such institutions.[42]

Newly emerging ICT-enabled finance solutions, facilitated by digital platforms, have started to revolutionize the financial landscape of SMEs. They bypass some of the major constraints that SMEs face when applying for traditional finance tools and expand SME access to finance in general. This includes access to trade finance through mobile phone-based money (Box 2).

BOX 2: M-Pesa's expanding business and customer reach

M-Pesa (*pesa* means money in Swahili) is a mobile phone-based money service that allows users to make digital payment transactions, without the need for a bank account or a wire transfer. It was launched in 2007 by Vodafone for Safaricom and Vodacom, the two largest mobile network operators in Kenya and the United Republic of Tanzania, respectively. It has since expanded to Afghanistan, Albania, India, Romania, and South Africa.

M-Pesa has been the most successful mobile phone-based money service to date, with over 25 million customers. It is estimated to have contributed to a drop of two percentage points in poverty rates in Kenya, with larger reductions among women-headed households. The service has also helped shift women workers from agricultural occupations to business and retail.

Source: William Jack and Tavneet Suri (2016). "The long-run poverty and gender impacts of mobile money"; Tavneet Suri (2017), "Mobile Money"; Vodafone (2016). "Vodafone M-Pesa reaches 25 million customers milestone"; e-Agriculture (2017). "10 years of M-Pesa: The world's most successful money transfer service.

Buying, selling and paying through digital platforms

The platform revolution is having myriad effects on the financial world for individual consumers and SMEs. It enables an increased scale of financial transactions for pre-existing users, draws previously unserved customers, and speeds up the time it takes to get funding and conduct transactions.

Ant Financial Services Group, for example, a Chinese financial technology company valued at $100 billion,[43] offers a range of services through its platform, which allows customers to buy train tickets, pay utility bills and invest in mutual funds.[44] PayPal's platform enables businesses to accept credit card payments using a card reader, smartphone or tablet,[45] doing away with the need for a bank account in each country where the business operates and allowing businesses to expand their market reach.

Indeed, mobile phone payments are increasingly easing business transactions for SMEs. About 9% of MSMEs surveyed in developing countries by ITC depend on mobile payments for their cross-border e-commerce transactions, compared with a negligible share in developed countries.[46] In Africa, 22% of MSME respondents reported using mobile money to complete such transactions.[47]

M-Pesa, a mobile payment application (Box 2), is now playing a major role in a number of developing countries for transactions in the payment of salaries and bills, retail distribution and transport. It allows users to save, earn interest and access microcredit based on their history of transactions and savings.[48] M-Pesa's transactions in Kenya amounted to 44% of the country's GDP in 2015.[49]

The availability of these platforms to conduct business transactions has significantly lowered the amount paid for international transfer fees.[50]

Some digital platform companies are also matching people who want to send money in each direction, allowing them to transfer the funds between their bank accounts. Money transfer services such as WorldRemit and TransferWise can also match people who want to make small foreign exchange transactions in one country with their counterparts in another country, drastically reducing the cost of transfers.

Other new technologies, such as cryptocurrencies, have also facilitated the transfer of money across borders, as with Kenya's BitPesa.[51] In fact, cryptocurrencies and various trade transactions are making use of blockchain technology to simplify and secure transactions (Box 3).

Finally, business service providers are increasingly creating tools that encourage people to digitalize their lives and make use of the various facilities available through digital platforms and mobile phones.[52] For example, SERV'D in India has built an app that allows households and the workers they employ to create simple but formal work contracts and pay the workers online, capturing wage and other payment information on the more than 400 million informal workers in India who previously had no way of proving their income for loans and other benefits.

Faster and easier access to loans, investments

The wider use of digital platforms has encouraged advances in ICT-enabled credit scoring tools and consequently lending and investments. These can be immensely important for SMEs in many developing countries.

Aided by more mobile phone penetration, companies such as Finca and InVenture have provided credit scoring in several African countries based on data derived from mobile phone payments, reducing the time it takes users

to receive approvals of their loan applications.[53] Sesame Credit offers an alternative creditworthiness assessment by examining the credit history, financial behaviour, contractual capacity, identity and social networks of users.[54] Tala, a mobile technology and data science company and the number-one financial app in Kenya, also uses data stored on applicants' phones.[55] Malako, a new start-up in Uganda, has been experimenting with flexible lines of credit, managed through mobile phones for low income consumers, and CreditFix in Pakistan has captured income data on Pakistani drivers and created a credit history that can be used in authorizing loans.[56] The use of mobile money solutions has in some countries represented a means for women to overcome traditional barriers to access to finance.[57]

The use of digital platforms and the data that they can provide is increasing access to finance for individuals, workers and SMEs. Alibaba's e-payment platform, Alipay, has lent over $100 billion to over 4 million SMEs in developing countries since September 2016.

Digital platforms have also transformed the landscape of alternative platform-based finance, particularly in crowdfunding and peer-to-peer transactions. Crowdfunding platforms such as Kickstarter and Crowdcube provide a digital space for firms and entrepreneurs to pitch their business ideas to the public and to receive donations and/or investments, allowing these start-ups to offer various benefits – such as equity in the business – to investors, depending on the amount of the financing. Individual investments are generally small and come from a large 'crowd' of people.

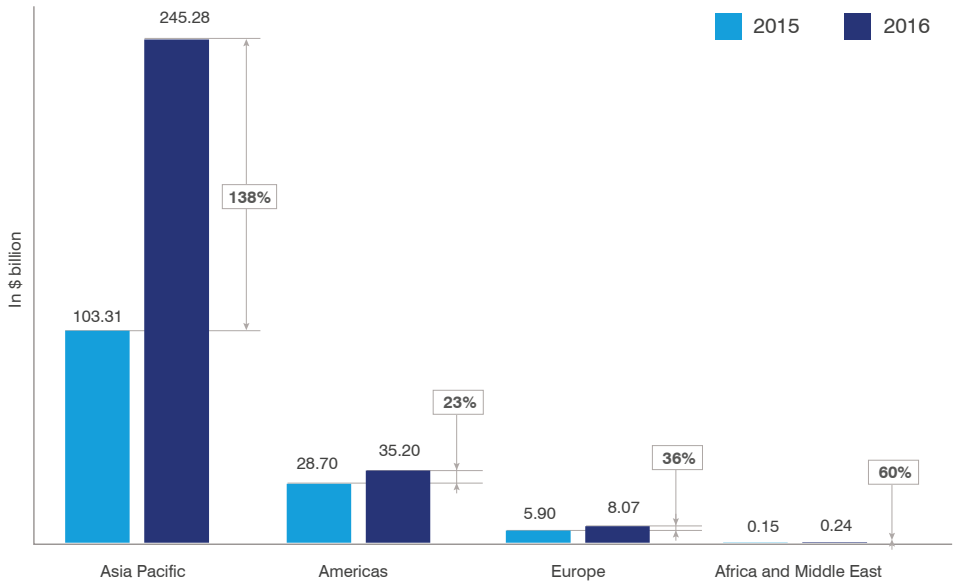
Peer-to-peer (P2P) platforms have also surfaced to connect lenders and borrowers, and offer a data-based risk assessment service. On many platforms, lenders may place bids with the rate of interest and the date of repayment they offer. The main advantage for SMEs is the speed of service compared with processing a loan application through a bank manager, while the main advantage for investors is the ability to fund small portions of many different loans and diversify their portfolio.

Platform-based finance rising in all regions

The alternative platform-based finance market, including crowdfunding and P2P transactions, has grown significantly over the past few years in all regions (Figure 4).

In Europe, this market grew sixfold in only two years, from €487 million in 2012 to €3 billion in 2014. The United Kingdom leads the region in transaction value, with a 79% share of overall transactions, followed by France, Germany and Sweden.[58] The majority of transactions in the United Kingdom are in P2P lending to SMEs, 40% of which went to SMEs working in property development.[59] In the rest of Europe, by contrast, P2P lending to consumers accounts for the majority of transactions, followed by reward-based crowdfunding and P2P business lending.[60]

FIGURE 4 Alternative platform-based finance is growing



Source: ITC illustration based on a series of Cambridge University reports: Zhang et al. (2017), Garvey et al. (2017), Ziegler et al. (2018) and Ziegler et al. (2017).

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Promoting SME competitiveness in Saint Lucia: *Wider access to better market information*

Gaining wider access to higher-quality market information is key for firms in Saint Lucia. Results from 200 surveyed enterprises show that firm size, sector and integration into international value chains affect the extent of this access.

To improve competitiveness, the Saint Lucia Government and its Trade Export Promotion Agency (TEPA) are upgrading firms' digital access to data and training stakeholders about their use.

Market information covers consumer preferences, expectations, habits, and the size or profitability of market segments. Recognizing the importance of access to, and quality of, this information, ITC and TEPA carried out an SME Competitiveness Survey in 2017 that asked firms about the information available to them, among other things. The survey focused on three sectors – manufacturing, food and beverages, and services.

Firm size and sector matter

While a significant share of firms reported having good access to information about the market in which they operate, micro and small firms appear less knowledgeable about these critical issues than medium-sized firms. A larger share of medium-sized enterprises perceived the availability of information as high or very high. Manufacturing firms, while still a small proportion of Saint Lucia's economy, appear more vulnerable to information gaps.

Even enterprises in the services sector, which is a major contributor to the country's output, seem to struggle with wide access to market information – about a quarter of responding firms reported having no to very low available information.

For those firms that do access information, a large share viewed it as high quality. Nonetheless, size and sectoral differences matter.

Trade information system

TEPA's website is becoming a hub for many of the country's exporters and foreign investors. Its trade information system includes market intelligence reports, trade guides, standards and quality recognition catalogues, customs and excise documents, and more.

The Government of Saint Lucia is also expanding the availability of data and information through its newly launched Open Data Portal (https://data.govt.lc). In June 2018, it complemented this information access with a Digital Literacy Boot Camp, organized together with the World Bank Group, Code for Africa, and SlashRoots Foundation. In this boot camp, civil servants, including officers from TEPA, and private citizens of various backgrounds learned how to acquire, use, analyse and present data to fit their purposes.

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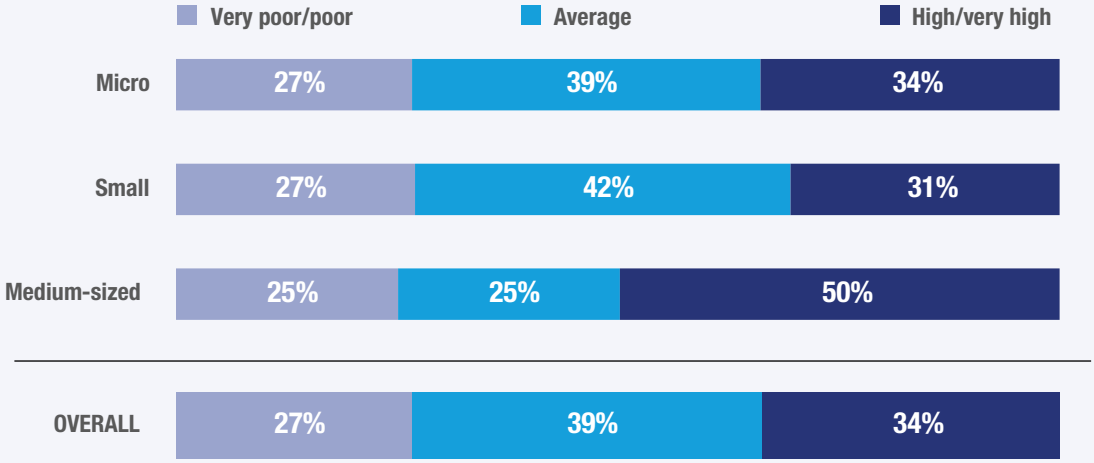
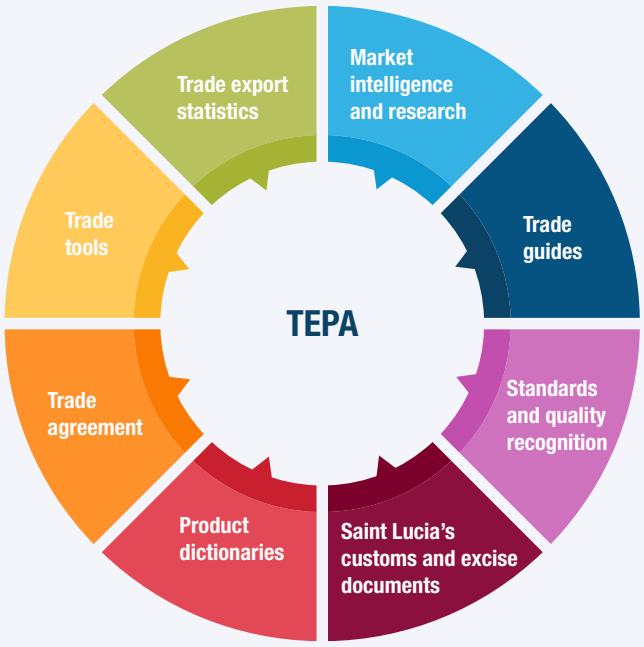
Perceived availability of market information



Note: Figures indicate the share of firms providing each type of evaluation in the total number of surveyed firms.
Micro firms are those with 1-4 employees (including the owner), small firms are those with 5-19 employees, and medium-sized firms are those with 20-99 employees.
Source: ITC SME Competitiveness Survey, Saint Lucia, 2017.

Saint Lucia's trade information system covers a broad range of information



Source: Based on http://tepa.org.lc/trade-information-system

TEPA is planning to make more data and information available using the Open Data Portal, the organization's websites, and the media so that its clients and the general public have greater access to TEPA generated data.

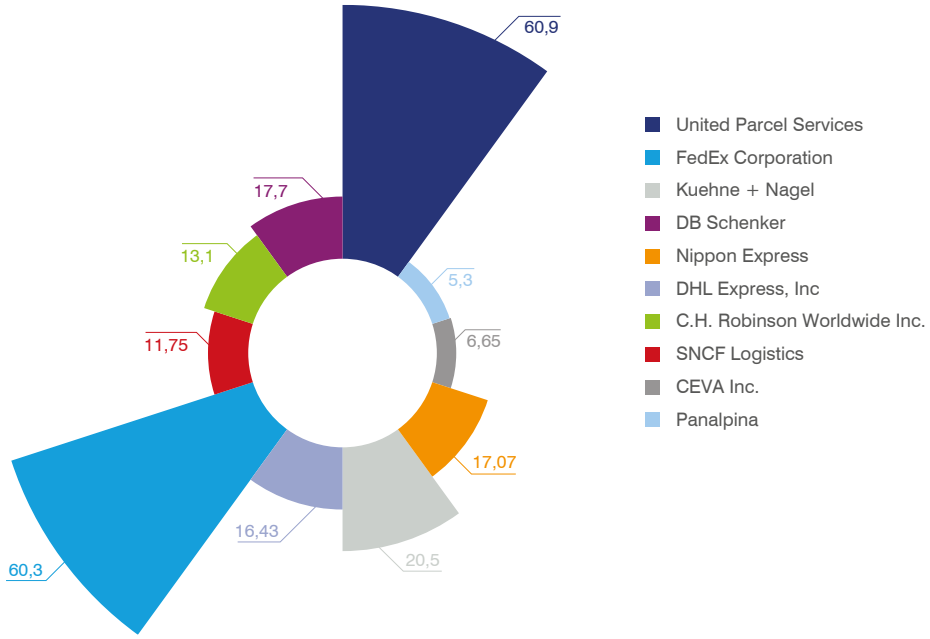
Promoting awareness of, and access to, Saint Lucia's various data outlets and services could help address a perceived lack of availability of market information in Saint Lucia.

Source: ITC SME Competitiveness Survey in Saint Lucia (2017), Saint Lucia National Export Strategy (2018), website of the Data Literacy Boot Camp, interview with TEPA.

ITC SME Competitiveness Benchmarking

ITC has developed an SME Competitiveness Benchmarking survey allowing countries to assess the health of their enterprises by identifying their strengths and weaknesses. To meet this objective, the survey captures a wide range of factors which determine firm competitiveness: www.intracen.org/SMEBenchmarking.

FIGURE 5 Top 10 logistics service providers



Note: Figures indicate annual revenue ($ billion).
Source: ITC illustration based on Insider Monkey (2017), "Top 10 Logistics Companies in The World In 2017".

Online alternative financing in Europe is trending towards the maturation and institutionalization of platform-based finance. Institutional investors such as hedge funds, asset managers, pension funds and family offices have started playing a much bigger role. Guidelines are also gradually being put in place to regulate these transactions and the various risks they may bring.[61]

In the Americas,[62] the online alternative finance market had a transaction value of $35.2 billion in 2016, 23% more than the previous year. The United States accounted for 98% of the value and ranks as the second-largest market in the world, following China. The United States is also home to many of the latest product innovations.[63]

While lending to individual consumers accounted for the largest share of P2P lending in the United States, the total value of loans to businesses reached $8.6 billion in 2016, most of it to SMEs in the form of debt-based financing.[64] Businesses in Latin America and the Caribbean were the major recipients of loans, which grew twofold between 2015 and 2016; they were also dominated by debt-based financing.

Data for the Americas show some gender differences. While women account for 30% of fundraisers (or borrowers) of P2P business finance, they only account for 13% of funders (or lenders). And while 43% of P2P consumer loan recipients are women, only 16% of the lenders are women. In models that are not investment-based, women make up the majority of fundraisers and funders, especially in donation-based crowdfunding.[65]

In Asia-Pacific countries,[66] the market value reached $245.28 billion in 2016.[67] China maintained its dominance, accounting for 99.2% of the region's transaction value and 85% of the global market. P2P lending to individual consumers made up the largest share of alternative finance tools in the country; businesses received $94 billion, of which $58 billion went to SMEs. In the rest of the region businesses were the major users of these tools, suggesting a different composition of the demand for this type of capital. Institutional investors account for a small share of overall funding in the region.

In China, about 30% of business fundraisers are women, compared with 29% for the rest of the region. Women also comprise about 42% of funders to businesses, compared with a much lower 24% elsewhere in the region and an even lower proportion of 13% in the United States.

Finally, alternative platform-based finance is relatively limited in Africa and the Middle East. However, the market is strongly concentrated on lending to SMEs, which in 2015 received over 75% of total funds,[68] highlighting the role that platform-based finance can play in development. In fact, unlike the other regions, the dominant mode of alternative finance in Africa and the Middle East has been microfinance, focused on agriculture and the food and

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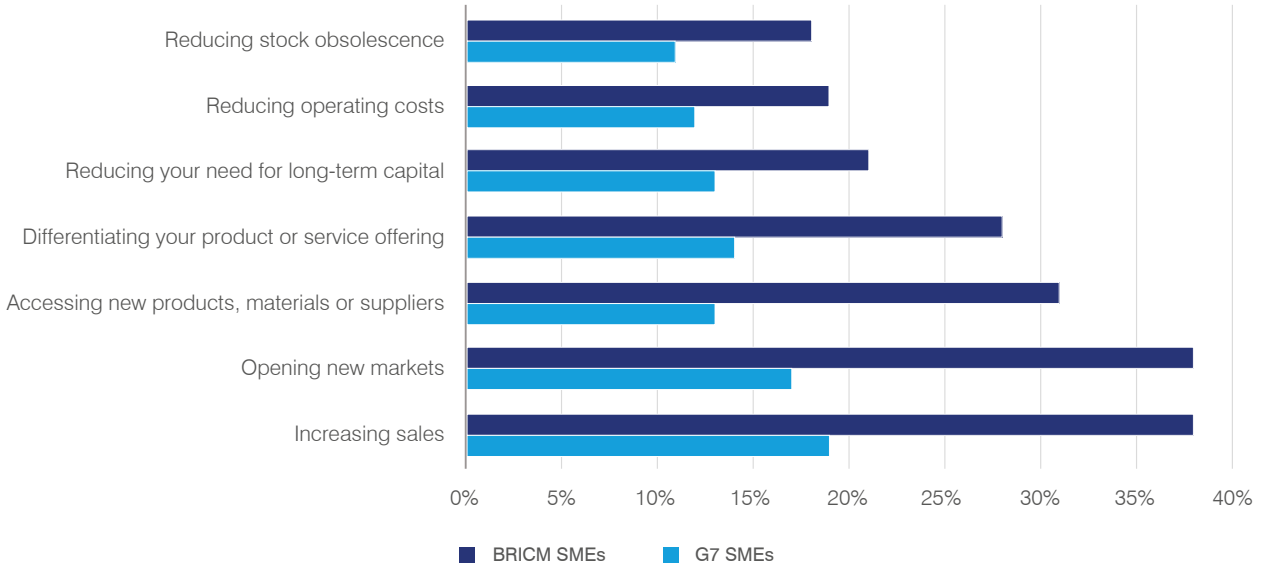
FIGURE 6 Logistics: More important to SMEs in developing countries



Note: BRICM stands for Brazil, Russian Federation, India, China, and Mexico.
Source: ITC illustration based on DHL-IHS (2013), "Internationalization – a driver for business performance".

beverages sectors. About 90% of the money lent in Africa originated in platforms outside the continent, illustrating the potential for local platforms that can tailor their offerings to the country or region.

Logistics: En route to digitalization

Digitalization and platforms are transforming a third critical area for SME competitiveness: logistics services. These include trucking, freight, freight forwarding and various courier/express services, operated by specialized companies or part of online sales platforms such as Amazon Logistics or Alibaba Logistics. In 2017, annual revenue of the top 10 logistics companies worldwide totalled $229.7 billion (Figure 5).

Digital platforms have brought down transaction costs, which can be especially burdensome for SMEs, and more so in developing countries.[69] This supports the participation of small actors in the market and extends their reach locally and globally. Better and more accessible logistics services improve the timely delivery of products, which itself is related to key performance parameters such as customer loyalty and increased market share.[70]

The application of digital platforms in logistics services is widespread and growing, from electronic single window facilities and warehouse management to product tracking and various customer interfaces. However, there are some issues that these platforms cannot resolve, at least not immediately. These include low population density that reduces the incentive for logistics companies to engage in the market, vast geographical spread and limited investment in infrastructure.

The development of digital platforms has spurred growth and further efficiency of logistics services and is leading to increased access to such services for SMEs.

Good logistics, better trade

Logistics service providers are specialized in handling transport, warehousing, inventory control, packaging and freight forwarding.

Logistics services can be particularly important for developing countries, where high-quality facilities can connect SMEs to regional and international supply chains and customers, and speed the pace of such connections. SMEs in BRICM (Brazil, Russian Federation, India, China and Mexico) countries consider this more important than their G7 peers do (Figure 6).[71] A study on SMEs in Latin America and the Caribbean is even more emphatic, noting that 'the optimization of [logistics and] supply chain management within a firm is an element that will determine the success or failure of its internationalization process'.[72] A case study from Rwanda corroborates these findings (see case study on Rwanda at the end of this chapter).

Competitive and efficient logistics services are directly associated with larger trade volumes and economic growth.[73] They are an integral part of the value chain, ensuring that the right products are channelled to the right customers at the right cost and time – all of which increase the competitive advantage of the firm.[74] The timeliness of deliveries in turn affects key performance parameters, such as customer loyalty and market share.[75] With the rise of both lean supply chains and e-commerce, timely delivery has become increasingly important to competitiveness.

Global evidence shows that while there has been some convergence in logistics performance between top performing countries and low performing ones, this convergence is slowing, due partly to differences in investments in trade supporting infrastructure.[76]

Logistics can represent a major cost factor for SMEs. An ITC survey found that 27% of SMEs engaged in cross-border e-commerce from both developed and developing countries cited costly postal and courier delivery services as one of their main challenges, followed by problems finding warehouses abroad (18% of SMEs). The costs of logistics represent an estimated 26% of the final price in developing countries, nearly double that in developed countries (14%). Moreover, while SMEs in developed countries depend more on couriers and freight forwarders, those in developing countries appear to rely to a significant extent on postal services.[77]

This is confirmed by the growing use of packets and parcels through various postal networks.[78] Women tend to use these postal services more often than men, which could indicate that they cannot readily afford more expensive courier services.[79]

Platforms: New players in logistics

Large digital platforms such as Alibaba and Amazon are increasingly prominent players in cross-border transport, using their position as holders of key information, which allows them to reach scale and reduce logistics costs. They increasingly provide services, such as negotiating freight forwarding contracts that ease cross-border trade for SMEs.

Platforms are also pushing for more networked logistics processes. Networks allow each member to access the logistics platform, which helps them assess incoming shipments and adjust their capacities and capabilities accordingly. The joint venture Cainiao, set up by Alibaba, consists of several logistics companies, a department store, an investment firm and a company with port logistics operations. As information is more transparent in such a network, each member is better able to take the right decisions, making the whole system more efficient.

Most logistics platforms are asset-less or asset-light hubs.[80] This means that they do not necessarily own any physical assets for transport, but use digital technology to provide interactive benchmarking of freight rates or match shippers with available capacity. Logistics platforms for B2B transactions are mostly centred on brokering freight rates and coordinating transport chains through IT-based platforms.

For example, companies such as Flexe match SMEs in need of flexible warehousing capacity with warehouse owners that have available capacity, while companies such as Shipwire provide a marketplace of logistics services and an integrated order-entry system to handle pickup and delivery of goods. This allows users to send inventory to any warehouse and store on demand. The nature of such platforms makes them particularly useful for countries with fragmented logistics systems, and countries with large rural areas and remote communities, such as Indonesia and the Philippines.

Moreover, platforms offer agile pricing, for example by enabling carriers to bid on loads, which allows them to lower their bids so as to reach their capacity. The ability to provide quotes transparently and quickly, indeed in real time, is another feature that makes logistics platforms attractive. They not only connect users directly to a large number of carriers, but also allow them to compare the negotiated rates for each carrier, helping them make informed decisions. Such companies as Flexport aggregate a number of carriers on one platform and allow shippers to find the one that best suits their needs.

The rise of digital platforms in logistics services is aided by a number of innovations in data collection and analysis. For example, data gathered from an aircraft and displayed through a logistics platform can feed into operation and maintenance processes, saving on costs and preventing potential clashes in schedules. Data and operations through electronic single windows not only increase access to information but also enable faster payments and reduce the time and cost of clearing goods.

Logistics companies are also making the most of digitalization of transport services by exploiting product tracking and tracing. The electronic traceability of products makes it easier to maintain a data thread along the value chain, which increases transparency and market access. This can be crucial for SMEs that use these tools. Developments in blockchain technology, a decentralized data structure that creates an encrypted digital ledger of transactions, are also contributing to better tracking and tracing of products (Box 3).

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BOX 3: Blockchain technology: Application and challenges

Blockchain technology removes the need for multiple copies of a document, reducing paperwork and the administrative costs associated with processing and verifying products and services, all of which can be challenging for SMEs.

Traceability is instead guaranteed through a decentralized data structure that creates an encrypted digital ledger of transactions, in stacks of sequential blocks. The ledger is shared among members of a network or supply chain. Each member can update the ledger to reflect the most recent transactions, therefore revolutionizing the way that products can be tracked and traced.

As blockchains are maintained and managed by consensus across the network, no one member can alter previous transactions. Moreover, the broadcasting of all transactions to all members makes the system transparent – at least to its members – and thus easily verifiable. At the same time, encryption of the transactions ensures privacy, making the application difficult to hack and thus highly secure.

Blockchain has various applications and can be a valuable tool to guarantee the traceability and validity of transactions.

Use in trade finance

Blockchain was first used in the financial services sector in the form of virtual currency. It has more recently expanded to trade finance. Financial documents present within the blockchain are reviewed in real time and the contract execution is decentralized, decreasing the time it takes to initiate shipment and monitor the delivery of goods. The first blockchain technology introduced into trade finance, between Irish cooperative Ornua and Seychelles Trading Company, reduced the usual transaction time of seven to 10 days to less than four hours.

Use in logistics

Blockchain technology can streamline complex supply chains and related formalities, reducing the time and costs of transport and logistics. Its adoption by border-regulatory agencies in particular could remove the need for manual, paper-based, lengthy formalities and documentation requirements. Information such as e-certificates and e-permits is shared instantaneously with all authorized parties.

For instance, the blockchain platform launched by IBM in collaboration with Maersk, the world's largest container shipping line, manages and tracks the paper trail of tens of millions of shipping containers across the world, enhancing transparency and improving information-sharing among trading partners. This could save the shipping industry billions of US dollars, if adopted at scale.

Challenges in adopting blockchain

Despite its potential advantages, adopting blockchain poses serious challenges for businesses and authorities. Blockchain requires a certain quality of ICT infrastructure – some blockchains are able to use basic commands supported through SMS messages, while others require smartphones and 4G internet access. There is no clear legal and regulatory framework mandating and governing the use of blockchain, although such a framework is needed. Additionally, even though blockchain is deemed very secure, evolving technology also means that cyberattacks evolve. These could pose a threat and reduce trust in the system.

Moreover, barriers to communication and education could slow the rate of adoption. Consumers need to be educated on the technology, its benefits, its limitations and its usage to increase the demand for blockchain in the market. Existing skills are inadequate, and the generally limited operational capacity of relevant institutions could make it impossible to meet consumer demand, hampering blockchain adoption.

Sources: Deloitte (2016), How Blockchain Can Reshape Trade Finance; Financial Times (2017), European banks to launch blockchain trade finance platform; International Chamber of Commerce (2017). Rethinking Trade and Finance; Wigley and Cary (2018), The Future is Decentralized; ITC (2018), Unblocking cross-border trade.

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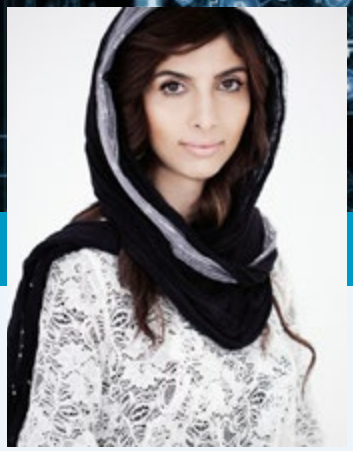

THOUGHT LEADER

Interview with the first female tech CEO in Afghanistan

Roya Mahboob

Co-founder and CEO, Afghan Citadel Software Company, and President and CEO, The Digital Citizen Fund

Roya Mahboob co-founded the Afghan Citadel Software Company, a small pioneering technology business. She is also co-founder and CEO of the Digital Citizen Fund, which helps girls and women in developing countries gain access to technology, connect virtually with others across the world, and obtain the skills needed to succeed in today's expanding global market.

What was the motivation for starting Afghan Citadel Software Co. and how has it developed?

I, my youngest sister Elaha Mahboob, and two other friends started my first software development company in 2010. The company began as part of the Herat Information Technology Incubator Program and then grew quickly as I hired many women programmers and bloggers. I became the first female tech CEO in Afghanistan, and I have been seeking to set an example of leadership for young women throughout Afghanistan.

How has your experience been as an entrepreneur interacting with the private sector, particularly with digital platforms?

Because of the discrimination that women face in Afghanistan, it was very difficult for me in the beginning. By reaching out to the private sector via digital platforms, I was able to raise funding and support from people outside of Afghanistan. Their support was a great part of my success in starting Afghan Citadel Software Co.

What are the opportunities and challenges that the company has faced?

The challenges I faced as a child did not go away when I became an executive. I had less access to commercial financing or loans than men did in the same profession. In Afghanistan, 81% of businesswomen cannot access necessary resources to run their companies. Additionally, Afghanistan has problems involving corruption, security, technical skills, labour and infrastructure. Cultural barriers, which limit free movement of women in their daily lives, also affect their professional activities.

Especially in the beginning, my company struggled. I made it a priority to hire women, but many others would not work with a woman or company mostly made up of women.

In Afghanistan, 81% of businesswomen cannot access necessary resources to run their companies.

I believe through technology we managed to overcome these difficulties. I realized that social media could give women in conservative countries a digital voice. Digitization can connect them with other parts of the world and change their world – allowing them to live beyond the borders they have always known.

As an employer, what changes in your business environment would you like to see?

Digitization can connect women with other parts of the world and change their world.

One thing that could improve is the use of technology. In addition to helping free women from restrictions in conservative societies, technology upgrades our operations and raises productivity.

In every business, we must also provide necessary training to increase the skills of our employees and establish standards so that employees know what the company expects from them.

Small business is the most powerful generator of jobs and economic activity. Governments, communities, policymakers and service providers should work together to create an environment and polices that foster the ecosystem of start-ups. It should be easy to establish a new company. We need creative solutions that help start-ups grow and ease their access to finance, legal counsel and trade.

In your entrepreneurial and non-profit work, do you see gaps between skills people gain through education and those needed for employment? What could we do to bridge such gaps?

We need to hire employees with skills that meet the job description, but these are often lacking. The education system is not adequate, focusing more on theory than practical work. Such gaps are even greater for women in conservative societies, because cultural barriers prevent girls from getting the training they need.

At Digital Citizen Fund, we aim to bridge the gap between schools, education and job markets by offering young women the opportunity to join our digital and financial literacy programmes. Our projects build the skills of women and girls so that they can find alternate economic livelihoods. This way, women who are unable to hold traditional jobs can pursue local and international business opportunities, e-commerce and creative entrepreneurial projects, including their own start-ups.

We are also sponsoring and preparing to build a STEM school in Afghanistan, which will train students in science and math fields. The Afghan girls robotics team, which recently took part in the First Global competition, is an example of initiatives we hope to promote for girls and women in Afghanistan and other conservative areas.

What are the arguments for providing educational opportunities and technological literacy programmes for women and youth in developing countries, and Afghanistan especially?

Access to information is a transformational catalyst to positive change in closed societies.

The most opportune time to connect to and empower women in Afghanistan is during their high school years, before marriage. Many families now allow their daughters to attend secondary school, but fewer accept university studies or employment outside of the home once girls graduate from high school.

Access to information is a transformational catalyst to positive change in closed societies. It also empowers women by breaking down physical and socio-cultural barriers and providing a safe space where they can voice their opinions, learn, and find support among the digital community.

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Promoting SME competitiveness in Rwanda: *Integrating ICT into logistics services*

Logistics service providers and users in Rwanda rely considerably on internet access, and information and communications technology (ICT). SMEs perceive the quality of logistics services to be relatively high, according to an ITC survey of 29 firms. They also look favourably upon disruptors such as motorbike delivery and crowd logistics, and many report planning to invest in collaborative logistics such as crowd sourcing.

Recognizing these trends, Rwanda is not only encouraging innovation in logistics services, but is also becoming one of the first countries to regulate these new technologies.

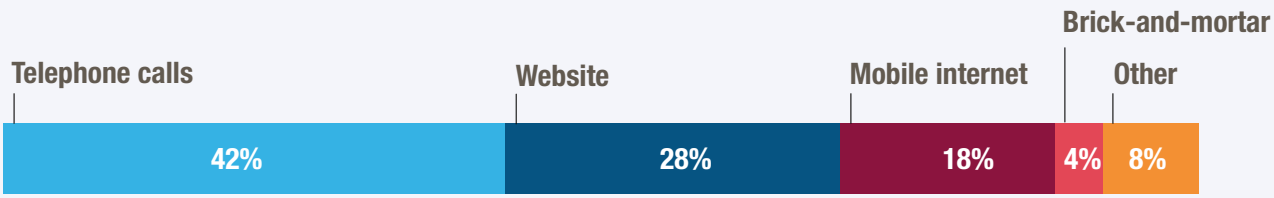
In 2018, ITC carried out an SME Competitiveness Survey to assess the quality of 'last mile delivery' in Rwanda, with a focus on three areas – infrastructure, logistics services, and e-commerce. Last mile logistics is essential for Rwanda, a landlocked country that relies primarily on roads for transporting goods and services within and across its borders. Two-thirds of responding firms found local transport infrastructure to be good or excellent. While the majority rated the quality of internet connection to be high, opening the door to more innovative solutions, its costs remain burdensome for firms.

Logistics service providers reach out to clients primarily through ICT

The majority of the logistics firms reached their clients through ICT channels rather than brick-and-mortar sites. Telephone calls had the highest share in overall channel use, followed by websites (e-commerce, social media) and mobile internet.

The popularity of telephone calls might be related to the growing mobile network in Rwanda. By the end of 2017, the share of active mobile telephone subscriptions in Rwanda was 75.5% while internet users were only around 30% of the population, according to Rwanda Utilities Regulatory Authority. Nonetheless, affordable internet is important. More than 90% of surveyed firms considered their internet connection to be very costly. This may hinder further spread of internet. For SMEs, costly internet services raise the price of the goods and services they provide. Affordable internet connection, therefore, would allow SMEs to stay connected, conduct business more efficiently and reach foreign markets better.

Channels through which logistics service providers reach SMEs



Source: ITC SME Competitiveness Survey, Rwanda, 2018.

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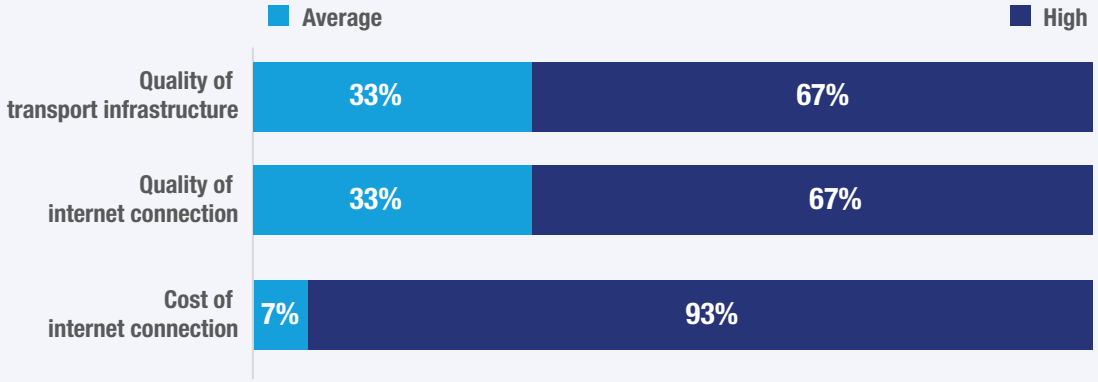
Perceived quality and cost of transport infrastructure and internet connection



Note: The figure shows the share of firms providing their evaluations in the total number of surveyed firms. The share of firms reporting poor quality as well as low cost is zero, and therefore not reflected in the figure.
Source: ITC SME Competitiveness Survey, Rwanda, 2018.

Drone deliveries encouraged and regulated

The last mile of transport affects everything – from commercial goods to medical supplies critical to the well-being of people in remote areas. The Rwandan government is at the forefront of experimenting with new solutions to last mile infrastructure challenges.

In the case of medical supplies, the government partnered with Zipline International Inc. in 2016 to launch a new blood and medical service delivery by drones. Today, this serves 21 hospitals in Western Rwanda and a second distribution centre is being opened in the eastern half of the country. Medical staff order their blood and medical supply by text message. Within minutes a drone carrying the package is dispatched from the distribution centre. Once it reaches its destination, it drops the package by parachute in a designated area that is the size of a few parking spaces for staff to collect. This drone innovation requires little infrastructure. It has cut the usual transport time of many hours to under 30 minutes, saving lives in the process.

The Rwandan government has begun regulating drone operations in the air space, for both individuals and enterprises. This includes rules on official registration, maximum altitude permission, maximum distance between the pilot and the drone, compulsory insurance, take-off weight of drone, and hours of operation. In early 2018, the government has also announced a partnership with the World Economic Forum's Centre for the Fourth Industrial Revolution to develop further regulatory frameworks and airspace management practices relating to unmanned aircrafts.

There is potential to extend the use of drones. Beyond medical purposes, they could be used to serve other logistics areas that affect SMEs – especially those in remote areas – connecting firms and closing the last mile.

Source: ITC SME Competitiveness Survey in Rwanda (2018), Cheney (2018), Hotz (2018), Rwanda Civil Aviation Authority (2018), website of Zipline International Inc.

ITC SME Competitiveness Benchmarking

ITC has developed an SME Competitiveness Benchmarking survey allowing countries to assess the health of their enterprises by identifying their strengths and weaknesses. To meet this objective, the survey captures a wide range of factors which determine firm competitiveness: www.intracen.org/SMEBenchmarking.

What these platforms have in common is that they allow end consumers, whether B2B or B2C, to be in control of their transport needs. Although there remain challenges regarding the digital conversion of some enterprises and traditional sectors, and their integration into the digital value chain, these platforms have transformed the market. They have replaced less efficient middlemen and agents with more efficient automated tools and systems that rely on algorithms and social feedback to scale. This has significantly reduced transaction costs and increased market access. For example, digital platforms are bringing small farmers and traders in East Africa together, and helping isolated farmers connect to the market, exploit trade opportunities and improve their livelihoods.[81]

What does the platform revolution mean for SMEs?

Like other technologies, platforms bring to the table a suite of benefits for their users. Advances in technology, and the subsequent rise in online platforms, have undoubtedly transformed the way businesses engage with their customers and with each other. Platforms have levelled the playing field considerably for SMEs by lowering the barriers to entry and extending to companies of all sizes the advantages of cost and speed that can be gained from trading online. However, new challenges have arisen that are unique to these new business models, such as intensified competition among SMEs, increased market power of large platforms, and a persistent global and local digital divide (Figure 7).

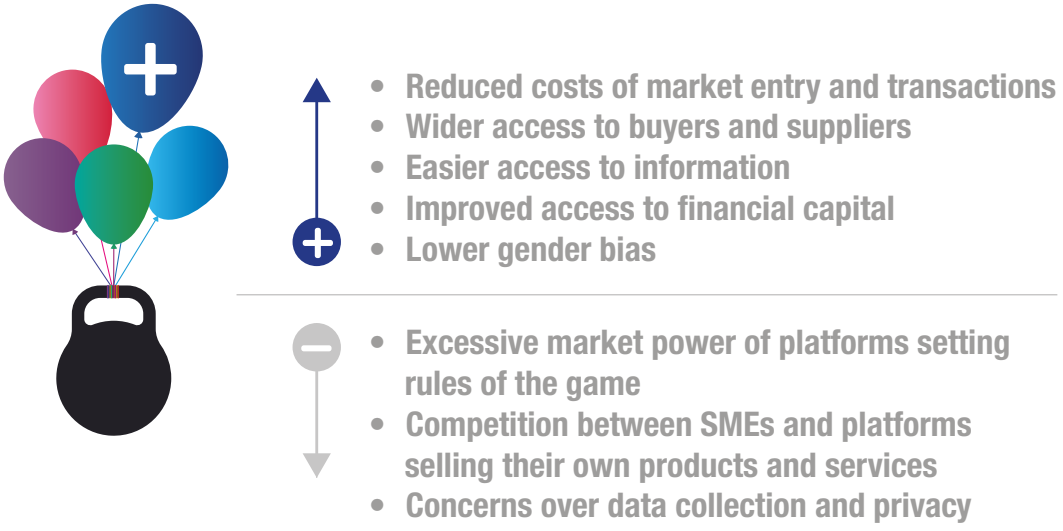
New opportunities

Online platforms give SMEs access to a wider range of markets, locally, regionally and globally, in which to conduct their business. About 46% of the European Union's SME retailers, for example, leverage online marketplaces to establish and expand a multi-channel presence.[82] In the United Kingdom in 2017, 84% of SMEs reported using online tools and platforms to advertise to potential customers and grow their market base.[83] For buyers, a wide seller base generally increases the variety of products available, and, if competition forces prevail, they are sold at lower prices as well.

Online platforms are potential competitors to global value chains, reducing reliance on lead firms that source from certain suppliers and often have strict processes for integrating new suppliers.[84] Platforms can therefore represent an additional group of trade partners for SMEs, which can in turn enhance their bargaining power and boost their growth. In some cases, they can also serve areas that are not of interest to global value chains, especially those where the business ecosystem is less attractive to such chains. This demonstrates the extended reach and visibility that SMEs can achieve by using platforms.[85]

The sales channel created by platforms also lowers operating costs for SMEs. Using online marketplaces, SMEs can sell without needing a physical shop, and sometimes without having to run their own websites. Often for nominal membership and royalty fees, they can access a larger consumer base. Platforms also lower search and transaction costs substantially for buyers and sellers through ICT-enabled search options, order entries, online payment options and order tracking. For example, Indian

FIGURE 7 Digital platforms: SME benefits and challenges



Source: ITC.

SMEs using digital platforms reported a 60%-80% reduction in marketing and distribution costs.[86] Hence, some of the cost-related entry and operational barriers that have existed in traditional markets are almost negligible in online marketplaces, giving SMEs the ability to enter not only as their own supply chain but also as part of the supply chain of larger companies.

Less information asymmetry, more inclusive participation

Moreover, platforms can reduce information asymmetry. By connecting participants directly and bypassing intermediaries, they provide an efficient means of sharing and exchanging information. This can be further enhanced through instant updates of product details, such as price and specifications, ensuring that all the participants have the latest information. Reviews, ratings and user-generated feedback also establish a two-way connection. This feedback can help SMEs tailor their products to market requirements. And the transparency of information can help them identify where they can differentiate their products and services from those of their competitors within the same marketplace, thus enhancing their competitiveness.

Social media platforms have their own usefulness. For many SMEs, they have given rise to social selling (making sales using social media) as one of the least complex ways of reaching customers: it does not require specialized technical skills, but rather sophisticated soft skills, such as managing a social media presence across multiple platforms while outsourcing technical services. Platforms such as Shopify, Magento, BigCommerce and Volusion allow SMEs to set up online shops without any knowledge of web design.

The benefits of market access and operational efficiencies provided by platforms also encourage the participation of disadvantaged groups, such as women entrepreneurs, physically-challenged entrepreneurs and SMEs located in remote and inaccessible areas. For example, while 20% of SME owners in the United Kingdom are women and 26% of SMEs are located in rural areas, 86% of the country's sellers on the Etsy platform are women and 32% of them are located in rural areas, much higher than the national average.[87] An ITC survey carried out in 2017 found that the share of firms owned by women doubles when moving from traditional offline trade to cross-border e-commerce.[88] In developing countries, such businesses report procedural obstacles more frequently than those owned by men.[89] They also face more difficult access to market information, given their smaller size and less diverse networks. Digital platforms can ease all these challenges.

Success of platforms raises concerns

The reduction in entry barriers has intensified competition on the seller side of the market. By enlarging the marketplace, SMEs face more visible local competitors and more visible competitors from around the world. Intensifying competition, while beneficial to consumers, also means that SMEs as sellers must learn to differentiate their products and adjust their strategies to survive and grow. The widespread existence and use of digital platforms also means that labour-intensive business services – notably in the retail industry – are much less profitable today, thus shifting more of the profit margin to platform operators.

With the proliferation of firms participating in the new market, the platform business model raises increasing concerns about the market power and potential oligopolistic behaviour of platforms. They enable intense competition between firms but face relatively few competitors themselves.[90]

One concern is that platforms may exploit their position as gatekeepers between the two sides of the market to prevent fair competition, for example by bundling certain products together, denying access to potential participants and charging higher fees for their services. Some 15% of MSMEs surveyed recently by ITC cited costly membership fees on platforms as a significant challenge.[91] By providing the infrastructure, platforms become the market, facilitating competition among users while contending with much less intense competition at their own level.

The potential oligopolistic behaviour of platforms is due in large part to the amount of control they have over personal and business data. Indeed, there is evidence of partiality on the part of platform owners towards their own products or services, and of their tendency to crack down on competitors.[92]

Larger platforms have acquired many smaller ones. Apple is known to have bought out 70 companies so far, while Google (and its parent company Alphabet) had acquired more than 200 companies by the end of 2016, substantially increasing their size and place in the market.[93] Amazon, which grew as an inventory-based book-selling platform, is another case in which the platform directly competed with smaller bookshops at the outset, contributing to the closing of many independent businesses in the United States and the consequent loss of revenue for local governments.[94]

SMEs also fear that once a platform reaches a dominant position in the market, it may impose increased fees or remove subsidized fees it had used to attract customers in the early stages.[95] The increased cost of staying on the platform could then have a negative impact on SME operations.

Market concentration is a particular concern for SMEs, as they have limited capacity and resources and often rely on external suppliers for critical services for their cross-border operations.

This creates a crucial role for regulation to incentivize and ensure the type of behaviour by platform players that guarantees benefits for SMEs and consumers, and reduces the concentration of power and money.

The European Commission, for example, has recently identified some harmful platform-to-business trading practices conducted by online platforms.[96] They include: frequently unannounced changes in terms and conditions and lack of room for negotiation by business users; removal of products or services, or account suspension of businesses, without prior notice; biases and lack of transparency about discriminatory practices; limited or no access to customer data, and lack of portability of that data; and the absence of effective grievance redress mechanisms.

Platforms do not provide miracle solutions

As SMEs extend their outreach, the platform economy can aggravate some issues linked to internationalization. While platforms can soften the perception of psychological or cultural distance, which reflects uncertainty about a foreign market due to lack of information, some authors have argued that enterprises can still succumb to the 'virtuality trap'. This is the perception by the internationalizing firm that its virtual interactions replace the need to learn about its suppliers, buyers and other stakeholders through non-virtual means. Web-based communication is good at transmitting information, but it may not be good to generate a deep understanding of a foreign market and what influences or alters its demand and supply. Firms can thus fall into a trap when using web-based communication that is less of a problem with face-to-face interactions and physical presence.[97]

Many SMEs are also becoming more dependent on platforms, discounting the risks that come with undiversified sales channels. Indeed, the platform economy does not yet provide ironclad protection against the political, legal and economic risks that can come with entering foreign markets.[98]

While the digital and platform revolution have therefore opened up many new opportunities for SMEs, taking advantage of them is not automatic and not necessarily straightforward. The next chapters discuss some of the foundations for success in a 4.0 world and look in more detail at the infrastructure challenges that need to be overcome if the technological revolution is to work for all.

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CHAPTER 3

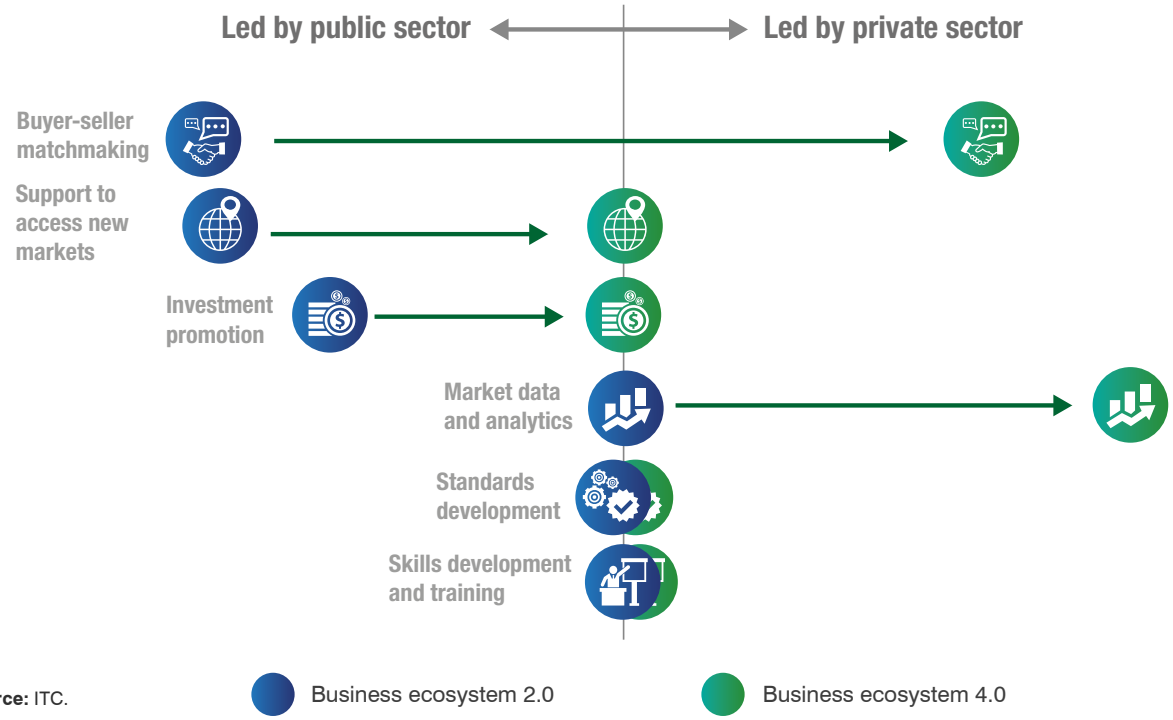
Foundations for SME success in a 4.0 world

Technological developments are fundamentally changing the way firms operate. They are also changing the business ecosystem that surrounds firms. Online platforms have become the place where buyers connect to sellers and increasingly provide other market-relevant information. Contracts are established online and payments are made online, too. In order to take advantage of new opportunities, firms have to deal with and often adopt new technologies. Whether and how to do this will very much be determined by the skills and capacities available in firms. It will also depend on signals that firms receive about the reliability of new technologies and their likelihood of standing the test of time.

For exporters, success in a 4.0 world will therefore depend on a number of aspects of the business ecosystem:

- Offers related to market information, market access and export promotion are likely to change significantly over the coming years and may increasingly be provided by private-sector companies. The question arises as to whether the relevant services will satisfy the needs of exporters, in particular SMEs.
- Exporters will have to be able to hire or generate the skill sets needed for them to function successfully in a 4.0 environment. Whether they manage to find those skills will depend on the capacity of training and education institutions to adjust.

FIGURE 8 Private sector: Taking lead role in providing services that used to be in the public domain



Source: ITC.

- Exporters, and particularly the small and vulnerable ones, will be looking for guidance on the quality, interoperability and safety of new technologies. Whether they receive adequate guidance will to a large extent depend on the ability of countries' quality infrastructure to react to technological change. Standard-setters and regulators may play a special role here.

Key areas for success are illustrated in Figure 8. The figure also indicates one particularity of the fourth industrial revolution: it is very much driven by the private sector, and private sector players also play an important role in changing the business ecosystem in which SMEs operate.

The so-called data revolution is a key feature of the fourth industrial revolution. The rapid growth in amounts of data has led to the perception that everybody has, or will soon have, unlimited access to many types of information. This is not the case today, however. Currently, only limited numbers of economic actors have access to usable 'big data'. While technology could allow many other individuals or firms to generate data, doing so is not straightforward.

Successful trade and investment promotion relies on accessing information on target markets that is tailored to the needs of potential exporters or investors. The evidence presented in this report suggests that better in-market support can improve the survival rate of exporters in destination markets. Support to new exporters is also found to significantly increase the number of national exporters in targeted markets.

New technologies and data platforms have the potential to transform the way in which tailored market information is delivered and may therefore have profound effects on trade and investment promotion activities. So far, however, they are only used for such purposes in a few pilot cases, which are described in this chapter.

Industry 4.0 also has the potential to change labour markets dramatically, particularly regarding the skills that enterprises require from employees. According to one estimate, the skills demanded across industries will change by 35% within a handful of years.[99] Such shifts put enormous pressure on countries' education and training systems to adjust. Yet in many countries those systems are notoriously inflexible, portending serious challenges.

Though both firms and employees have incentives to invest in new skills, markets for education and training are known for not functioning perfectly. This is among the reasons that the public sector has traditionally played a major role in education and training. Another is concern for equality of opportunity, with government intervention aiming to ensure that low-income households and SMEs can make the necessary investments in skills even if their access to finance is limited.

Governments are therefore likely to pay part of the training and education bill that will come with industry 4.0. This chapter addresses the question of how that bill is divided between the public sector and individuals or firms.

Another major challenge is to ensure that skills taught today remain relevant tomorrow. This is difficult, given rapidly changing skill demands. Forms of public-private collaboration, such as those inherent in technical and vocational training systems, are likely to be instrumental in ensuring that workers get the right skills for the job.[100] Such collaboration has been successful in countries like Germany and Switzerland, but it has not always been easy to replicate elsewhere. This chapter considers what does and does not work, and what can be done differently thanks to new technologies.

The chapter also discusses the key role of quality infrastructure in the successful adoption of industry 4.0. For machines, platforms and data to 'talk to each other', interoperability must be guaranteed. For customers to trust new technologies, quality, safety and security must be guaranteed. The more rapidly countries adopt standards and regulations that guarantee smooth operations with new technologies, the more rapidly SMEs will dare to make the investments to move towards industry 4.0. There is considerable evidence about what does and does not work when it comes to national quality infrastructure. This chapter looks into best practices, with a focus on how standard-setters, regulators and certifiers can facilitate the private sector's transition to industry 4.0.

Promoting trade and investment

Trade and investment promotion organizations (TIPOs) have traditionally played an important role in helping SMEs to export. They have done so by providing market information, matching buyers with sellers, supporting access to new markets and promoting investments. Increased use of information technologies and the generation of big data on market transactions through platform providers is likely to have profound impacts on TIPO business models and services.

In the future, many of the services provided today by TIPOs can be offered by platform providers. A platform empowered by Google is already proposing to 'take your business to new customers around the world'.[101] In order to understand whether and how TIPOs can or should adjust to this change, it is important to determine which of

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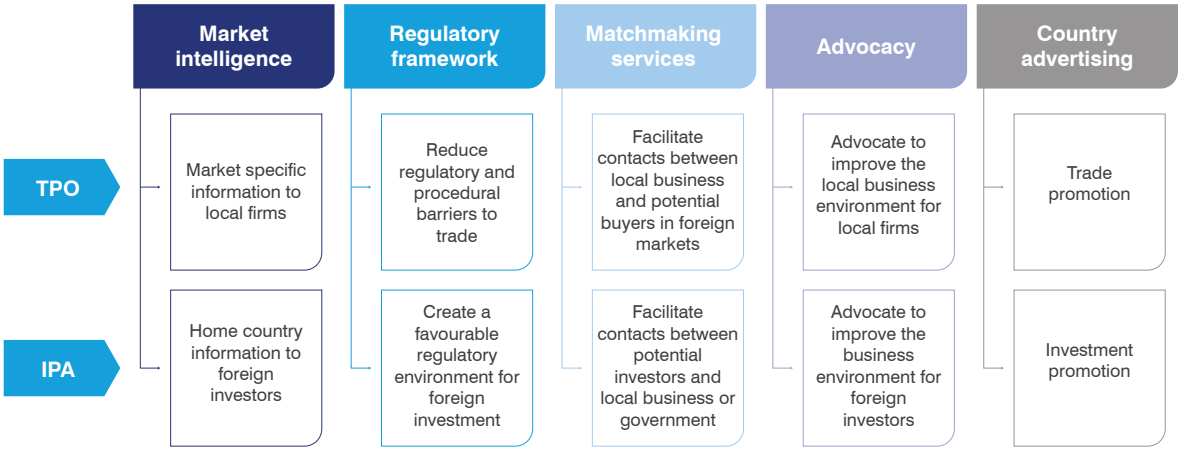
FIGURE 9 Trade and investment promotion organizations: Main services



Note: Trade and investment promotion organizations (TIPOs) include trade promotion organizations (TPOs), investment promotion agencies (IPAs), and agencies that focus on both trade and investment.
Source: ITC.

their services have been effective for SMEs and whether and how those services will be affected by the new services offered by private providers.

What trade and investment promotion organizations do

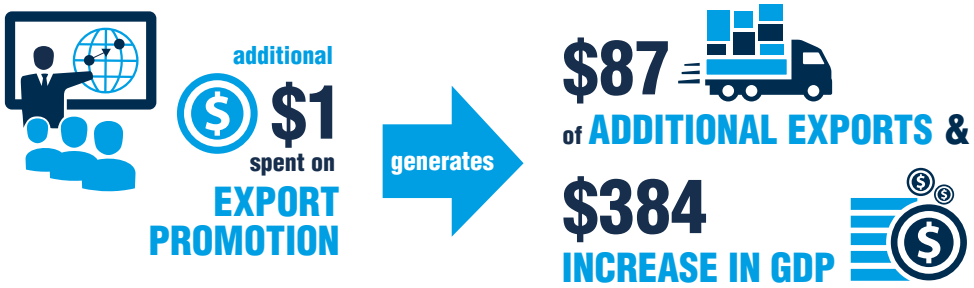
Trade promotion organizations (TPOs) and investment promotion agencies (IPAs), collectively referred to as TIPOs, provide services in similar areas of competency, but from different perspectives. TPOs focus on understanding and matching export supply with demand, and their clients are existing and potential local exporters. They offer services across the spectrum that are needed to promote and expand exports. IPAs, meanwhile, have only an indirect effect on local businesses. As their main job is to attract investors, their focus is on ensuring that foreign companies have all the support, and in some cases the incentives, necessary to make investment decisions.

Figure 9 summarizes the services provided by the two types of institution. Both trade promotion and investment promotion involve an advisory role in market intelligence, regulatory framework and advocacy, as well as proactive matchmaking and marketing, but with different goals. For example, IPAs provide intelligence analysis on their own country to foreign investors, while TPOs provide market intelligence on potential export markets to local companies.

TPOs and IPAs may approach the same foreign companies, but from different angles. They use different techniques and target different units and individuals within such companies, since IPAs view them as potential investors while TPOs see them as potential purchasers of exports.

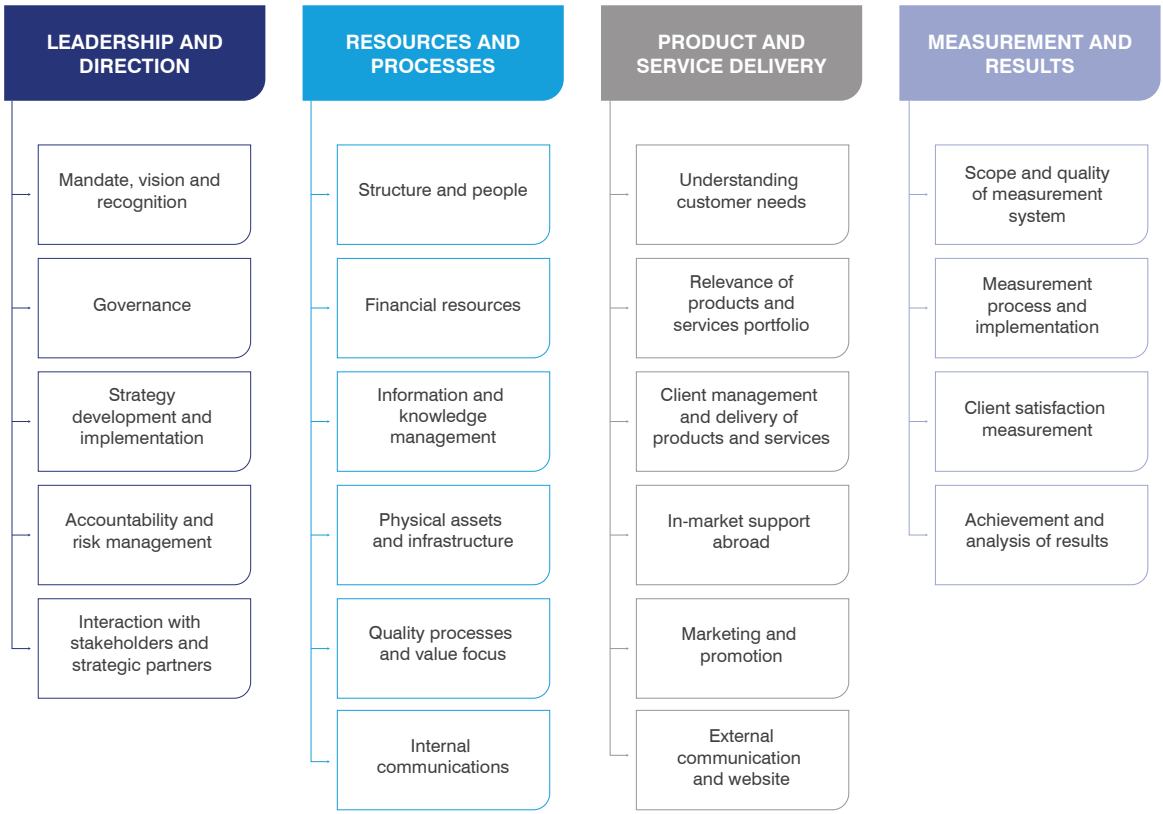
As a result, TPOs and IPAs deal with different levels of the same stakeholders.[102] IPAs must convince a company's top management to commit resources to a foreign country for the medium to long term. This decision requires input

FIGURE 10 Export promotion increases exports and GDP



Source: ITC and UNIGE (2016).

FIGURE 11 Institutional benchmarking: Performance areas



Source: ITC Institutional Strengthening Programme.

from senior management, the approval of the chief executive and board of directors, and a decision to go ahead can take many months or years. TPOs, on the other hand, target middle or junior managers responsible for deciding on imports. With the exception of very large purchases, such decisions do not usually need the approval of top management, and deals can be signed more quickly.[103]

Although TPOs and IPAs provide different services to local firms, they both share and contribute to the goal of national economic growth. The advent of international value chains as the predominant form of production is pushing TPOs to focus increasingly on internationalization, rather than export promotion.[104] This trend, alongside the complementarity and overlap mentioned earlier, has encouraged trade and investment promotion agencies to merge, particularly in high income countries.

About 45% of TPOs have merged with IPAs, but the share varies considerably by region and level of economic development. While it is above 60% in high income countries, it is below 30% in the Middle East and North Africa (MENA) and Asia-Pacific developing countries.

What worked in the past?

Evidence as to whether and how TIPOs promote national economic growth, though relatively scarce, clearly indicates that money spent on export promotion tends to boost export performance.[105] Cross-country analysis of trade promoting organizations shows that a 1% increase in their budget raises export growth by 0.03% to 0.08%. The overall gain in per capita GDP is between 0.05% and 0.07%.[106] The positive effect on GDP suggests that the benefits of trade promotion outweigh the costs (Figure 10).

Regarding exports, findings show that TIPOs encourage the dynamic side of exports, such as new products or markets (referred to by economists as the extensive margin), more than scope or volume (intensive margin). TIPOs contribute more to the entry and survival of firms in export markets than to sales.[107] This is because by providing information, they bridge the information gap that prevents firms from entering export markets and from diversifying.[108] The cost for firms of gathering information is fixed and does not depend on the volume of exports. Therefore, whether government agencies provide this information does not (at least directly) influence how much firms export, but it does affect whether firms start or continue exporting.

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The underlying characteristics of trade promotion organizations partly determine their effectiveness. On the one hand, there are higher export returns when a larger share of the executive board is in the hands of the private sector and when organizations focus on a few sectors and markets, and on established exporters.[109] On the other hand, there is higher economic growth when organizations focus on medium-sized firms and allocate more resources to marketing activities.[110]

What works for export growth may not necessarily facilitate social and economic growth. This highlights the importance of clearly defined objectives and correct indicators in evaluating the performance of such agencies.

There is less empirical evidence available to assess the impact of IPAs. A cross-country analysis of foreign direct investment (FDI) from the United States to 124 destination countries shows that each additional dollar spent on investment promotion increases FDI inflows by $189.[111] Furthermore, the sectors prioritized for investment promotion experience 68% more employment than those which are not prioritized.

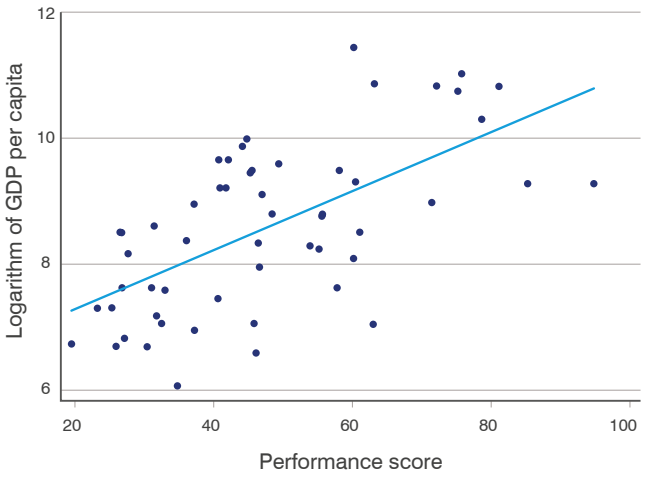
In addition, promoting investment helps overcome linguistic and cultural barriers.[112] The positive impact of investment promotion on FDI inflows is larger for countries with more corruption and less effective governance.[113] This suggests that investment promotion agencies facilitate investment by overcoming scarcity of information and deficiencies of bureaucracies in their countries.

Institutional strength

Aggregated data from the ITC Institutional Strengthening Programme using the ITC benchmarking methodology allow for a more detailed assessment of the services provided by TIPOs. The dataset provides scores in four areas of organizational performance: leadership and direction; resources and processes; product and service delivery; and measurement and results. Figure 11 illustrates these four areas, along with their underlying performance themes.

Unsurprisingly, TIPOs from higher income countries score better (Figure 12), and there is a direct correlation between the overall score given to the 51 assessed TIPOs and the GDP per capita of their countries of origin. Within countries of similar income level, however, institutions can perform very differently. A large budget is not necessarily a prerequisite for good performance, as excellence comes in all sizes. While countries with fewer resources also have institutions with fewer resources, well-invested resources can have a big impact on local business and economic growth.

FIGURE 12 Institutional benchmarking score increases with GDP per capita



Source: ITC calculations based on the aggregated data from ITC Institutional Strengthening Programme using the ITC benchmarking methodology, and IMF World Economy Outlook.

Given the importance of the 'product and service delivery' area from the perspective of SMEs, it is useful to dig deeper into the underlying performance measures:

- Understanding customer needs and developing a suitable portfolio of clients;
- Relevance of the product and service portfolio;
- Client management and delivery of products and services;
- In-market support abroad;
- Marketing and promotion;
- External communications and website.

The distribution of the performance scores by income level (Figure 13) reveals some key patterns. Low income countries score the worst in understanding customer needs, and the dispersion is small, indicating that most countries in this group have problems in this area. Middle income countries also score fairly low in understanding their client needs, but the dispersion in scores is bigger, showing differences across countries. Each income group scores best in a different area: external communications for low income countries; client management for middle income countries; and in-market support abroad for high income countries.

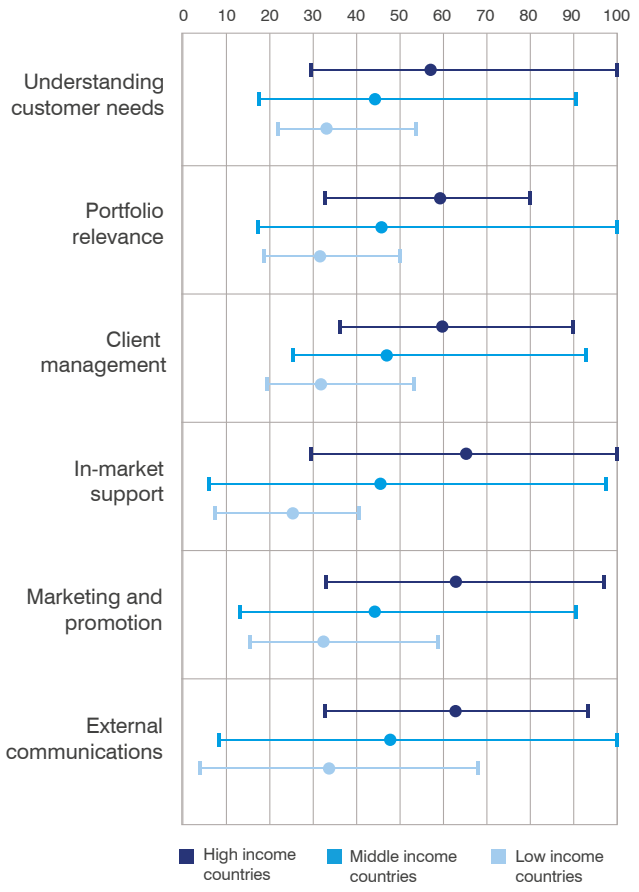
In all three country groups, especially in the high and middle income groups, there is a fairly wide dispersion as to in-market support. This is not surprising, because supporting firms in their target export market is not easy. It is costly and requires a significant support network,

as well as market intelligence and new technologies, which are not available in all countries. Moreover, not all TIPOs have the absorptive capacities required to use technology for outreach activities. For example, based on a questionnaire among sub-Saharan African countries, an ITC study shows that while the internet is often used to communicate with clients and counterparts abroad, the 25 interviewed TIPOs do not yet have joint ventures with e-commerce platforms.[114]

Support in destination markets

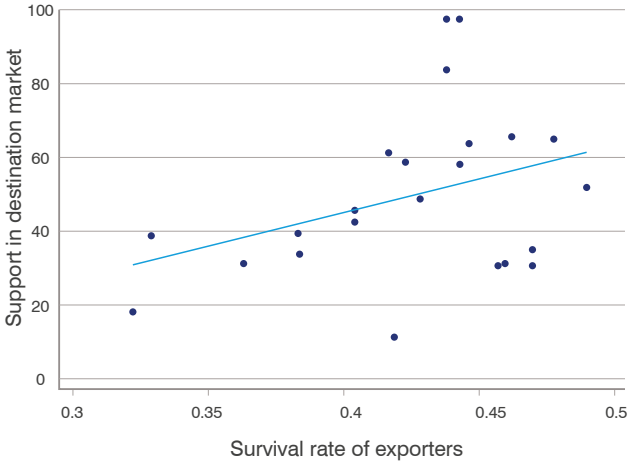
In-market support is one of the tailored services that TIPOs provide to exporters. The 'in-market support abroad' index assesses the institutions' ability to support clients in foreign markets and to provide appropriate in-market support information. Countries with institutions that score better in this area also have a higher number of exporters and surviving entrants (companies starting to export in a given year and continuing to do so in the first year after entry). A higher score for in-market support abroad corresponds to a better destination survival rate (share of firms that continue exporting to a given destination), as shown in Figure 14.

FIGURE 13 Institutional benchmarking scores for product and service delivery



Note: The bar chart reports the maximum, average (represented by the circles), and minimum scores within each group of countries.
Source: ITC calculations based on the aggregated data from ITC Institutional Strengthening Programme using the ITC benchmarking methodology and IMF World Economic Outlook.

FIGURE 14 In-market support contributes to export stability



Note: Based on a subsample of 21 TPOs. Survival rate of exporters is the share of firms that continue exporting to a given destination, averaged across all destinations, and expressed in natural logarithm (called 'destination survival rate of incumbents'). Support in destination markets is the score evaluating the support TPOs provide in destination markets (called 'in-market support').
Source: ITC calculations based on the aggregated data from ITC Institutional Strengthening Programme using the ITC benchmarking methodology, and World Bank Exporter Dynamics Database.

The relationship between TIPOs' in-market support and export stability is driven by specific sub indicators under 'in-market coverage' and 'in-market support information'. The elements in the 'in-market coverage' indicator that contribute to export stability are regular reviews of overseas support networks and good on-the-ground support to clients by working closely with overseas networks.

The elements of 'in-market support information' that help to reduce firms' exit rates are providing relevant and updated information and establishing a good system to identify and match interesting business opportunities. Elements related to an increase in survival rates of exporters are good overseas coverage, and the capacity of overseas offices to provide an understanding of the local business environment, culture and opportunities.

These links highlight the stabilizing effect on exports of good in-market support abroad, particularly by reducing risks for exporters. In addition to the contribution that TIPOs make to overcome the constraints and risks of exporting, there is a more informal role of 'handholding', given that exporters must deal with unfamiliar business environments, foreign languages and in some cases high financial risk.

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Countries with limited resources are unlikely to have an extensive international network. These countries could consider alternative ways to build an ecosystem of in-market support abroad, however. One way to deliver on-demand in-market services with low overhead costs is to leverage embassy staff, bilateral chambers of commerce, private sector service providers, and diaspora.

Another approach involves considering the use of digital platforms by trade and investment support institutions (TISIs), a term coined by ITC, which are institutions that encompass not only TIPOs, but also education and training institutions, bodies in the quality infrastructure, and other entities such as industry associations. By significantly reducing the costs of selling across borders, digital platforms can help small TISIs to connect SMEs with international markets, both as sellers and as buyers of final or intermediate goods. In addition to facilitating the matchmaking services that some TISIs provide, digital tools offer complementary warehousing, logistics, e-payments, and credit and insurance services – in effect creating a new SME trade ecosystem.

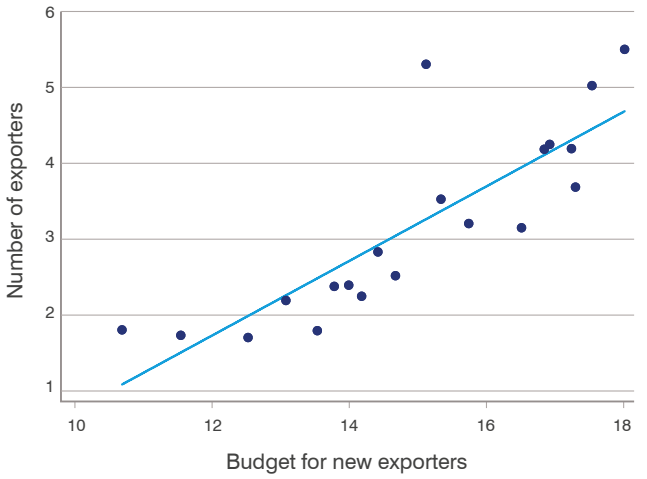
Expanding the export base

ITC research shows that countries where TIPOs spend a higher share of their budget on new exporters tend to have more exporters (Figure 15).[115] Further investigation shows that a 10% increase in the budget allocation for new exporters leads to a 4.6% rise in the number of exporters. The magnitude is significant. For example, the analysis suggests that if an average-size TIPO - organizations such as PROCHILE, PROMEXICO or Turkish IGEME - increases its budget allocation for new exporters by 10% (from about $15 million to $16.5 million), the number of exporters per destination would increase by 4.6%.[116]

Economic research has shown that it is usually the largest and most productive firms that export.[117] Interventions by TIPOs have been found to lower the productivity threshold so that smaller and less productive firms export and subsequently enhance their productivity.[118] This is in line with ITC research showing that TIPO spending is more effective in increasing the number of exporters when the budget is allocated to SMEs. While a 10% increase in the budget allocated to small firms raises the number of exporters per destination by 1.4% on average, a similar increase in the budget allocated to large firms decreases the average number of exporters per destination by 2.7%.[119]

Although the results presented in Figures 14 and 15 are based on data available for TIPOs, the findings also have implications for other organizations providing trade and investment support. This is particularly the case for the results showing the stabilizing effect of in-market support abroad. Links between institutions can be invaluable, with the international network of one body being useful to others. TIPOs could use their international network to provide international services to other non-profit institutions.

FIGURE 15 Investing in new entrants improves export outcomes



Note: The relationship between the two variables is the result of a binned scatterplot. The reported variables are defined in the natural logarithm. The underlying dataset contains information on the budget of TPOs from TPO surveys and on export performance from the Exporter Dynamics Database of the World Bank in 2005 and 2010 for 27 countries of different income levels.
Source: De Falcis, et al. (2018).

Moreover, there is scope for TIPOs to offer more powerful and effective services by linking with data platforms, which are capturing information on firms' activities and performance at a scale never before seen.

What is changing?

Online platforms have the potential to change dramatically the role and/or business model of trade and investment promotion organizations. Suppliers can be matched with faraway buyers with a click or two, altering the role of TIPOs in matchmaking. Online platforms have direct access to information on such matches and on actual transactions, providing them with the means to assess what sells where. Such information is already being used to allow platforms to tailor online search results to the interests of specific clients.

In theory, platforms can provide many of the services traditionally offered by TIPOs. It is uncertain, however, whether they have the incentive to do so and whether their results can match those of TIPOs. It is also not yet clear how TIPOs will adjust to this change. One possibility would be for TIPOs to use new technologies and collect relevant data,

so as to upgrade their own services delivery. Another would be for TIPOs to team up with platform providers for the provision of market information and matchmaking. Any move in this direction would be aimed at ensuring that big data will ultimately be used to the benefit of small firms and in the interest of the objectives pursued by individual TIPOs.

Another avenue for change is to take advantage of new technologies to expand the offering of TIPOs. Chapter 2 shows platform providers to be increasingly bundling matchmaking services, financial services and logistics services. TIPOs could consider doing the same and expanding their supply of financial and logistics solutions. Some of them are already doing this (Chapter 5).

Skilling to thrive

A skilled workforce is crucial for growth at firm and country level.[120] It allows firms to adapt more quickly, which is key to preparing for changes brought about by industry 4.0. These include developments in artificial intelligence, machine learning, robotics, nanotechnology and 3D-printing. According to 2016 estimates by the World Economic Forum, about 35% of the skills demanded for jobs across industries will change by 2020.[121] To remain competitive and adjust, countries will need strategies for skilling and upskilling so that they can create and maintain needed talent.

Who pays the bill?

Given the extent of the challenge, a key question is who finances the investments needed for reskilling and upskilling workers. Firms have incentives to invest in skills that make them more competitive. Workers have incentives too, as such investment improves their job and revenue prospects. Yet for a number of reasons those incentives are unlikely to lead to optimal outcomes – neither for firms nor for workers, and definitely not for a country as a whole. This is of particular concern at a time of pressure on education and training systems, when the ability to adjust skills can determine a country's economic future.

From the perspective of firms, the risk of losing trained employees to competitors reduces the willingness to invest in employee training. This is particularly true for investment in general skills that are useful in other jobs or companies, such as skills in languages, problem-solving and coding. Trained employees can become targets for other firms offering more attractive wages.[122]

Workers, meanwhile, may underinvest in skills that are specific to a job or firm. Studying software or learning to use a machine specific to their firm can be a risky investment, as employees cannot be sure they will be able to use the new skills elsewhere. If the market for those skills is small, involving few firms, workers may also not have sufficient bargaining power to ensure that their wages reflect their skill levels.[123]

Another major challenge is access to finance for education. The returns on education – greater productivity for firms, and/or higher wages for workers – materialize only after investments are made. Capital markets work notoriously badly when it comes to investing in skills, particularly in developing countries.[124]

Financial institutions are often reluctant to fund skills development programmes, especially for low income people. Reasons for this include concern that the borrower has limited skills that will stymie future earning power (known as adverse selection), the risk that the borrower may not take full advantage of skills programmes (moral hazard), and a lack of information about programme outcomes and the borrower's ability to reimburse dues.

SMEs can face similar problems in obtaining funding, and usually lack sufficient staff to offer on-the-job training.[125] As a result, leaving the burden of reskilling imposed by industry 4.0 exclusively on firms and individuals risks widening further the skills and productivity gap between small and large firms. This is especially relevant in developing countries, where firms need the capacity to absorb foreign technologies during globalization and where workers with education and training are in high demand.[126]

As in the past, it is likely that governments will have to intervene to ensure there is sufficient investment in education and training and that access to education and training is not excessively skewed.[127] Skills are crucial to making economies inclusive.

Which skills to transmit?

Another major challenge – particularly in a rapidly changing labour market – is that learning takes time. Skills can rapidly become obsolete, with investment in such skills wasted. In addition, when skills taught through the education system do not match those demanded in labour markets, there can be high social costs, especially if this increases youth unemployment.[128]

According to World Bank data, many countries in Latin America and the Caribbean, Eastern Europe and Central Asia suffer from significant skill mismatches. The problem is particularly striking in the MENA region.[129] The resulting high levels of youth unemployment are considered to have been a factor in the Arab Spring upheavals.[130] Skills gaps may also prevent the MENA region from making the most of coming technological disruptions, according to a recent World Economic Forum report.[131]

Good information on the skills that will be needed in the future improves the chances of achieving sound returns on investment in education and training (see case study on the Gambia in this chapter). The increased availability of and access to data and to data analysis tools can facilitate skills anticipation in the future.[132] Collaboration with the private sector remains, however, crucial and may become increasingly important. In a rapidly evolving environment, firms often understand better than training or education institutions the changes in skills demand that are on the horizon.

Partnerships between the private sector and education and training institutions also help to overcome some of the problems regarding investment incentives described earlier. Indeed, effective technical and vocational education and training (TVET) systems in countries such as Austria, Germany and Switzerland are designed to involve considerable coordination and cooperation with firms. When everybody invests in skills, there is less of an incentive for companies to poach trained workers from competitors.

What worked in the past?

Vocational training is an integral part of the SME business ecosystem, for several reasons. SMEs have more limited access to finance and high human capital than larger firms, and face impediments to absorbing innovation. Technical and vocational education and training can bridge these resource and skills gaps by helping firms meet their needs for skilled labour and acquire the necessary managerial skills.[133] TVET is defined by UNESCO as 'those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic life'.

Managerial skills are particularly important for start-ups, which require not only vocational education but also advice, coaching, funding and mentoring. These needs can be met by business incubation centres, which 'adopt' young companies in their early stages and provide various forms of support, including infrastructure, counselling, and financial services, and mentoring.[134]

Vocational courses are often shorter and more flexible than university degrees, and can take from a few hours to a couple of years to complete. Vocational training aims to make people more productive in specific fields, such as plumbing, construction and nursing. It has traditionally involved public-private collaboration, with systems in such countries as Austria, Germany and Switzerland using this type of cooperation to provide workers with the skills needed by businesses. In some cases, TVET institutions establish partnerships and exchange knowledge through international initiatives (Box 4).

TVET objectives and services can differ, reflecting country-specific socioeconomic environments. Studies evaluating training programmes have focused on the policy mechanisms for improving employment outcomes. These include vocational training, wage subsidies and job search assistance programmes as part of active labour market policies.[135]

BOX 4: WorldSkills International invests in skills among youth

WorldSkills International is a non-profit association whose members comprise agencies or bodies in 79 countries and regions that promote technical vocational education and training (TVET). It primarily targets skills development among young people. It has outreach programmes and projects that highlight the importance of effective skills training to parents, teachers and employers.

Activities focus on promoting skills, career-building, research, skills competitions, education and training, and international cooperation. WorldSkills cooperates with industries, educators, governments and international organizations. Skills competitions demonstrate the highest standards in skills among youth and help persuade organizations to invest more in skills development.

The organization works with its members to identify and disseminate best practices in the TVET system. As a member-led global hub, WorldSkills helps countries or regions to improve their TVET systems and raise their benchmarks for skills excellence. Its outreach activities also aim to increase the number of countries covered by the organization.

Source: WorldSkills International.

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Promoting SME competitiveness in the Gambia: *Developing sectors and skills*

The Gambia's young population is an asset for its future economic development. By 2035, the share of the working-age population is expected to climb to 60% of total population, promising new waves of workers that seek jobs and entrepreneurial opportunities. For this youth to deliver on its potential, the Gambia envisions specific sector promotion and active skill development.

The Strategic Youth and Trade Development Roadmap 2018-2022 (SYTDR), launched by the Government of the Gambia, in collaboration with ITC and with funding from the European Union, identifies three key sectors for growth. Firstly, agriculture, which represents a quarter of GDP and is the country's main export sector. Secondly, tourism, which accounts for a fifth of GDP and is its leading foreign exchange earner. Thirdly, information and communications technology (ICT), which already attracts many young entrepreneurs and workers and has much scope for progress.

To support these key sectors, ITC collaborated with the Gambia Investment and Export Promotion Agency to carry out an SME Competitiveness Survey in 2017 with a specific focus on skills. Interviewing 110 enterprises, the survey asked firms about how well staff are prepared for their jobs and about barriers to hiring and development.

High-tech sectors are key

The survey results highlight the key role that high-tech sectors can play for youth employment. The Gambian ICT sector employs more youth (76% of employees) and is characterized by a larger share (56% of firms) of youth-led enterprises than other sectors. The ICT sector also offers more (and more diversified) training to employees and makes greater use of online learning tools for training.

These results underscore the potential of African countries to leapfrog into new or high technology sectors and provide pointers regarding the role of training and education in such a trajectory.

Technical and vocational institutions prepare youth

While interviewed firms reported that junior staff from all educational institutions are well prepared for their jobs, those from technical and vocational schools are perceived to be less prepared for the tasks required by enterprises. More than 25% of firms in the three sectors reported that junior staff from technical schools are poorly or very poorly prepared for the tasks at hand. This is particularly the case for ICT enterprises, where the need for technicians could be filled through these schools.

Initiatives to bridging skills gap

Developing skills for young people in the Gambia requires both an upgrade of technical skills, related to sector-specific technologies and business planning, and soft skills that include work attitude, work ethic and creativity.

Linking to government objectives and recognizing the role of technical and vocational education training (TVET) institutions in developing skills, ITC and the Gambia's National Accreditation and Quality Assurance Authority launched in February 2017 the Skills for Youth Employment (SKYE) Fund with two goals. The first is to

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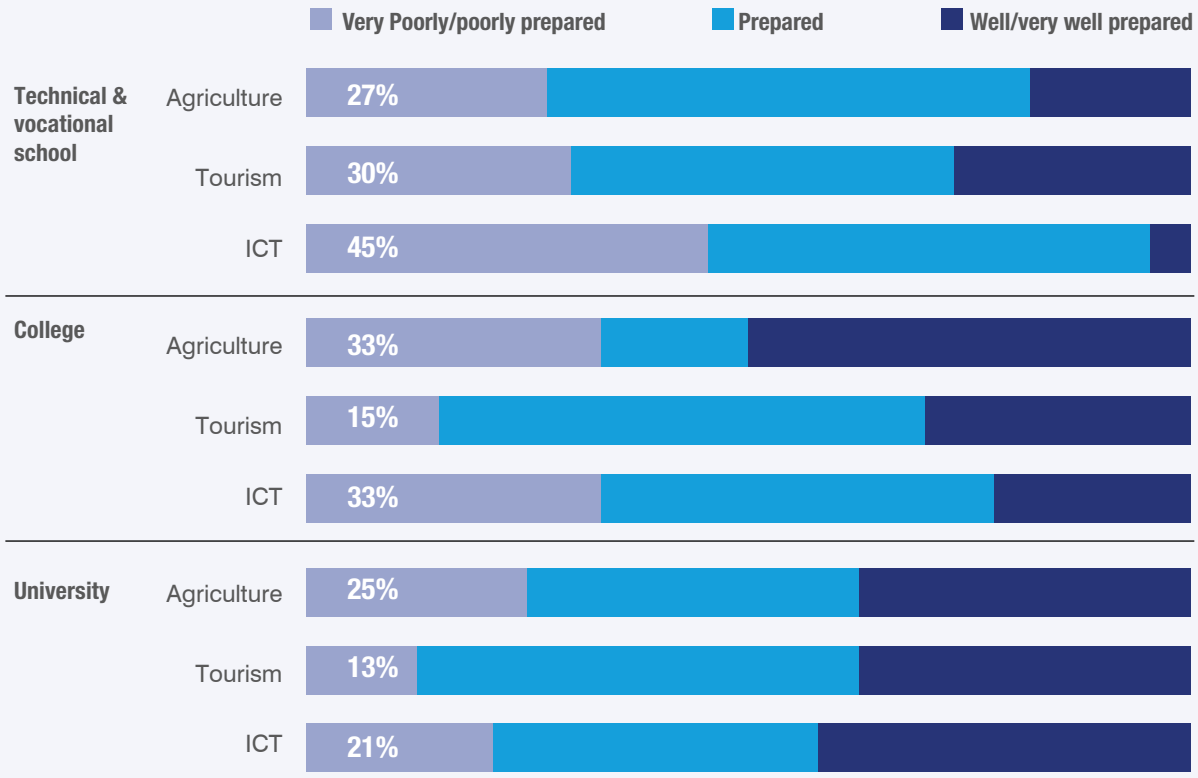
Perceived preparedness of junior staff



Note: ICT stands for information and communications technology.
Source: ITC SME Competitiveness Survey conducted in the context of ITC's Youth Empowerment Project (YEP) in the Gambia, 2017.

fund employable, market-relevant skills linked to labour market placements. The second is to provide entrepreneurship support for those that pursue self-employment opportunities.

To gain the fund's support, training programmes must meet identified skill shortages, which requires significant engagement with industry. Such engagement is also crucial to ensure post-training placement, and to understand start-up potential and opportunities. Moreover, to link these training programmes to measurable outcomes, part of the funding is dispensed only upon proof of successful employment, or self-employment, of trainees.

A returning young migrant, Jerreh Cham, who completed a training programme on satellite installation with Sterling Consortium and found employment opportunities says: 'it is important to have skills because it gives independence to the individual, who does not have to rely on anyone'.

The SKYE Fund is a creative and results-based initiative that highlights the potential for upgrading TVET programmes in the country. It contributes to achieving the Gambia's development aims and employing its youth.

Sources: ITC SME Competitiveness Survey in the Gambia (2017), The Strategic Youth and Trade Development Roadmap 2018-2022 (2017) available at https://www.yep.gm/library/youth-and-trade-roadmaps, and the website of the Skills for Youth Employment Fund: https://yep.gm/opportunity/skills-youth-employment-fund-skye.

ITC SME Competitiveness Benchmarking

ITC has developed an SME Competitiveness Benchmarking survey allowing countries to assess the health of their enterprises by identifying their strengths and weaknesses. To meet this objective, the survey captures a wide range of factors which determine firm competitiveness: www.intracen.org/SMEBenchmarking.

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THOUGHT LEADER

Despite challenging export environment, SME agribusiness in the Gambia plans growth

Awa Sinyan Faal

Founder and
Managing Director,
Mira Impex

Mira Impex is a small-scale agribusiness based in the Gambia. Our company specializes in sourcing, processing, packaging and exporting raw cashew nuts and supplying groundnuts and peanuts locally to exporters. Mira Impex was formally registered in the Gambia in 2016 and currently has four permanent employees and up to 70 temporary employees.

The company sources its produce from the Gambia, Senegal, Guinea-Bissau, and Ghana and exports to India. Mira Impex has an annual turnover of $900,000. We are planning to move up the value chain by expanding into processing cashew kernels, cashew jam and cashew juice.

Supplier network

Like other SMEs in developing countries, we at Mira Impex face a number of challenges. For example, Mira Impex has developed a network of suppliers that procure produce and transport it to its warehouse, allowing the company to focus on processing and exporting the product, including completing the paperwork necessary for exports. These suppliers occupy a significant position in the agricultural value chain and help SMEs such as Mira Impex to hold down costs. They also connect farmers to the market, while earning a living for themselves and experiencing economies of scale.

However, there can be downsides from relying on such suppliers, who tend to be uneducated and do not necessarily understand the negative impact they can have on the market. The suppliers sometimes hold back products in the hope that prices will rise. This not only stops Mira Impex from fulfilling its contracts, but also often causes the quality of the nuts to deteriorate, sometimes even preventing raw cashews from sprouting. Given that exports of nuts must meet international regulations and standards, a decline in quality can make it impossible to export the nuts, disrupting the market and preventing SMEs such as Mira Impex from fulfilling their potential.

Procuring and transporting agricultural produce from smallholders to processing sites is a challenge.

Infrastructure problems

Governments need to invest heavily in infrastructure, with access to local markets and seaports given priority.

Moreover, infrastructure is a real constraint for agricultural trade in Africa, which is the largest sector in Africa and has tremendous scope for growth. For Africa's agricultural production to increase, governments need to invest heavily in infrastructure, with access to local markets and seaports given priority. SMEs battle with poor road networks linking urban and rural markets as well as countries and regions. As a result, we spend high amounts on transport and on costs related to strict border measures. Inadequate infrastructure also causes delays in our shipments, with the quality of products deteriorating.

Africa accounts for about 40% of the 2.6 million tons of raw cashew nuts produced globally every year, but only 10% of this is processed into cashew kernels for export at international market prices. An estimated 80%–90% of the cashew apple harvested annually in Africa goes to waste, due to lack of standard storage facilities.

Nonetheless, there are also positive market developments, for example regarding logistics. Using a reputable forwarding agency is an effective way to transport our goods to our end buyers. Such agencies have brought together a team with vast knowledge in identifying the shortest transit time and most efficient shipping lines. Working with them helps ease the burden of dealing with shipping transactions.

They professionally prepare and facilitate documents, such as phyto and fumigation certificates and certificates of origin. Their services prevent our cargos from being delayed in customs clearance in ports. Still, transporting cargo from the port of Banjul can be costly and time consuming, due to the port's size and location. It costs far less – up to half as much – to ship the same size container of raw cashews from Tema in Ghana as it does from Banjul.

Plans for growth

Working with forwarding agencies helps ease the burden of dealing with shipping transactions.

Despite our challenges, we are planning to set up a factory in Brikama, in the Gambia's west coast region, to process cashew kernels, juice and apple. The plant will include automated machinery and entail an investment of $200,000. Experts will intensively train the workers and we aim to have women make up 70% of our workforce. Our intention is to train and provide employment to rural women who do not have formal education.

Through this expansion, we want to move up the value chain and sell directly to the consumer market through retail stores. There is global demand for processed cashew products and our main target markets are Africa, the United States, the European Union, and Arab Gulf countries. However, we will first introduce our products to domestic and regional markets before going global. We aim to be among the SMEs that help foster intra-Africa trade and contribute to ending waste of cashew nuts in the Gambia in the near future.

The effect of these programmes remains modest.[136] A meta-analysis of studies assessing the effectiveness of vocational training programmes shows average employment gains of 2.3 percentage points. That is, for every 100 people offered vocational training, fewer than three will find a job they would not otherwise have found. Furthermore, the monthly income of individuals who receive training increases by $19. This income gain is, however, modest, considering the cost of such programmes (ranging from $500 to $1700 per person trained).[137]

Yet, sector-specific education and training at the mid-technical level is needed if SMEs are to take advantage of industry 4.0. In other words, the question is not whether the provision of TVET is required but how to design TVET effectively. SMEs that are able to apply the newest technologies will most likely flourish in this new environment. This depends on technologically upgrading education and training, which in turn requires collaboration between training providers and the private sector. A smarter use of data to assess skills demand and design relevant responses can also help.

While the effectiveness of vocational training programmes cannot be proved universally, there is some evidence that programmes targeting women and the long-term unemployed are likely to yield greater returns on employment and earnings than those that do not target specific priority groups.[138] This evidence shows the importance of effective targeting and design of training. Targeting population subgroups is an option to explore. Women in developing countries are one possible target, given their high unemployment rate and low earnings, which increase the relative gains from their training.[139]

For example, since 2012 the AMMACHI Labs project has offered vocational education to more than 5,000 women in 29 villages across 21 states in India. The project provides technical skills that are in demand, such as plumbing and fabric painting. The training also includes life skills courses, which raise awareness of personal and community issues. Most of the training takes place in classrooms with the aid of ICTs, such as laptops and tablets. About 60% of programme graduates report increased earnings and income. Moreover, post-training surveys show that participants have gained self-confidence and are more aware of their rights and opportunities.[140]

There is also evidence that training programmes provided by private actors are more effective than those run by government,[141] possibly because they are better aligned with the needs of the private sector.[142] This underscores the importance of public-private partnerships in which the government focuses on monitoring labour markets and collecting and disseminating information about market trends. Private actors, meanwhile, focus on the delivery of the service.

For example, the Swiss South African Cooperation Initiative is a public-private initiative aimed at providing a workplace experience for TVET students in South Africa. The pilot project, which ran from 2008 to 2010, provided two-week industry placements for students from four public colleges. Subsequently, the programme was rolled out in 50 public TVET colleges and currently provides industry exposure to 8,000 students every year.[143]

Adjusting to the future of work

The technological revolution driving industry 4.0 transforms and disrupts, making many jobs and skills obsolete.[144] Its impact varies considerably across jobs, sectors and countries, reflecting different levels of economic development.[145] This has considerable implications for vocational training, which should prepare the workforce for such changes.

With the help of technology, TVET programmes can reposition their offering and portfolio. Training can now be delivered in a variety of ways, including face-to-face and through virtual sessions accessed from devices. Such courses can offer personalized curricula, with students able to set their own pace. When used effectively, these new learning processes can provide young people with skills that are relevant to industry and forward-looking.

Virtual training can include the learning of automated processes, creating a safe environment in which to make mistakes and reducing the risk of workplace accidents. However, such training should be developed at an early stage in the design of production facilities. This requires companies to cooperate more with higher education institutions.[146] Developing training programmes and curricula should take place at the same time as retraining teachers and trainers.

In addition to forecasting the skills required for jobs in the future, educational institutions must foresee which current skills remain useful. Based on a survey of business leaders, the World Economic Forum in 2016 predicted that by 2020, over a third of the core skill sets in most occupations will involve skills that were not considered crucial at the time of the survey. Demand will grow more for social skills, such as persuasion, emotional intelligence and teaching, than for narrow technical skills, such as programming or operating and controlling equipment. This does not mean that technical skills will not be needed, but that they will have to be complemented by social and collaboration skills.

Complex problem-solving will also be highly sought after for more than one-third of all jobs, although there are differences across industries. On the one hand, automation is likely to make complex problem-solving less necessary in industries that are heavily technical today. On the other hand, problem-solving will gain importance in industries that are expected to become more complex and analytical.

The World Economic Forum survey highlights a number of underused but promising approaches to handling the impact on jobs of technological developments, such as artificial intelligence, machine learning, robotics, nanotechnology and 3D printing. Examples include making better use of the experience of older employees; building an 'ageless workforce' through lifelong learning; increasing collaboration within or across industries; and creating partnerships with public institutions and the education sector.[147]

It is also necessary to consider the balance between public and private provision of vocational training, especially given current limits on public resources for education and the increasing variety of education services provided by the private sector. Publicly funded vocational training is not always successful, particularly when centralized systems create bureaucratic constraints. Private TVET providers have emerged as an alternative to increase the quality and responsiveness of training institutions, particularly in cases of vulnerable or unreliable government financing for such education and training.

Private provision of TVET has increased in the past decade, especially in sub-Saharan Africa, and the Middle East and North Africa, where enrolment in private TVET has surpassed that of publicly funded training.[148] Modernization has made TVET more open and connected to stakeholders, such as businesses and trade unions.[149]

Given the role that public-private partnerships play in fostering industry engagement with TVET systems, governments need to find mechanisms to encourage sustainable relationships between the private sector and training institutions. These must go beyond offering financial incentives.[150]

It has been notoriously difficult to build well-functioning TVET institutions in countries lacking a tradition of peer collaboration and public-private partnerships in training. The challenges in creating such systems are even greater in times of technological disruption, which reshape the private sector. Innovative solutions are needed to incite new players to become active in providing training and education in new technologies.

A recommendation at the Third International Congress on TVET, held in Shanghai in 2012, was to explore developing quality assurance guidelines for recognizing qualifications based on learning outcomes. Moving in this direction would create a system for transparent and quality-assured TVET qualifications. It would also promote mutual recognition of qualifications at the national, regional and international levels.[151]

Monitoring quality, ensuring trust

Standards and regulations are an integral, if easily overlooked, part of daily life. They determine whether a plug fits into a socket, whether one mobile phone can connect to another, or whether the traffic signs can be understood when driving in another country. Businesses introduce standards in value chains to protect their brand name, and governments adopt regulations to protect consumer safety.

Any company seeking to export is likely to have to meet at least one standard or regulation, be it a government regulation affecting imports, a voluntary sustainability standard or a services regulation.[152] Firms seeking to trade increasingly must respect internationally accepted quality standards and follow the procedures required for certification to show that such standards are met. Implementing internationally accepted standards has become vital to gaining access to foreign markets, particularly for developing-country firms (see case study on Indonesia and Kenya in this chapter).[153] This holds true for traditional goods and services but also for goods and services developed around industry 4.0.

High stakes

A product's perceived quality is significant in influencing consumer-buying decisions, and a product's actual quality is significant in determining whether people become repeat customers.[154] Where customers are disappointed, sales are likely to go down, and where trust in certain products is lost, entire markets may disappear.[155]

Emerging technologies are introducing new products and processes, many of which contain quality aspects that are not immediately discernible to consumers. Are the customer comments on hospitality webpages authentic, or manipulated? How secure are electronic banking tools? What is the likelihood of an autonomous car crashing? For markets to function well, quality control and monitoring mechanisms are necessary. These often involve standards or regulations designed to take into account customer expectations, industry standards and national policy objectives, such as public health or national security.

Standards help firms adopt quality assurance procedures and send signals to potential buyers about the quality,

safety or sustainability of an enterprise's product and processes.[156] They bridge the information gap between buyers and suppliers and help enterprises differentiate their products from those of competitors. Ultimately, however, quality control measures should contribute to the competitiveness of enterprises, and eventually translate into sales and profits.

This requires certification bodies to stay abreast of change. National quality standard organizations also need to guarantee transparency, interoperability and inclusiveness of standards created by the private sector for digital goods and services. This can be challenging given the current pace of technological transformation, especially for institutions in developing countries.

Quality infrastructure that works

The business ecosystem in certification and standards is usually made up of five core actors, each with specific roles: metrology, accreditation, standards authorities, testing and certification laboratories, and inspections authorities. Collectively these are often known as 'quality infrastructure'.[157]

These institutions can help firms, especially smaller ones, to obtain needed information on how to get quality certificates. Certification helps to raise efficiency levels of firms and cut foreign market entry costs by reducing uncertainty in transactions. Hence, when support institutions offer services on how to get quality certificates, they are likely to help them obtain such certificates but also encourage firms to export.

Certification, however, only takes place where there is an infrastructure for monitoring and certifying quality. Enterprises in remote areas, which tend to be SMEs, often are not covered and cannot vouch for the quality of their goods. This limits their ability to differentiate their product from those of competitors and to enter new markets. The cost of such services can also be a barrier for SMEs.

Trade and investment support institutions have a role to play by providing direct support to SMEs, facilitating collective certification and communicating the needs of the smaller and more remote players to the national government. Furthermore, with technological change continuously leading to new standards, they can help ensure that the needs of SMEs are taken into account.

TISIs also can help shape a supportive regulatory environment for business that simultaneously protects the public interest. This role is complex, because the technical backup needed for an effective regulatory environment involves numerous interdependent institutions. Shortcomings in a single institution can trigger systemic problems.

To make standards work for trade and reap maximum benefits from trade opportunities, policymakers should focus on five areas:[158]

- Making information on standards and technical regulations accessible to firms;
- Encouraging and enabling firms to adopt standards and comply with technical regulations;
- Strengthening national quality infrastructure;
- Improving governance at home to facilitate border crossing;
- Leveraging international mechanisms that facilitate trade.

TISIs are likely to play a key part in such an action plan, because they are active in the quality infrastructure relevant for standards and regulations in many countries, and because they understand the constraints at the local level.

There is considerable research assessing the effect of certification on enterprise performance. This mainly shows that certification makes enterprises more competitive, although the impact depends on the type of certification acquired. For example, a study of the effect of ISO 9000, a standard designed to improve management practices, found that being certified improved returns on assets.[159] Other studies argue that ISO 9000 certification improves the long-term financial prospects of certified enterprises.[160] Adopting quality standards has also been found to increase sales in foreign markets, improve reputations, and decrease trade costs due to smoother customs control procedures for goods meeting high quality standards.[161]

As a result, an entire industry has developed to help firms acquire quality certificates for their products or procedures. In this context, a survey of Spanish firms showed that 30% of companies spent less than €6,000 annually on quality management, while 15% spent over €60,000.[162] These figures reflect the cost of attending quality management training, paying consultants, and paying for the procedural costs of certification. The global ISO certification market was valued at $11.8 billion in 2017.[163]

Transmitting knowledge about quality certification and related processes is key to promoting certification. SMEs, especially in developing countries, may not be able to shoulder these costs fully, and public or public-private entities have a role to play. The returns on investment are likely to be significant.

An ITC study using firm-level panel data from the World Bank Enterprise Surveys in 14 Latin American countries analyses the effectiveness of services offered by Latin American support institutions in obtaining quality certificates.[164] The findings suggest that such services

bolster firm performance by helping them get a quality certificate and export. Firms that receive services to obtain a quality certification:

- are seven times more likely to get certified than those that did not receive these services;
- are three times more likely to become exporters than those that did not receive these services.

This finding is consistent with quality certificates reducing the fixed costs of exporting and improving quality signalling, which in turn reduces information gaps between buyers and sellers.

Adopting certification is costly and highly demanding in terms of staff numbers and time, however. SMEs often find it more difficult to be certified than larger firms, which have more resources to make use of the training received.[165] This is in line with economic analysis indicating that in addition to access to knowledge, firms need to be able to absorb capacity.[166]

Where SMEs do acquire knowledge about standards and quality certification and get to the stage of adapting to requirements, they still need to demonstrate compliance. Many developing countries lack domestic certification bodies recognized in export markets. In such instances, SMEs must use foreign certification bodies, which can be quite costly. When this happens, it is likely that only the larger firms have the financial resources to reach the final stage of certification.

This highlights the need for assistance programmes for conformity assessment bodies, such as testing labs; international recognition of competent authorities and certification bodies; and establishing quality infrastructure, all crucial elements in countries' export competitiveness.

Wanted: Standards for emerging technologies

New technologies require new standards and quality infrastructure that adapts to change. The private sector is leading the creation of standards on digital goods and services. While this helps to drive innovation, national quality infrastructure bodies have a role to play to guarantee that these emerging standards are transparent, interoperable, secure and inclusive, and that they protect privacy. It is also necessary to avoid the creation of overlapping standards by private sector actors.

International and regional standard-setting bodies are already active in developing and adopting international standards and in cross-country collaboration. A number of non-profit organizations, both public and private, are also involved in this area.

Certifying authorities for digital goods

Digital goods can be given a variety of certificates attesting to their quality, security and other features. Code-signing certificates, for example, confirm the software author and guarantee that the code has not been altered or corrupted since it was signed.[167] Such certificates are mostly controlled and maintained by private sector actors.[168]

Web browsers are de facto becoming certifying authorities, similar to accreditation bodies in the case of physical goods. Companies must comply with, and be audited against, security and authentication standards established by web browsers.[169] For instance, in March 2017 Google and Mozilla penalized a software company providing security certificates for violations of industry standards and misuse of HTTPS certificates.[170] Google removed trust of this company's certificates for nine months.[171]

An alternative to the system of multiple trusted authorities is a 'trustless model'. Distributed ledger technologies (DLTs), such as blockchain, are used to enhance security, trust and compliance. With a digital signature and its incorporation into a blockchain, for example, it is possible to check the authenticity and uniqueness of radio frequency identification tags used to track parts through a supply chain. Blockchain technology excludes counterfeit parts and eliminates accidental duplication.[172]

Various international organizations are currently working on developing blockchain standards. The International Organization for Standardization (ISO) created a technical committee on blockchain and DLTs (ISO/TC 307).[173] The standardization sector of the International Telecommunication Union (ITU) established a focus group on applying DLT. The group will develop a standardization roadmap for interoperable DLT-based services, taking into consideration activities under way in ITU and other standard-developing organizations, forums and groups.[174] Other non-State actors outside formal international organizations, such as the World Wide Web Consortium (W3C), are also working on a protocol for decentralized ledgers on the web.[175]

There is increasing coordination among these bodies. ISO/TC 307 has formal links with W3C, ITU and other interested parties.[176] ITU established a Global Standards Collaboration initiative to enhance global cooperation on communications standards and the standards development environment.[177]

Another international organization working on broader digital standards is the United Nations Economic Commission for Europe (UNECE). UNECE hosts the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), which developed Extensible Markup Language (XML)-related standards.[178] XML defines

BOX 5: Bodies working on standards for the digital era

The European Committee for Standardization and the European Committee for Electrotechnical Standardization (CEN-CENELEC) are responsible for standardization in the electrotechnical engineering field and prepare voluntary standards. The European Telecommunications Standards Institute (ETSI) produces a variety of standards in the telecommunications industry, including those that enabled key global technologies, such as GSM™, 3G, 4G, DECT™ and smart cards.

The Internet Corporation for Assigned Names and Numbers (ICANN) is a non-profit corporation based in the United States, responsible for coordinating maintenance and procedures of databases related to internet namespaces, ensuring stability and security. One of the four 'advisory committees' that provide advice and recommendations to ICANN is composed of governments and international treaty organizations.

Private sector actors are also fully involved in global industry organizations that develop standards for the digital era. The Institute of Electrical and Electronics Engineers (IEEE) is a technical professional organization that develops standards in information technology and robotics, telecommunication and home automation, transportation, nanotechnology and other industries.

The Internet Engineering Task Force (IETF) develops and promotes voluntary internet standards, such as Transmission Control Protocol and Internet Protocol.

The Organization for the Advancement of Structured Information Standards (OASIS) is a global non-profit consortium that works on development, convergence and adoption of standards for security, IoT, energy, content technologies, emergency management, and other areas.

Source: Asia-Pacific Economic Cooperation website, Sub-Committee on Standards and Conformance; CENELEC website; ETSI website; ICANN website; IEEE website; IETF website; OASIS website.

a set of rules for encoding documents in a format that can be read by people and machines.[179] UN/CEFACT also recently launched a project to help smaller businesses access international trade through new digital platforms.[180]

Promoting interoperability

Standards form the underlying architecture that enables interoperability among hardware and software from different manufacturers.[181] Interoperability is the capacity of a product or a system to work with other products or systems.

Interoperability among digital products is a major challenge because there are no universally agreed standards.[182] For example, in cloud services, applications developed for one platform cannot easily be migrated to another. Consequently, once an organization has chosen a cloud provider, it is locked in.[183] Likewise, users can become vulnerable to price increases by IT infrastructure providers.[184]

Private sector actors are developing a significant number of interoperability standards, making it difficult for a single standard to gain widespread acceptance. If companies were to identify collectively the best technology for a particular function and establish it as the generally applicable standard for the sector, entry barriers for small firms would be lower, as they would be able to build products using the established standard.[185]

Public infrastructure bodies are well positioned to promote open standards that avoid locking users into vendors through proprietary systems. Several international initiatives on standards regarding the Internet of Things (IoT) are taking steps in this direction.

The German Government is working with other countries on a variety of partnerships. Since 2013, the Indo-German Working Group on Quality Infrastructure has met annually on technical issues arising in bilateral trade. The two countries intend to strengthen international standardization, deepen cooperation on market surveillance and simplify conformity assessment procedures.[186]

In 2015, Germany and China set up a joint working group on standardization in the area of industry 4.0, and in 2016 Germany signed a cooperation agreement with Japan on international standards for IoT and industry 4.0.[187] In 2017, Japan and the European Union concluded a Memorandum of Understanding to cooperate on IoT-related standardization and on addressing societal challenges associated with IoT solutions.[188]

International organizations are working in this area as well. The International Electrotechnical Commission (IEC) and ISO established a Joint Technical Committee (JTC1) on Information Technology. One of its subcommittees (ISO/IEC JTC 1/SC 41) focuses on IoT and related technologies. More specifically, it deals with standardization on IoT and related technologies, including sensor networks and wearable technologies. The committee also provides guidance to the Joint Technical Committee on ICT standards for business and consumer applications, and to other entities developing applications related to the IoT.[189] Box 5 describes other regional and global work on standards for the digital era.

Addressing privacy and security

To protect privacy, it is desirable to promote standards that give consumers control over their data so they can decide how companies use it. This requires government involvement in creating standards.

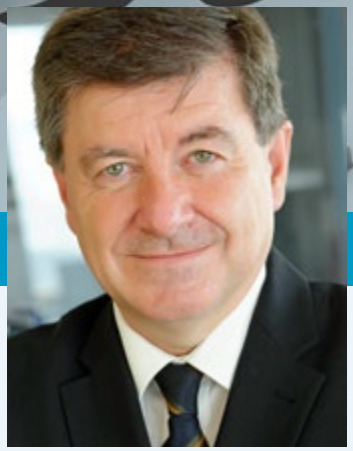
Public quality infrastructure bodies can promote transparency and cybersecurity. On the one hand, they can ensure that the process of how personal consumer information is shared among companies is transparent.[190] On the other hand, public bodies are well placed to ensure the delicate balance between security and the necessary openness of cyberspace.[191] Cybersecurity is increasingly viewed as a public good that can only be generated through binding regulation.

Growing concerns about digital security risks and privacy can become a barrier to ICT adoption and use, particularly for SMEs. While SMEs that can meet standards will benefit, creating an additional requirement for participating in trade means firms that cannot comply will be left further behind.

International standards such as the ISO/IEC 27000 group help organizations keep information assets secure.[192] Private sector actors and non-profit organizations are also active in developing cybersecurity standards. Microsoft developed and shared good practices in the secure development lifecycle.[193] The Open Web Application Security Project, a non-profit organization, develops voluntary security standards that are open and free to use.[194] In Switzerland, the Reporting and Analysis Centre for Information Assurance MELANI, a government agency, provides support for the security of computer systems, the internet, and protection of critical national infrastructures. For example, the Centre developed a checklist on IT security for SMEs.[195]

The private sector is involved in certification of cybersecurity-related standards, a domain in which multinational companies such as SGS and TÜV are major players. For instance, SGS offers assessments and audits on cybersecurity and functional safety standards (ISO 26262, IEC 61508, and IEC 61511).[196] Recently, 34 global companies signed the Cybersecurity Tech Accord, which aims to protect and empower civilians online and improve the security, stability and resilience of cyberspace.[197]

Across the globe, quality infrastructure bodies are highly active in developing new quality systems in the three areas discussed in this section: certification of digital products, interoperability among digital products, and privacy and security assurance. For their part, governments need to ensure that their own country's quality infrastructure is ready for industry 4.0.



THOUGHT LEADER

Skills bolster SME competitiveness

Guy Ryder

Director-General,
International Labour
Organization (ILO)

Small and medium-sized enterprises (SMEs) are the backbone of economies around the world. They contribute to economic growth, spur innovation and diversification, and provide livelihoods. They also offer women and other traditionally disadvantaged groups the potential to access productive, sustainable and quality employment.

Before the 2008-2009 global economic and financial crisis, average growth in full-time permanent employment of SMEs was substantially higher than that of large firms. But this growth has stagnated in recent years.

Unfortunately, improvements in enterprise performance can be difficult to achieve and are not always supported by relevant skills policies. This is especially evident in many SMEs, where weaknesses in competitiveness, poor working conditions and low skill development prevail.

Bearing this in mind, strengthening the competitiveness of SMEs through improved skills is a win-win situation.

Relevant skills policies for SMEs provide numerous benefits. They equip workers with the knowledge, skills and qualifications needed in a changing work environment, tackle skills shortages and mismatches, and foster lifelong learning. They also help employers raise the level of workforce skills according to company needs, provide young people with the right qualifications – facilitating their access to labour markets and increasing labour market mobility – and support economic growth, competitiveness and productivity.

Strengthening the competitiveness of SMEs through improved skills is a win-win situation.

This is particularly true of quality apprenticeships – the gold standard in vocational education and training. These link the classroom and workplace, and tap the knowledge of employers and workers on the kind of training needed and ways to deliver it. Quality apprenticeships develop skills, innovation and entrepreneurship, and enable employers to train workers along enterprise requirements. This helps to meet SME needs and address structural problems of low productivity and lack of productive diversification.

Financing mechanisms

Shared financing is necessary to ensure ownership, sustainability and relevance of quality apprenticeships.

Establishing an optimal and reasonable funding arrangement is key to designing skills and apprenticeship policies. Who shares the financial burden, and how can a fair distribution of costs among the relevant stakeholders be determined? Companies usually finance the biggest share, such as the costs of in-company training and apprentices' salaries, while the government runs vocational schools and covers teaching salaries.

To support companies that offer apprenticeship positions, many countries have established apprenticeship funds. For instance, all employers may have to pay into the fund, with companies drawing from the fund for each apprentice they take on. The government may also introduce tax breaks or other incentive systems. However, full public funding of apprenticeships can and should not be the option in the end – shared financing is necessary to ensure ownership, sustainability and relevance of quality apprenticeships.

Anticipating and matching skills needs

Many countries are facing the challenge of a mismatch between the skills needed in the labour market and those acquired by graduates of vocational education and training institutions or universities. Even though there are other reasons employers find it difficult to fill vacancies, such as poor wages and working conditions, unattractive locations, limited career options and precarious contracts, the skills gap is often a real concern.

Researchers view labour market mismatches as one factor in weak employment trends and sluggish productivity improvements. At times, the skills demanded by employers are simply not available, because the vocational training system is weak and/or unresponsive to labour market needs.

Country policies on skills should include assessing and anticipating needs in conjunction with quality apprenticeship systems.

Quality apprenticeships, as promoted by the ILO, offer an effective way of bridging this divide. However, this depends on adequate knowledge of a country's supply and demand for skills. Such analysis identifies which skills are needed in each sector and how the social partners can jointly assess and provide them.

Country policies on skills therefore should include assessing and anticipating needs in conjunction with the quality apprenticeship system. This ensures skills and quality apprenticeship programmes align best with the labour market and serve the needs of SMEs.

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Promoting SME competitiveness in Indonesia and Kenya: *Efficient certification key to export success*

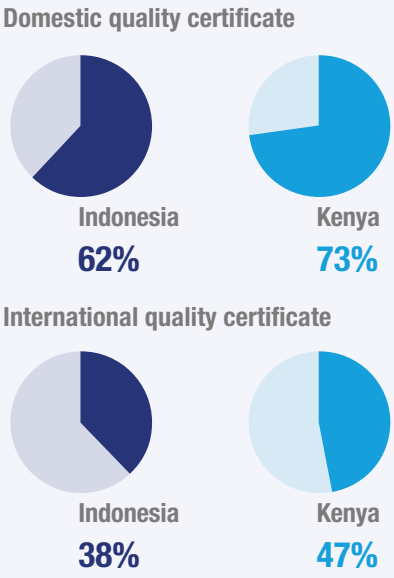
Surveys of women-owned firms in Indonesia and Kenya highlight the importance of efficient and accessible quality infrastructure and institutions, which are key to SMEs' export success.

Quality institutions provide services in standardization, metrology, accreditation and conformity assessment (inspection, testing and product certification). These attest that products and services meet defined requirements imposed by authorities or requested by buyers.

The surveys, of 200 women-owned firms in the services sector of both countries, also illustrate that firm-level data can help identify areas of improvement. Challenges may lie in firms' internal capacity to meet standards or in the availability and performance of quality infrastructure near the firm.

The SME Competitiveness Surveys, carried out in 2016 in Indonesia and Kenya, asked firms owned or operated by women about the capacities of their firms and the business ecosystem in which they operate (local infrastructure, institutions, buyers and suppliers).

Share of certified firms



Note: Figures show the share of certified firms among surveyed firms.
Source: ITC SME competitiveness surveys, under SheTrades project in Indonesia and Kenya 2016.

The surveys were part of the ITC SheTrades initiative, which aims to connect three million women entrepreneurs to markets by the end of 2020. The focus on women-owned businesses recognizes women's role in overall development, as well as the need for targeted support.

Firms adhere to standards, obtain certification

Most surveyed women entrepreneurs in Indonesia and Kenya reported that their companies adhere to one or more domestic standard. International certification is much less prevalent, however, with the share of certified firms ranging from 38% in Indonesia to 47% in Kenya.

A reason for this level is the complexity of the conformity assessment process for SMEs. Firms must wade through and choose from dozens of quality standards if they want to become certified. Identifying which standard brings the most value is difficult. Therefore, firms need assistance from their business ecosystem, specifically quality infrastructure and institutions.

Efficient certification bodies are crucial

Questions focusing on the business ecosystem evaluated the availability and quality of information about standards, the efficiency of certification bodies, and the quality of services they provide. Respondents from both countries reported significant difficulties finding information on standards and certificates.

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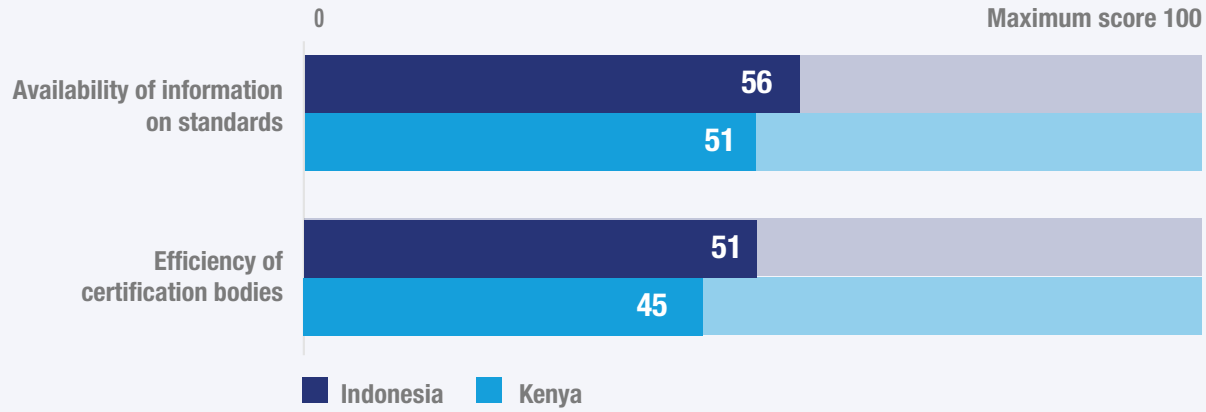
Perceived quality of certification institutions services



Note: Figures show the scores based on the perception of surveyed firms, with 100 being the best.
Source: ITC SME competitiveness surveys, under SheTrades project in Indonesia and Kenya 2016

Under 33% of firms in Indonesia and Kenya reported receiving good or excellent information from their business ecosystem. Moreover, firms rated the efficiency of certification bodies in Indonesia and Kenya as quite low. They gave such bodies an overall score of 51 out of 100 in Indonesia and 45 out of 100 in Kenya, and less than 20% rated these organizations to be good or excellent.

Promoting international standards

Increasing the prevalence of international certification is a key objective for Kenya's food processing industry, as standards are especially important for the sector, particularly for exports. To increase trade between India and Africa, the ITC Supporting Indian Trade and Investment for Africa (SITA) Programme tackles the issue of certification through workshops for Kenyan SMEs operating in the food industry. In particular, the workshops inform SMEs about Hazard Analysis and Critical Control Points (HACCP) and train them on the technical requirements for implementation.

In Indonesia, the Ministry of Cooperatives and SMEs together with the Ministry of Communications and Informatics introduced the 'SMEs Go Online' programme in November 2017, aimed at making MSMEs digital-savvy by helping them join online market platforms.

There are linked supporting programmes run by various government agencies, such as the Certification, Copyright, and Trademarks Registration Facilitation programme. This seeks to ensure that operational activities and products produced by MSMEs comply with applicable standards, through standardization and certification facilities. The facilities include ISO 9001:2008, SNI, HACCP, Intellectual Property Rights (Copyright and Brand Right), and Halal. These efforts are part of a drive to improve SME competitiveness and expand their markets by adhering to international standards.

To ensure export success, firms and certification bodies should act in tandem. Competitiveness depends on the capacity of firms to comply with standards and the efficiency and accessibility of quality infrastructure, including certification bodies. Together these can bring quality upgrading, higher trust from consumers and better market access.

Source: ITC SME competitiveness surveys, under SheTrades project – Economic Empowerment of Women in the Indian Ocean Rim Association in Indonesia (2016) and Kenya (2016), website of Association of Southeast Asian Nations.

ITC SME Competitiveness Benchmarking

ITC has developed an SME Competitiveness Benchmarking survey allowing countries to assess the health of their enterprises by identifying their strengths and weaknesses. To meet this objective, the survey captures a wide range of factors which determine firm competitiveness: http://www.intracen.org/SMEBenchmarking/.

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CHAPTER 4

Local infrastructure: Shortening the last mile

The fourth industrial revolution has been heralded as having the potential to connect billions more people and to improve dramatically the efficiency of organizations. The underlying assumption is that people and enterprises are actually connected to one another and to new technologies via the internet or transport infrastructure.

In actual fact, however, 1 billion people in low income countries live more than 2 km from an all-weather road.[198] About half of the world's population – 3.9 billion people, 90% of them in the developing world – do not use the internet.[199] For industry 4.0 to benefit everyone, existing infrastructure gaps need to be overcome. This is most challenging for households and firms in remote areas. According to Amazon executive Brittan Lad, 'The last mile on average makes up nearly 30% of transport costs. And it is very hard to bring down.'

The good news is that industry 4.0 is ushering in new technologies that can make it easier to close existing infrastructure gaps, including last mile gaps that must be overcome to connect remote households and SMEs to infrastructure nodes or hubs. Drone transport may allow for last mile transport without the need for expensive investments in roads or rails. Balloons and satellites may facilitate internet connections in areas not served by fibre optic cables. Many of these technologies, however, are still in the experimental stage.

This chapter shows the existing transport and digital infrastructure gaps between countries and within countries. It discusses some new technologies that could potentially shorten the last mile for households and SMEs in remote areas, and suggests investments that could help close the existing gaps.

Public-private partnerships are crucial for these much needed investments. But such partnerships will only be effective within a well-designed regulatory environment.

Last mile hurdle for developing country SMEs

To enhance SMEs' potential to participate in and benefit from technological changes, a robust physical and digital network directly connecting them to markets and ecosystem actors is essential. In the absence of adequate transport and ICT, SMEs are unable to thrive in a world where business opportunities and growth are increasingly dependent on the mobility of people, goods and information.

SMEs endowed with physical and digital connectivity channels can expand their outreach, gather real-time market information and business knowledge, sell online and improve their resource planning. However, these resources are currently absent or in short supply for many SMEs, especially those in remote locations. If a business ecosystem embracing new technological realities is to serve SMEs in all locations, overcoming local infrastructure deficiencies is a prerequisite.

Transport infrastructure and ICT infrastructure are important production components as they can tremendously lower the costs of distance, increasing productivity and making it easier to do business in the supply chain. They create vital physical or remote connections between the nodes consisting of SMEs, their clients and supply chain partners, and institutions and business service providers, in an integrated system.

Indeed, central to the production methods of current business models and an element of competitiveness is the speed and ease with which goods and services can reach their destinations. An increase in transport time in the logistics chain, such as factory to port or international shipping, represents substantial costs for businesses and diminishes global trade flows.[200] It is estimated that each additional one-day delay in moving cargo from factory to

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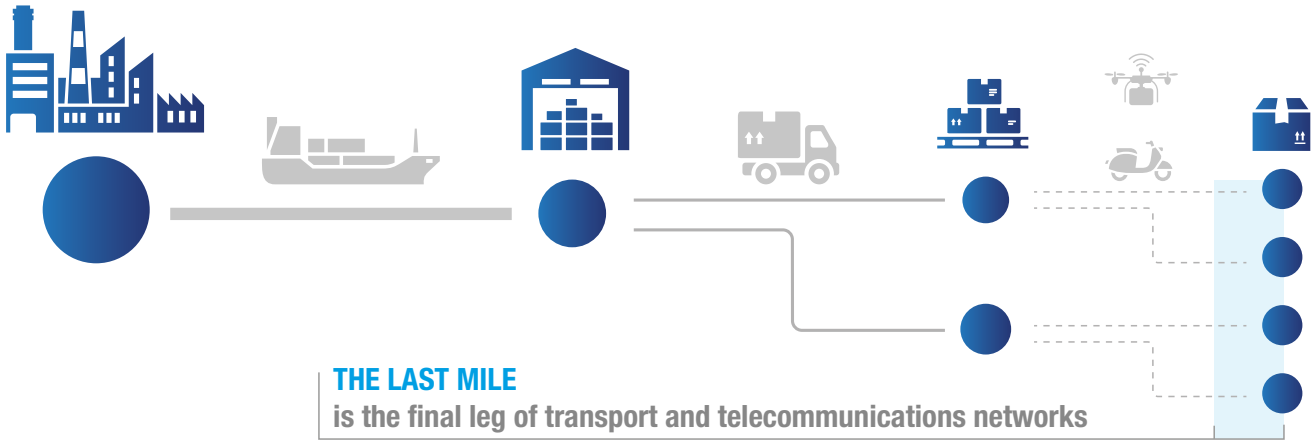
FIGURE 16 The 'last mile' in communications networks is the costliest



Note: The last mile problem can equally be a first mile issue. Considering that SMEs act as both suppliers and end users located in remote areas, the last mile can be considered from two perspectives. When an SME buys inputs, those inputs have to traverse the last mile link to reach the enterprise; when it sells its goods and services, the same part of the infrastructure becomes the first mile connection.
Source: ITC.

port reduces a country's exports by 1%, which is equivalent to the country adding as much as 70 km between itself and its partners. The distance is particularly high for perishable agricultural goods and for developing countries, where delays can be extremely long.[201]

A fully developed local transport and communication system, however, can drastically reduce delays and uncertainty, thus facilitating the participation of SMEs in global value chains and their ability to leverage international trade for their development.

This chapter focuses on infrastructure behind the border, where there are typically main lines of infrastructure that connect major hubs (often cities) and lines of infrastructure going to more remote and rural areas. The chapter mainly examines the infrastructure challenges of reaching the 'last/first mile', i.e. the infrastructure that connects SMEs in remote locations to the major hubs (Figure 16) as part of the business ecosystem in which they operate.

The rationale behind the focus on the last mile is that SMEs in remote and disadvantaged areas may lack competitiveness and access to the inputs and service providers mentioned in Chapters 2 and 3 because of the difficulties in delivering the last leg of transport infrastructure and telecommunication services. These issues must be resolved, as the level of transport and ICT infrastructure available to SMEs determines their capacity to compete with other enterprises and connect with the key business ecosystem actors: the private sector and non-profit institutions providing services to enterprises.

The infrastructure challenges faced by cities, where many people live together in small spaces, are different from those of rural areas, where the goal is to bridge the large distances between a few hundred inhabitants and the nearby cities. While much has been written about mobility solutions using connected technologies in cities and the design of smart cities[202] with millions of inhabitants in the wake of technological change, adapting those digital transformations to remote areas that encompass only a few hundred inhabitants is harder to envisage, particularly in poor countries with limited physical and digital accessibility (Box 6).[203]

Many public institutions and business service providers make huge investments and offer services that can break new ground for SMEs, particularly in the most remote communities. However, SMEs will never connect to them without at least a modest transport and ICT infrastructure – i.e. without some means of traversing the last mile.

To date, the largest source of overall infrastructure financing (including, but not limited to, transport and ICT infrastructure) is the public sector, which accounts for 70% of the total. The private sector finances about 20% and the remaining resources come from official development assistance.[204]

These infrastructure assets make it possible for businesses to integrate into the economy and they serve as inputs into everything an SME does. But policies are also needed to address the gaps and take due account of investment priorities and local needs.

BOX 6: Smart rural villages in China bridge rural-urban income gap

Rural areas near urban hubs of specialized industry are often well placed to become smart interconnected villages or industry clusters, as rural entrepreneurs can benefit from the clustering of existing industries and more developed infrastructure. This could make them better candidates for further investments in transport, logistics and digital infrastructure, boosting their competitiveness.

The Taobao villages in rural China are a good example. Taobao villages are clusters of e-commerce activity developed to revitalize rural villages and bridge the rural-urban income gap. Most are concentrated in relatively developed areas in southern and eastern coastal provinces adjacent to traditional economic centres. High product homogenization, and resulting intense competition among e-commerce merchants, is a new trend emerging from these villages. This homogenization ensures the volume needed to make the villages attractive to logistics companies.

The sustainability of the villages depends on various factors, including strong government backing, robust infrastructure and skills training, clusters of supporting industries, a drive among sellers to innovate, and sometimes the participation of the lead firm from value chains.

The Taobao villages have been able to develop largely because they are located close to urban hubs. Other rural villages located further from economic hubs – and therefore lacking adequate basic infrastructure – have to find alternative ways to develop.

Source: A. H. F. Li 2017; Lee and Mueller 2017.

Transport infrastructure: Physical connectivity for SMEs

There is a vast difference between the transport networks available in low and high income countries in terms of access and level of development. Some of this is due to the absence or low efficiency of transport hubs, such as ports and airports. Weak infrastructure that connects remote areas to those hubs is another problem that can exacerbate inequalities between different groups within countries. According to the World Bank, 1 billion people in low income countries currently live more than 2 km from an all-weather road,[205] away from markets and services. Low income countries tend to suffer from high mobility costs and low quality transport options and services, limiting the access of SMEs to ports and hubs.

Gaps and needs across countries

The World Bank's Logistics Performance Index[206] scores 160 countries on their trade logistics 'friendliness' or the efficiency of international supply chains measured along six key dimensions: efficiency of customs and border management clearance; quality of trade and transport infrastructure; quality and competence of logistics services; ability to track and trace consignments; and timeliness of reaching consignees. Figure 17 depicts the ranking of the surveyed countries, where large gaps remain between high and low income countries. Improving logistics performance and maritime connectivity is strongly associated with lower trade costs in developed and developing countries alike.[207]

Lack of reliable transport infrastructure hinders business operations and is a major factor in trade costs. While domestic infrastructure comprises about 40% of transport costs in the trade of coastal countries, for landlocked countries, domestic and transit country infrastructure together account for an estimated 60%.[208]

Poor road conditions can similarly hold back the growing online retail sector. They can be a nightmare for SMEs selling on e-commerce sites and for the logistics companies that make their deliveries. Transport costs can account for as much as 50%-75% of the retail price of goods in areas where quality road and rail networks are lacking. This is because most logistics companies, such as DHL Express, are compelled to transport the bulk of their cargo by air, increasing the cost to customers.[209]

Losses due to breakage or spoilage of products during shipping within domestic markets (as a percentage of total product value) are higher for SMEs in Africa than on any other continent.[210] It costs about two to three times more to move goods in Africa than in developed countries. Some 14% of the continent's population have no access to postal services, while only 21% have the benefit of home mail delivery.[211] Removing the high costs of transport and logistics resulting from inefficient transport infrastructure would undoubtedly facilitate the last mile delivery of items.

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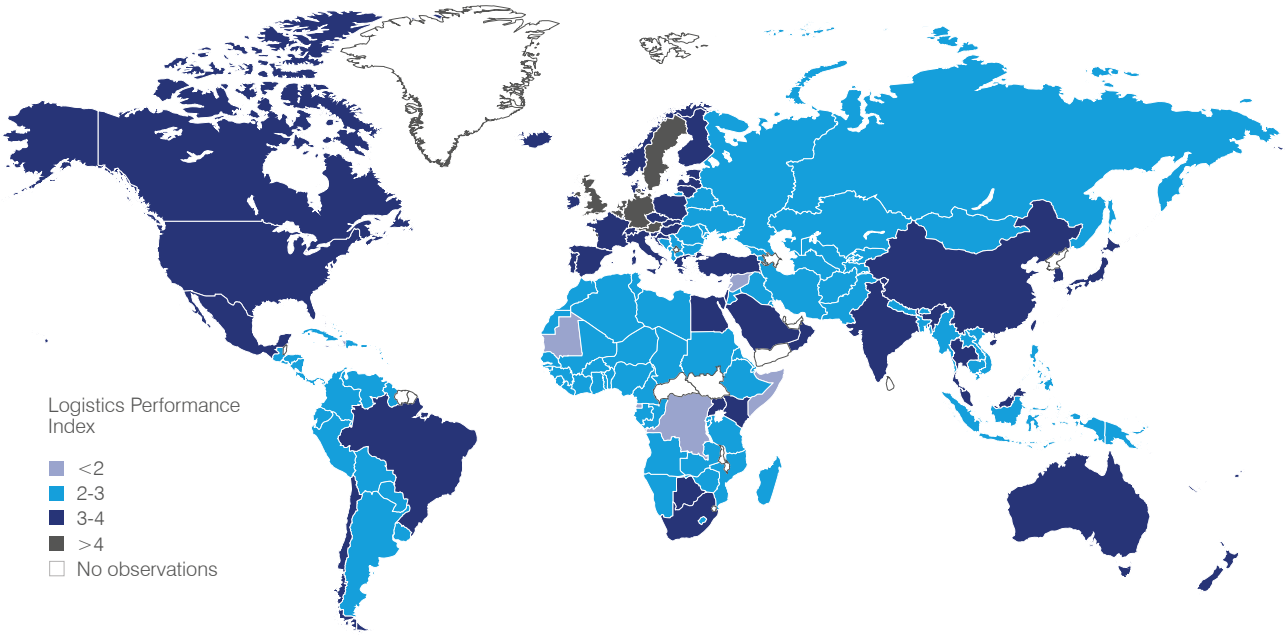
FIGURE 17 Mapping logistics performance around the world



Note: Scale 1 to 5, where 5 = best. The software generating maps does not apply United Nations definitions of national borders.
Source: ITC illustration based on the Logistics Performance Index 2016 dataset, World Bank.

Well planned and reliable infrastructure strengthens SMEs' strategic position and creates various opportunities for them to link up to global value chains. It can contribute significantly to economic efficiency, both directly – by reducing transport costs – and indirectly, by lowering inventories. For instance, construction of new roads in China has led to increased productivity of firms, with an annual rate of return of 11% and a dramatic reduction in inventories, saving on firms' inventory holding costs.[212] By cutting down the time and resources it takes to move goods, inputs and people, better transport systems improve SME competitiveness, help create jobs, and boost incomes.

In terms of investment, the highest growth in transport infrastructure, in particular road infrastructure, is observed in emerging economies in Asia-Pacific, sub-Saharan Africa and Latin America, although the level of such infrastructure in these regions is still low.[213] The growth has been led by China and India, which together are projected to account for 50% of the paved lane-km addition by 2050.[214] These emerging economies have high investment requirements, and the returns on infrastructure investment are expected to remain high. Rising wealth and urbanization in these regions are projected to increase investment in roads to accommodate more cars and public transport. An increase in spending on seaports is also expected to accommodate rising cross-border trade.[215]

Gaps within countries: Last mile challenge

Within national borders, there is also a significant disparity between rural and urban areas in developing transport infrastructure. Remote areas and rural areas are the most neglected and difficult to access, as providing physical connectivity to these areas is disproportionately expensive and complex. This limits SMEs' access to service providers and logistics services, and also impedes rural development.

Many rural businesses are disconnected from any business value chain due to poor transport networks. Adequate transport infrastructure is vital to overcome this gap and connect SMEs in low-density remote areas to hubs, ports and airports. The lack of such infrastructure results in a business ecosystem with higher costs than that of urban businesses. In addition, the goods and resources that provide the necessary value fail to reach the next step in the value chain or end up being more expensive and of lower quality.

Improving access to road networks is a fundamental mobility solution in much of the developing world, given that 58% of the population is rural.[216] The Rural Access Index (RAI), which shows the proportion of the rural population having access to an all-season road within an approximate walking distance of 2 km, reveals significant transport inaccessibility of rural areas in certain least developed countries (LDCs). The RAI ranges from a relatively modest 17% in Zambia in 2011 to 53% in Uganda (2015) and 87% in Bangladesh (2015).[217]

Remoteness or rural isolation leads to low agricultural productivity by inhibiting market access.[218] To gain market access, rural areas, which are predominantly agricultural, need a good transport network that links to urban centres and hubs in cities. Better rural physical connectivity can open up local, regional and global markets for rural products and the supporting non-farm activities, bringing prosperity to the agricultural sector. Better transport infrastructure in rural areas makes it easier for smallholder farmers to compete in local and distant markets, and contributes to higher agricultural productivity.

For instance, by enabling the entry of more freight vehicles into remote areas, improvements in road conditions help to remove transport bottlenecks. In Ghanaian villages, this allowed for more efficient movement of agricultural inputs and produce for SMEs and better prices for their products, as they could sell them directly rather than through intermediaries. At the same time, the costs of bringing in goods dropped, and sales rose.[219]

In addition to roads, creating high-capacity rail and water routes is essential for a multimodal transport network that will enable the seamless switching of SMEs' products between roads, rails and waterways, so as to reach markets more easily.[220] Rail transport systems, particularly in landlocked rural areas, can be many times cheaper and more energy efficient than roads, particularly for carrying freight from remote areas to hubs.[221] Therefore, widening the investment focus beyond a single transport mode to promote multimodal operations can save on both costs and time for SMEs and logistics service providers.

Considering that the urban population is growing rapidly, serving the last mile and providing better connectivity to remote areas may be necessary if competitiveness is to be extended to SMEs in those areas and if the United Nations Sustainable Development Goal (SDG) target of universal access is to be achieved.

If upgrades in infrastructure bypass the peripheral and rural nodes of cities, they can lead to major shifts in economic activities and scales – to the detriment of the neglected areas, which may experience reduced incomes and living standards.[222] Moreover, as most of the agricultural products and energy that people consume daily comes from rural areas, the development of physical connectivity serving rural communities cannot be overlooked (see case study on Morocco in this chapter).

Closing the last mile mobility gap: Technology and funding

New technologies provide new solutions for overcoming last mile transport challenges. However, it is not yet entirely clear how economically viable these technologies are, and major issues of financial and regulatory responsibilities need to be resolved.

Transport infrastructure 4.0 in remote areas: Utopia or tomorrow's reality?

Adoption of high-tech can be an effective way to solve last mile connectivity problems. The use of new technologies in transport systems can provide secure and timely delivery of tangible assets to and from remote areas.

For instance, self-piloted multicopters or cargo drones can be an affordable alternative, complementing road-based deliveries and lowering last mile transport costs for SMEs. The average diesel truck costs an estimated 30 times more than a drone, per mile.[223] The e-commerce company Amazon is leasing 20 aircraft to handle its own deliveries and is offering 30-minute delivery through drones under its Prime Air project. With enabling legislation, these innovations may prove to be a leapfrog technology in regions without reliable road networks, such as Africa, in the same way that mobile telecommunications have permitted many Africans to leapfrog fixed-line networks and move directly into wireless technology.

Use of drones is gradually increasing, as more logistics suppliers are teaming up with robotics companies to involve them in deliveries.[224] Using drones, logistics service providers can enable SMEs to export perishable products by providing them with fast transport options. This delivery system is currently incapable of handling heavyweight items and long distances, however, and it will take a few years before SMEs can adopt it in a cost-effective way.

Unmanned aerial vehicles can also be used to monitor and maintain roads and railway networks. Transporting high-priority consignments and delivering to people who live in isolated areas is another way to use drones. For instance, a drone delivery service provided by the United States-based company Zipline in partnership with the Rwandan health ministry, has slashed the delivery time of life-saving medicine to remote regions of Rwanda from four hours to an average half an hour[225] (see case study on Rwanda in Chapter 2).

Digitalization and automation also offer practical applications in agriculture on the services side. By scouting and gathering time-series data on agricultural fields, drones can provide soil and field analysis for farmers; monitor crop growth, diseases and livestock;

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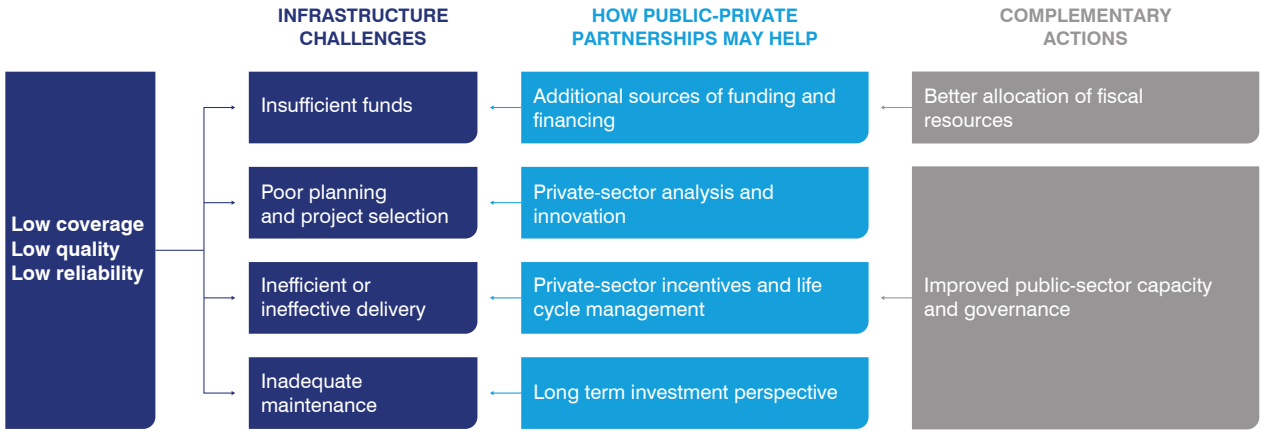
FIGURE 18 Infrastructure challenges and advantages of public-private partnerships



Source: Public-Private Partnerships Knowledge Lab.

and document losses more efficiently, saving farmers many long-distance journeys across agricultural lands. Unassisted robots for some time have been planting seeds and picking weeds, and agricultural aircraft are spraying crops with precision to reduce chemical infiltration of groundwater in some parts of the world.

Leaving aside the safety and regulatory challenges, modern technology can thus be tapped to assist poorer countries relying on subsistence farming. Nevertheless, adoption of aerial survey vehicles is not yet within the reach of most farmers with low purchasing power.

Additive manufacturing can also revolutionize the way of building transport infrastructure. In the Netherlands, MX3D, a 3D-printing robotics company, is currently working on building a fully functional, intricate pedestrian steel bridge across the Amsterdam canal using a 6-axis robot equipped with 3D printing tools.[226] With intelligent software and further innovations in engineering, materials and technology, 3D printers will be able to build larger scale structures, such as roads, bridges and tunnels, at twice the speed of conventional methods and reaching the world's most remote locations.

Last mile technology is thus evolving. Its adoption in developing countries will depend not only on its availability and affordability, but also on the absorptive capacities of SMEs that go hand-in-hand with their access to skilled workers.

Financing: Rising role of public-private partnerships

Transport infrastructure tends to require large investments, which is why it usually depends on government financing. Most national governments, however, face persistent obstacles in meeting transport infrastructure demands, due to fiscal pressures and technical requirements. Public sector retrenchment in infrastructure has opened the door to private sector participation in infrastructure financing and management.

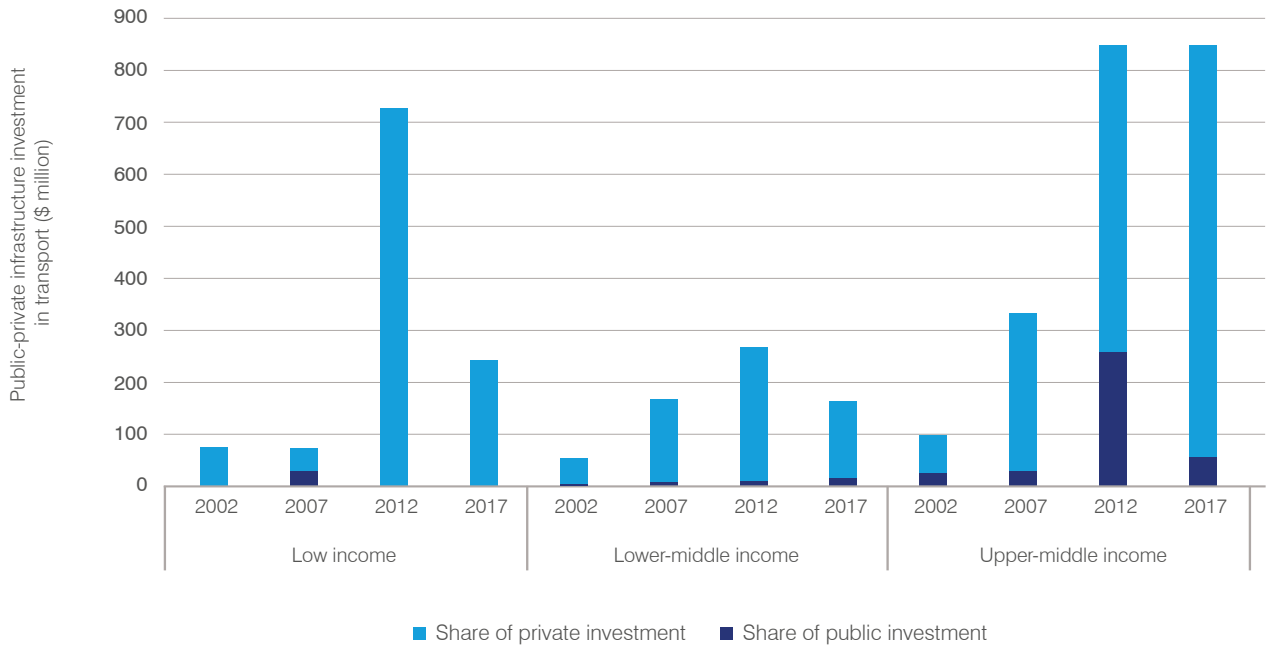
Public-private partnerships can ease the pressure on public budgets and mobilize additional sources of financing for transport infrastructure. They can provide a way for governments to access sophisticated technology and innovation held by the private sector and to improve transport networks and services. They can also be conducive to operational efficiency (Figure 18).

Yet, the private sector is often not interested in undertaking last mile transport infrastructure investments, as they tend to involve lower expected operating profits due to high maintenance costs and uncertain returns. Moreover, the recovery of initial investment costs can take time. In a partnership scenario, the roles and responsibilities of public and private actors need to be well defined.

The public sector tends to be responsible for transport infrastructure investment, particularly in low income countries (where last mile transport infrastructure is most lacking). The private sector in these countries, usually drawn to more lucrative investments in other sectors, participates mostly through public-private partnerships.

Figure 19 shows the rise and decline of public-private partnership commitments in the transport sector in developing countries in recent years. Private sector participation in transport infrastructure investment is much less in lower income developing countries than in higher

FIGURE 19 Public-private infrastructure investment in the transport sector in developing countries



Note: Projects include only public-private partnership investments.
Source: ITC calculations based on Private Participation Project database, Public-Private Infrastructure Advisory Facility, and the World Bank (2016).

income ones, and for low income countries, the amount of investment from the public sector is extremely low. The declining trend in total public-private partnership investment could suggest a lack of capacity and supportive policies to develop best practices in this regard and foster an enabling environment for private sector involvement.

To boost private sector participation in transport projects, governments must enhance private incentives and promote a conducive setting for private actors to pursue last mile transport projects. This can be particularly challenging for investment projects that include or focus on the last mile.

The success of public-private partnerships hinges on the quality of governance and on contract designs. The accompanying risks must be taken into account in the contract specifications. Independent assessments and reviews of terms and projects, and bestowing contracts based on quality and expertise rather than lowest cost, can go a long way. Significantly, these arrangements rest on distinctive individual circumstances, with some projects easier to finance and implement, and less politically and socially challenging, than others.

ICT infrastructure: Digital connectivity for SMEs

In many ways, ICT provides an alternative to physical mobility. It has transformed the physical mobility needs of numerous SMEs to interact with their customers. It offers new ways for businesses to connect across the supply chain, from the manner in which they communicate and interact to the strategies they deploy to move goods and services around the world. Indeed, innovations in ICT are frequently perceived as a means for developing countries to leapfrog centuries of investments in transport infrastructure. Its success hinges on the absorptive capacity of SMEs to adopt emerging technologies.

Gaps and needs across countries

ICT has made a significant contribution to economic growth, productivity and people's well-being in numerous markets throughout the world. The World Bank's 2016 *World Development Report*, which looked at digital dividends, estimated that in developing countries, a 10% increase in high-speed internet connections leverages an average 1.4% increase in economic growth.[227]

Digital connectivity is now a vital necessity for economic and human development in developed and developing countries alike due to its role in providing access to other fundamental goods and services. For businesses, the internet has fast

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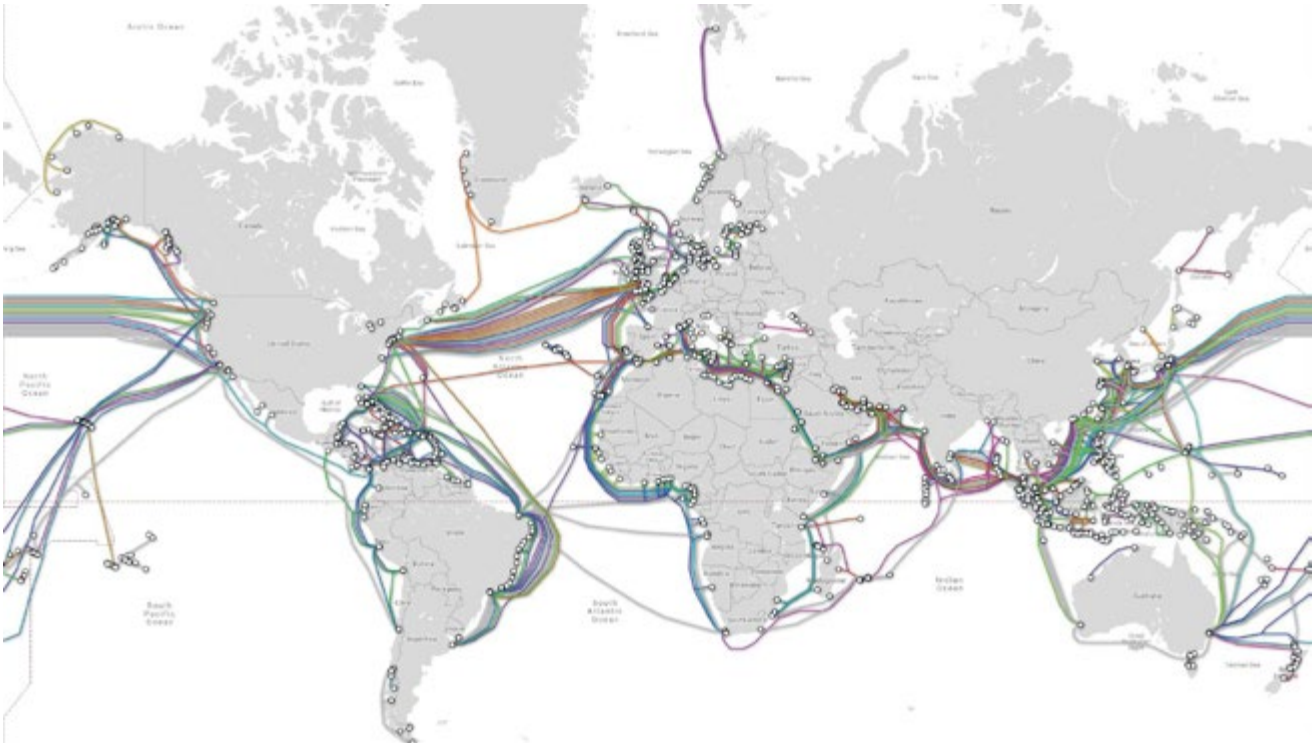
FIGURE 20 Map of submarine cables carrying 99% of transoceanic data traffic



Source: The Submarine Cable Map, *TeleGeography.*

become an indispensable tool for competitiveness, helping SMEs to take full advantage of opportunities through sourcing market information; accessing effective accounting tools; linking with suppliers, public and private service providers; and selling to global customers.

According to ITU's latest statistics,[228] international internet bandwidth (which is mainly used to convey internet traffic) grew by 32% between 2015 and 2016 alone. Africa's bandwidth increased by 72%, the highest growth of all regions. Overall, internet access has grown substantially, along with the number of users worldwide, which was close to 3.5 billion by 2016, or more than triple the level in 2005.

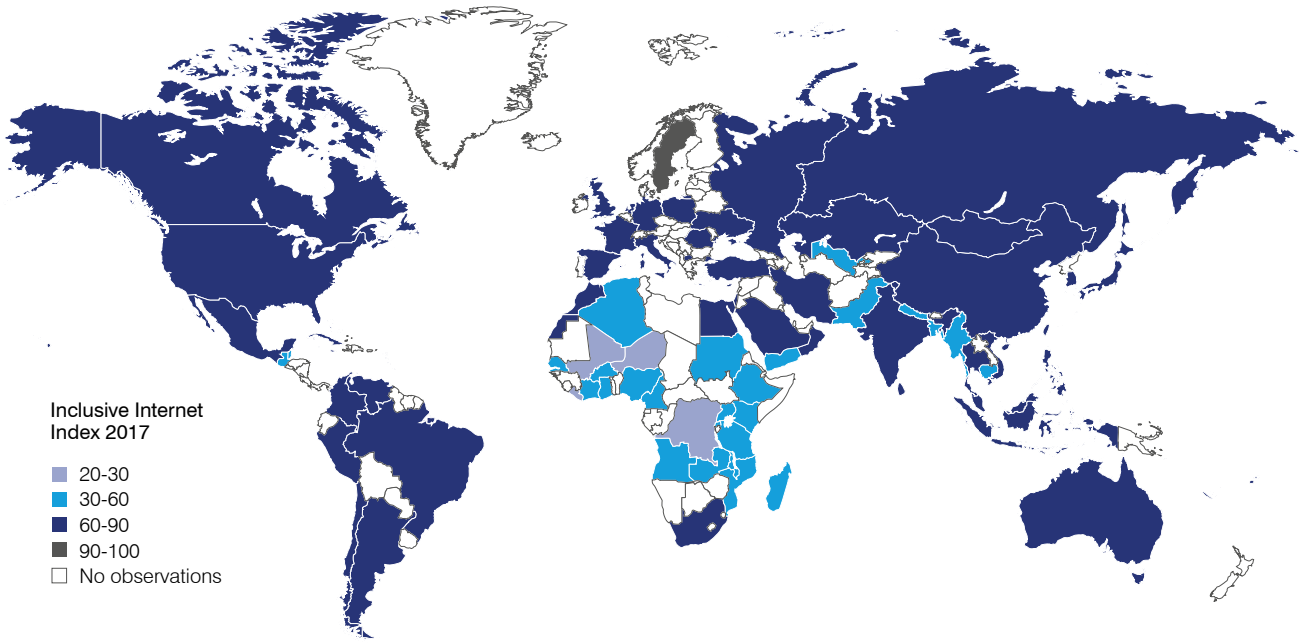
Today, submarine cables transmit about 99% of all transoceanic data traffic.[229] There are close to 450 underwater cables in service, stretching 1.2 million km around the globe.[230] Yet cross-country discrepancies remain (Figure 20). Specifically, it is very expensive for landlocked developing countries (LLDCs) lacking direct access to undersea fibre optic cables, and for small island developing States (SIDS) with scores of low-density small islands, to deploy digital infrastructure and improve coverage. As a result, LLDCs, which do not have ports, suffer from high transport costs and are characterized by some of the world's lowest e-connectivity rates.[231]

Thus, many regions in developing countries still lack physical telecommunications infrastructure, such as fixed-line networks, and are served mainly by mobile internet services delivered over 2G, 3G or 4G networks. Particularly in areas that are too remote to establish terrestrial cable connections, mobile technology has leapfrogged that step of development as mobiles have become more common worldwide.

The most recent record shows that 76% of the world's population are currently living within access of a 3G[232] signal, and 43% within access of a 4G network.[233] However, once again there is a large gap in access between high and low income countries. A breakdown of the data by income group shows that only 52% and 8% of the population in low income countries have access to 3G and 4G networks, respectively, compared with 98% of 3G and 88% of 4G coverage in high income countries.[234]

Internet access provided by mobile networks is preferred in developing countries, as mobile broadband services (3G or above) have become more affordable than fixed broadband services. The average price of a fixed broadband plan is twice that of a comparable mobile broadband plan. In LDCs, it is three times higher.[235] Still, the cost of mobile-broadband services needs to be

FIGURE 21 Uneven progress in internet inclusiveness across countries



Note: The index is composed of 11 subcategories and 46 indicators across four categories: availability, affordability, relevance and readiness of the internet (scale: 0-100 where 100 = best.) The software generating the maps does not apply United Nations definitions of national borders.
Source: ITC, based on data from the Inclusive Internet Index, Economist Intelligence Unit (EIU), 2017.

brought down to a more affordable price in LDCs, where by the end of 2016, the cost of a basic mobile-broadband plan was 14% of the monthly gross national income per capita, compared with less than 5% globally.

Indeed, an important cause for the global digital gap is that internet access remains prohibitively expensive in many countries where the lack of ICT infrastructure and regulatory bottlenecks hamper broadband development. Affordable high-speed internet access is currently available for only about 1.1 billion, or 15% of the world's population, mostly in developed countries.[236] In most of the developing world, where access to a high-quality and affordable connection is still lacking, deploying affordable mobile networks could help overcome infrastructure barriers to reaching the last mile.

In addition, growth in coverage and affordability needs to be matched by the ability or skills to use the internet. In many developing countries, the usage level trails behind network availability. Many rural residents remain offline due to a lack of ability or willingness to use the internet and to a lack of relevant applications and content. The benefits of web access can be reaped only if these barriers are surmounted.

An estimated 90% of the 3.9 billion people who are not yet using the internet live in developing countries. According to the latest estimate issued in 2017, internet penetration in developing countries is only 41.3% – and a mere 17.5% in LDCs – as opposed to 81% in developed countries.[237] Moreover, there is a persistent gender gap in internet use globally, with men consistently ahead of women. Worldwide, internet use among women was 11.6% lower than that of men in 2017, representing an 11% increase in the gap since 2013.[238]

Thus, even though the digital revolution is considered a global phenomenon, digital infrastructure access, affordability and capabilities are not evenly distributed. There are large disparities in access to modern ICT between individuals, households, businesses and geographical areas at different socioeconomic levels.

The existence of a digital divide means that wealthier countries and people experience better access and are thus more able to benefit from the opportunities powered by ICT. The Inclusive Internet Index compiled by the Economist Intelligence Unit[239] clearly underscores the digital disparities between countries, as shown in Figure 21. Developed countries in Asia, Europe and North America dominate the upper ranks of the Index overall.

There also appears to be a strong correlation between high levels of wealth and economic development and the key enablers of a digital inclusive environment. These include high-quality digital infrastructure and affordable internet services, relevant internet content and well-

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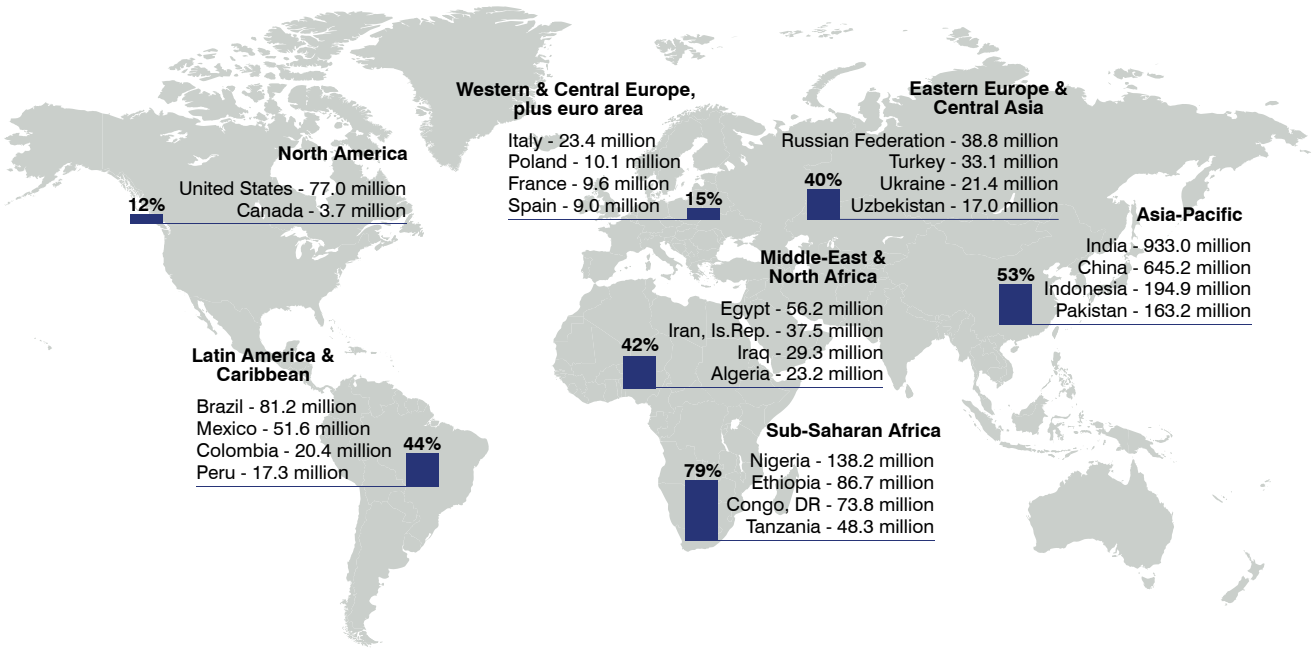
FIGURE 22 Large populations are still offline



Note: Absolute numbers of unconnected individuals per country are reported in millions. Regional averages are calculated using the simple average of country shares. Year: 2016.
Source: ITC illustration based on World Development Indicators database of the World Bank.

developed digital skills and literacy. An in-depth analysis of the indicators in the Index shows that middle income countries are progressing in several key enablers, such as local relevance of internet content, digital literacy and policy. Many are even outperforming high income countries in developing content in their primary language. However, there is a large gender gap between low middle income and high income countries, with a long way to go for female inclusion in low and middle income countries.[240]

This reinforces the need to address the demand-side prerequisites for universal connectivity. Training in business use of ICT can unlock opportunities to prosper for SMEs in remote areas. It is necessary to invest in local digital content and services as well as digital education to close the digital gap. This can be addressed by measures such as adjusting tariffs and taxes on devices and internet use to make internet access more affordable, providing skills development and training in business use of ICT and a conducive regulatory and operational environment for local developers (Box 7).[241]

In today's technology-driven economic environment, sustained digital investment is imperative. According to the United Nations Conference on Trade and Development (UNCTAD), the estimated digital investment costs of adequate connectivity in developing countries (i.e. basic universal 3G coverage) is under $100 billion; in LDCs, less than $40 billion.[242] At less than 1% of global GDP in 2017, this amount is achievable with the appropriate support of private investment, adopting modern technologies, and policies generating more demand and absorption capacity. As the digital landscape evolves, there is much to do on the part of governments, international bodies and the private sector to achieve the SDG objective of universal access.

Rural-urban digital connectivity gap

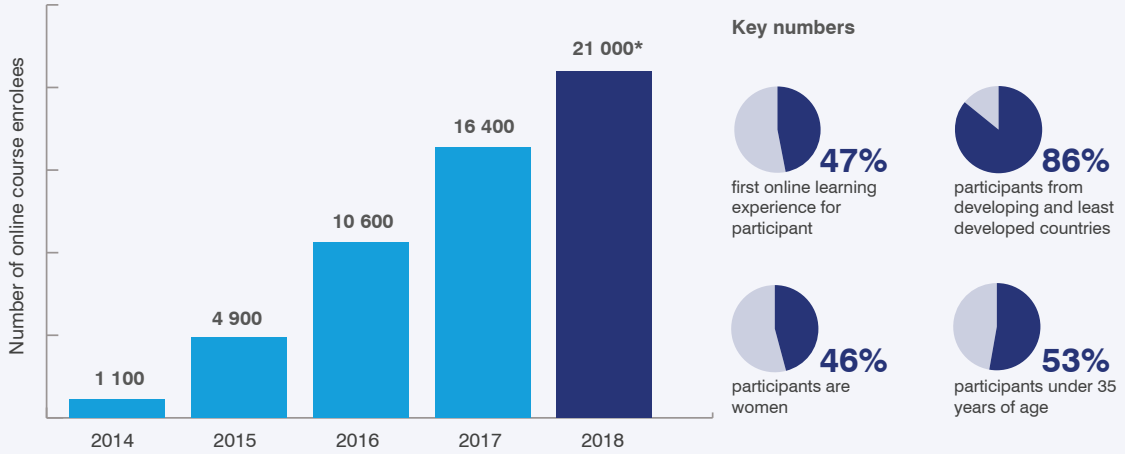
In addition to the digital divide between countries, there is a significant divide within countries between city and rural dwellers.[243] A large proportion of people, mostly in very rural areas, is not connected to the internet because the cables or wireless communication infrastructures are not available. Even if they have some (inadequate) ICT access, they are handicapped by substandard computers and costly devices, low-speed and poor-quality wireless connections, older and cheaper connections such as dial-up, and less relevant content. This wastes economic opportunities for rural populations.

Even as the internet is penetrating developing countries at a rapid pace, a sizeable proportion of people within countries remains unconnected (Figure 22). China and India, for instance, have the largest number of internet users, yet 645.2 million people in China and 933 million in India – roughly one-half and two-thirds of their respective

BOX 7: Online training: The ITC SME Trade Academy

Since its creation in 2014, the SME Trade Academy has developed 54 online courses tailored to the needs of developing countries. The courses, which are free, are in English, French, Spanish and Arabic, spread over eight categories designed for SMEs, TISIs and entrepreneurs. Enrolments total over 33,000, with 85% coming from developing countries and least developed countries (LDCs). Trends indicate over 21,000 new enrolments in 2018.

Extending reach



Note: The 2018 enrolment figure is a forecast based March 2018 numbers and projections.
Source: SME Trade Academy, ITC.

For nearly half of the SME Trade Academy's course participants, interaction with ITC is their first online learning experience, illustrating how ITC reaches traditionally underserved areas. Almost a quarter of participants are 'repeaters' who have taken more than one course on the platform, demonstrating the current appetite for online learning in LDCs and other developing countries. Most participants report improvements in skills and knowledge, which they view as applicable to their workplace.

'The SME Trade Academy's courses have been instrumental in equipping me with the relevant skills to develop my company into a regional hub for customized marketing solutions,' says Andiswa Ndolvu, managing director of Venecom Marketing, a marketing consultancy company in Zimbabwe. With nine courses under his belt, he is one of the SME Trade Academy's most frequent users.

'With the knowledge that I obtained, I successfully introduced several school outreach programmes in Zimbabwe, which contributed to a 5% increase in sales for the three months ending in September 2014,' Ndolvu adds. 'The course also motivated me to pursue a market assessment of the Zimbabwean diaspora through our trade and export portfolio,' he says.

Adapting to local contexts in Libya, the Gambia, Sri Lanka

During the second half of 2017, the SME Trade Academy began providing solutions adapted to local contexts within the frameworks of projects in Libya, the Gambia and Sri Lanka.

The Academy partnered with local institutions to create tailored course content and online learning platforms that are managed, marketed and operated locally. While the SME Trade Academy team continues to provide technical support, monitor quality, and develop new courses, the day-to-day student interactions, enrolment, certification, payment, and tutoring are all handled locally.

This move to such 'local academies' is allowing local stakeholders, such as Sri Lanka's National Institute of Exports, to develop and market new online offerings, with ITC support. Initial results have been positive. The localized course

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contents have been very well received, with local tutors and administrators finding the technology easy to use and viewing this new offering as a valuable addition to their services and, in some cases, a new income stream.

'We were very glad to partner with ITC to develop our first online course, touching on an important subject in international trade,' says Kumari Ratnayake, sales manager for the Sri Lankan National Institute of Exports and administrator of its new online offering. 'Having an online course allows us to offer training to students without requiring them to physically leave their workplaces. It provides a highly beneficial learning experience at the students' own convenience. We believe that it is very helpful to Sri Lankans who seek greater knowledge and skills in international trade and cross-border procedures.'

Moving to virtual learning spaces: Online communities of practice

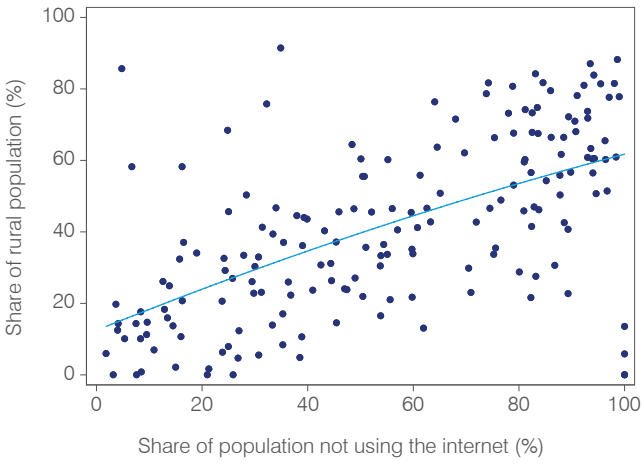
The next step is to build on a trend towards continuous learning. The SME Trade Academy is therefore introducing Virtual Learning Spaces.

These aim to increase the impact of ITC's online learning activities by moving from time-bound courses to continuous learning. Learners will form communities of practice around a topic inside a Virtual Learning Space. In addition to the formal online courses, they will have access to on-demand resources, such as short videos, audio clips, documents, quizzes, surveys, etc., as well as a series of discussion groups overseen by moderators, and organized around particular themes.

ITC will first develop content that is geographical or thematic in scope. The initiative is tailored to specific needs and learner groups, such as for Libyan entrepreneurs.

Source: ITC SME Trade Academy, https://learning.intracen.org.

FIGURE 23 Bigger rural populations, lower internet use



Note: The share of rural population and the share of population not using the internet are calculated at the country level. As such, the blue dots represent countries.
Source: ITC calculations based on data from the United Nations, Department of Economic and Social Affairs, Population Division (2014) and the World Urbanization Prospects: The 2014 Revision, CD-ROM Edition; World Development Indicators database of the World Bank.

populations – remain offline. Other developing countries also face great challenges in extending digital connectivity to their citizens because of their large populations.

Figure 23 shows a strong correlation between the proportion of rural population and the percentage of people not using the internet, indicating that internet penetration tends to be lower in countries with larger rural populations. There are countries (mostly low income) where people in rural and remote areas represent as much as 80% of the total population and where more than 90% of the population is offline. For most low income countries, the internet penetration rate in rural areas is lower than the national average and is closely related to last mile infrastructure issues.

There is also a gap between small and larger firms. The most recent ITC SME Competitiveness Surveys in nine developing countries from various geographical locations show that access to high-quality network services (phone, internet, cloud) is reported by only 19% of SMEs, compared with 34% of large enterprises. Given that the business landscape in rural areas is made up primarily of SMEs, rather than large enterprises – particularly in developing countries – it is crucial to strengthen digital connectivity in remote rural areas.

Most developing countries have a large and geographically dispersed rural population, characterized by low demand and purchasing power, making them insufficiently attractive

THOUGHT LEADER

To boost SME competitiveness, France reshuffles its trade promotion ecosystem

Christophe Lecourtier

Director General,
Business France

SMEs are the economic lungs that breathe life into a country. In France, most of the country's 3.8 million businesses are considered small and medium-sized enterprises (SMEs). They account for half the jobs and wealth created by our country.

This sheer force of entrepreneurship and innovation is a source of significant potential growth. State action is justified and necessary to help these companies unlock their promise and develop further.

SME growth drivers: Innovation and the international stage

Innovation is the key factor in competitiveness. On average, French SMEs reinvest 8.2% of their turnover in research and development, almost three times the average for companies of all sizes. Innovation is stimulated by several initiatives aimed at better coordinating the work and efforts of the government, public services, the private sector, universities and business incubators to serve entrepreneurs better.

With its advantageous funding schemes and tax relief for companies investing in R&D as well as prominent research institutions, France offers a mature ecosystem for start-ups to flourish. More companies are created in the country than anywhere else in Europe.

International trade is the other great driver of growth. For a small company, choosing to export abroad is a bold move, but one that always pays off if it is done in the right way and is thoroughly prepared with quality support. Exporting increases the size of a firm's potential market, allowing it to exploit economies of scale, absorb excess production capacity or output and reduce dependence on the domestic market. It also exposes businesses to international best practices, promotes learning and accelerates technology upgrades.

Innovation and international trade are inherently linked, with innovation often a prerequisite for expansion into foreign markets.

Innovation and international trade are inherently linked, with innovation often a prerequisite for expansion into foreign markets. The reason France launched French Tech Hubs in several of the world's major cities was to promote the international development of our tech start-ups and SMEs. French innovation has been exported and brought together under one banner and often under one roof.

Need to strengthen influence of French SMEs abroad

To truly assist SMEs, we must have comprehensive services, offer efficient support and have legitimate governance.

Despite all this, the influence of SMEs abroad remains too weak. In 2017, SMEs dominated France's export industry in terms of number of companies (95%), but these SMEs accounted for only 15% of total export value. They constituted a mere 9.9% of the 39,000 French multinational subsidiaries outside France, with half having operations in just two foreign countries.

These figures beg the question: how do we structure our ecosystem better to encourage more small businesses to export and generate more exports?

Ambitious reforms

Company support services must be structured to serve SMEs better and avoid the pitfall of resources being spread too thinly. It is a phenomenon that has been observed all too frequently: too many intermediaries, not enough results. To truly assist SMEs, we must have comprehensive services, offer efficient support and have legitimate governance.

Team France: A united public-private partnership

In France, all intermediaries have been brought together as one Team France Export with the aim of establishing a culture of cooperation across a fully integrated public-private partnership. The goal is to replace an often competitive and non-cooperative culture with one that promotes synergies and acts as a relay between the public and private sectors.

While providing for intermediaries to pursue their field of expertise, we are defining common objectives and pooling resources, for instance through shared customer relationship management, which will serve as the backbone of this new alliance.

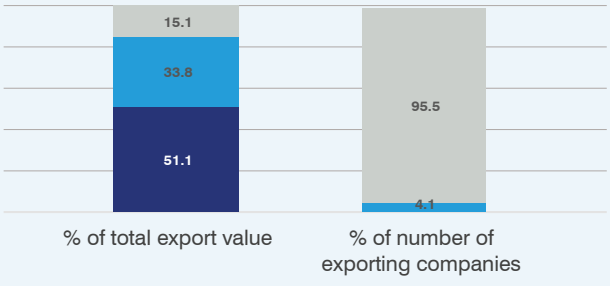
Strategic repositioning across France

The other revolution we are instigating in France has come from a simple observation: the export battle is won first and foremost on the domestic ground, as close as possible to the economic fabric of the country and its businesses. It is therefore rational to redirect public services to the local level and make greater use of private services abroad.

Like many other countries, France is made up of regions with distinctive local characteristics, which require different international strategies. Consequently, any national offering must be provided at local level at the service of regional bodies.

Moving towards more personalized consultancy services

There is ample proof of the efficiency of Business France's tailor-made support programmes, which combine customized support and financial services. This tailored coaching targets companies with the greatest potential that have reached an advanced stage of strategic maturity. Our goal is to implement this work on a larger scale with even more companies. We are seeking to benefit from the advances of the digital age and make best use of the new tools at our disposal (diagnostic, AI etc.) to reach a greater number of SMEs.



In France, SMEs represent 95.5% of the total number of export companies but 15.1% of total export value

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Promoting SME competitiveness in Morocco: *Infrastructure and logistics key to competitive advantage*

Morocco's unique geographical location, between the Mediterranean Sea, the Atlantic Ocean and on Europe's doorstep, makes it an attractive business hub. It connects North, West and sub-Saharan Africa to many international markets.

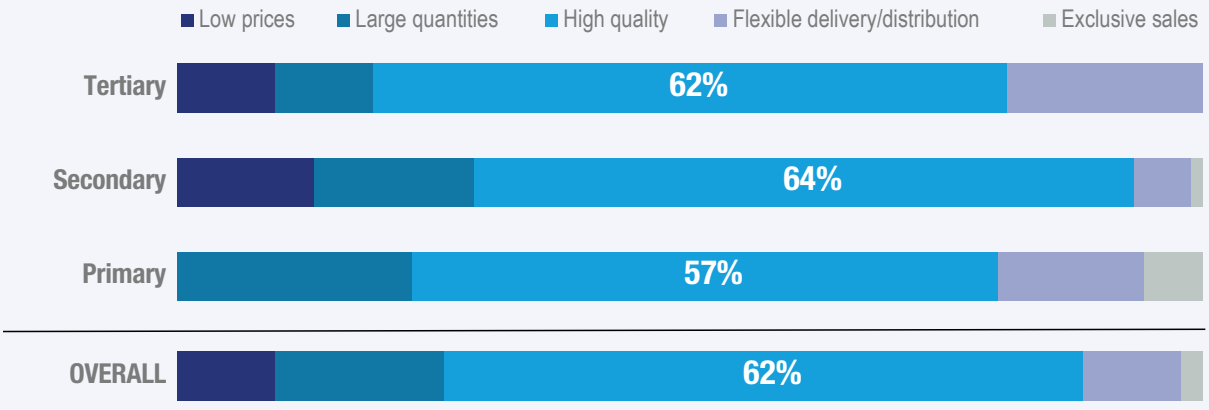
Recognizing this, the country's government has been investing heavily in logistics networks and the infrastructure that supports them, including electricity, water, roads and ports. This is especially important for the country's SMEs, as many produce high-quality goods that rely on good infrastructure and logistics for delivery, according to a survey of 149 firms.

Sound infrastructure and efficient logistics services are key to smooth and predictable operations for SMEs, which often do not have the financial resources to bypass obstacles in these areas. In 2016, the Moroccan Association of Export Advisors (AMCE) carried out an ITC SME Competitiveness Survey, under the umbrella of the Morocco Ministry of Industry, Trade, Investment and Digital Economy. One module of the survey asked firms about their infrastructural and logistical challenges.

SMEs base their competitive advantage on high-quality products

Two-thirds of responding SMEs reported that offering high-quality products to domestic and international buyers is their main competitive advantage. An additional 16% reported that they compete based on providing products in large quantities, and the remaining firms cited low prices and other factors. While firms in various sectors emphasized high-quality products in their competitive strategy, those in the primary sector, which includes agriculture, also cited the importance of offering buyers large quantities.

Competitive strategy of firms by sector



Note: Figures indicate the share of firms with a selected strategy in the total number of surveyed firms. Primary sector includes agriculture and mining; secondary sector includes manufacturing; and tertiary sector includes services.
Source: ITC SME Competitiveness Survey, Morocco, 2016.

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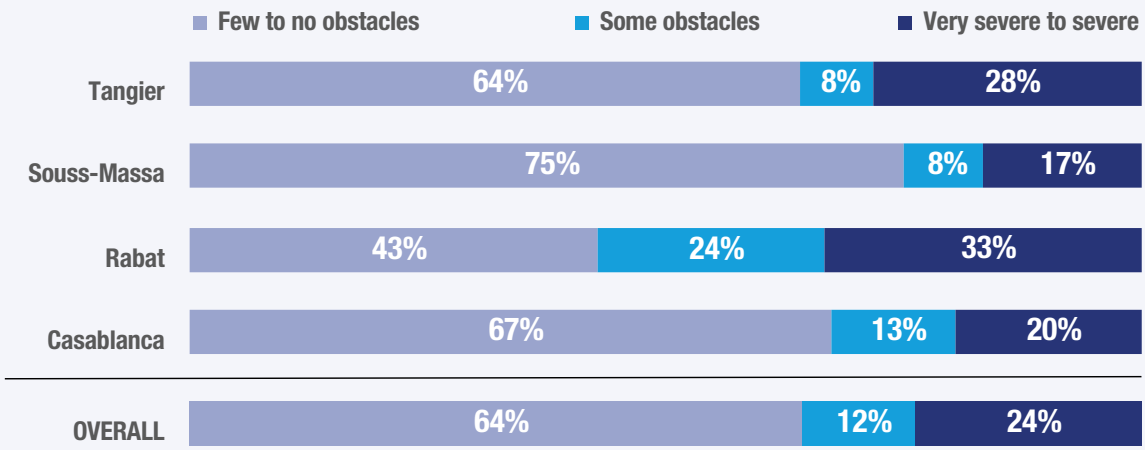
Perceived obstacles in transport networks



Note: Figures indicate the share of firms reporting a selected level of obstacles in the total number of surveyed firms.
Source: ITC SME Competitiveness Survey, Morocco, 2016.

Reliable transportation networks

The majority of SMEs reported having good and reliable transportation networks inside the country. However, about a quarter of SMEs in various regions said obstacles to such networks affect their business. Moreover, a higher share of firms in the primary sector reported these obstacles than firms in secondary or tertiary sectors. For firms with agricultural activities, the efficiency of transport networks is crucial given that they produce perishable goods.

Overall, firms reported timely delivery of goods and supplies, with a marginal fraction of products lost during the transport. Two-thirds of responding firms also rated the quality of logistics services to be high or very high.

Most surveyed companies did not see lack of access to water or electricity as an obstacle for their daily business operations, although this depends on the sector. Indeed, 43% of primary sector firms considered access to water an obstacle, compared with 13% and 5% in the secondary and tertiary sectors, respectively.

In response to some of these challenges, and building on the country's strengths, the Moroccan government is putting much effort into increasing electricity supply and water efficiency in agriculture. The Green Morocco plan, for example, is pushing agricultural firms to adopt a drip-irrigation system and direct seeding. The country is also developing solar and wind power plants to diversify energy sources.

The government plans to invest about €500 million to improve maritime infrastructure through the National Strategy for Ports 2030. These efforts highlight the importance that infrastructure and logistics services play in the country's economy and promise future growth in competitiveness for Morocco's SMEs.

Sources: ITC SME Competitiveness Survey in Morocco (2016), Ministry of Equipment and Transport of the Kingdom of Morocco (2011).

ITC SME Competitiveness Benchmarking

ITC has developed an SME Competitiveness Benchmarking survey allowing countries to assess the health of their enterprises by identifying their strengths and weaknesses. To meet this objective, the survey captures a wide range of factors which determine firm competitiveness: www.intracen.org/SMEBenchmarking.

markets for investment. Owing to difficulties in expanding fixed-line infrastructure, mobile wireless markets tend to be more developed and operable than fixed ones in such communities.

Although generally cheaper, mobile connections tend to be less reliable and of inferior quality. Even as the adoption of smartphones and innovative mobile apps is growing among the rural population and lower income groups, the prohibitive costs of data plans[244] and low-quality connections make it difficult to perform tasks and transactions on smartphones, all of which hinder closing the digital gap. As the more developed urban community becomes ever more active online, the development of rural communities will be constrained should this technology gap persist.

Africa, which faces the largest ICT infrastructure challenge, has made huge strides in rural mobile penetration. However, the percentage of the population online remains exceptionally low.[245] This is mainly due to the coverage deficit of broadband networks, even at the entry level. As more and more content and resources migrate online, including banking, marketing and e-government services, this geographical digital exclusion is hurting the competitiveness of entrepreneurs and SMEs, particularly those operating in neglected zones.

Rural areas in high income countries also have longer last miles in internet connectivity, where ICT coverage is not evenly diffused. The 2017 B20 dialogue in Germany made recommendations on SMEs to G20 member countries, including that they should 'facilitate SME access to the digital economy by strengthening digital infrastructure outside industrial centres, leveraging support for international multi-stakeholder initiatives on e-commerce, and enhancing the knowledge base on SME needs'.[246]

In developed countries, many rural and low-density communities using fixed internet lines are struggling with low-speed networks served by traditional copper or cable TV lines. The signal speed and reliability of these lines depend on the last mile distance between users and the network. This final link to fibre optic lines that do not have signal interference or signal variations over distances should be upgraded to deliver high-speed broadband networks.

Closing the last mile digital access gap: Technology and funding

Modern technology can enable the last mile link to SMEs in ways that may be cheaper than in the past. The private and public sectors are both acting to address the demands for investment in last mile ICT infrastructure and to bridge the digital divide.

New technologies to shorten last mile

New combinations of technologies are engendering a paradigm shift for businesses worldwide, including for SMEs, transforming entire systems of production, management and governance. These advances have meant cost savings, opportunities and conveniences for businesses. Firms that embrace digital transformation can sometimes disrupt entire industries and existing value chains, to the detriment of those left behind.

Yet the use of advanced technologies has not spread within countries, high and low income alike, especially in the remotest parts of the globe. Fortunately, alternative solutions have emerged in ICT to meet the goal of universal connectivity.

Emerging entrepreneurs and big digital companies view the last mile market as an opportunity for radical change, improvement and reinvention to provide cheaper, better and more consumer-friendly services. Giant tech companies have announced and tested avant-garde approaches to the last mile problem by introducing alternatives to traditional ground-based cables. The latest solutions involve the use of TV white spaces, drones, balloons and cubesats, or nano satellites to provide internet access in rural and remote areas.

The use of idle TV white spaces, for instance, has great global development potential for furnishing low-cost connectivity to remote and marginalized communities. TV white spaces are unused broadcasting frequencies in the wireless spectrum left by TV networks between channels, and this spectrum – which is similar to that used for 4G – can be used to deliver broadband access. These unused spaces can be exploited to transmit digital broadband signals over a long distance and are similar to a broader-reach Wi-Fi or super Wi-Fi, where the signal can reach up to 10 km and traverse barriers like concrete walls and forests. This can help in providing a very large community with affordable wireless broadband internet.

In Kenya, this technology was piloted for the first time by a public-private partnership between Indigo Telecom and Microsoft4Afrika in the Rift Valley and near the town of Nanyuki, which has a strong farming and potential trading community.[247] These are both very remote areas where running water and electricity are often lacking. Working with governments and telecom companies, Microsoft has set up TV white space projects in 17 other countries, including Ghana, Namibia and the United Republic of Tanzania.[248]

The switch to digital television in many countries has freed up portions of the wireless network spectrum (the 470-790 MHz frequency band) generally reserved for TV. In the

Philippines, TV white space deployment is reportedly the most extensive in Asia. In the United Kingdom, Nominet, in collaboration with Broadway Partners, has used TV white spaces to provide broadband to residents in remote rural areas of Scotland and Wales to help bridge the last mile gap and narrow the digital divide.[249] Microsoft also has announced plans to close the rural broadband gap in the United States. Powered by white space technology, it aims to bring affordable broadband connectivity to 2 million rural Americans by 2022.[250]

Another approach has been tested by Alphabet, Google's parent company. It has launched stratospheric helium balloons since 2013 under its Project Loon to extend communication networks in crisis zones and regions where infrastructure is scarce. The balloon network can be accessed by attaching a specific antenna to the user's building. Recently, after Hurricane Maria decimated infrastructure in Puerto Rico in 2017, Alphabet stepped in to deploy giant self-navigating air balloons that use LTE technology to restore wireless communication on the ground and bring connectivity to 100,000 people in parts of the island.[251] The technology has also been tested in such countries as Brazil, Indonesia, New Zealand, South Africa, Sri Lanka, and the United States.

Facebook has been testing its solar-powered Wi-Fi drone, Aquila, and has announced its interest in satellites and laser technology to provide internet access to the 3.9 billion people around the world who are still outside the range. A major problem faced in enabling data connections from drones is strong turbulence high in the stratosphere where the aircraft are intended to fly. As they are supposed to remain in flight for days and weeks, they must rely on solar power and batteries to stay aloft, which means they have to be feather-light.[252]

Satellite company OneWeb is expecting to provide affordable broadband internet access for everyone, especially the world's rural population, by deploying a constellation of around 900 low-orbit satellites.[253] SpaceX, meanwhile, is seeking approval from the Federal Communications Commission, the regulatory agency of the United States, for its larger-scale plan to launch 4,400 internet satellites into Earth's low orbit. It has launched two experimental satellites to that end in early 2018.[254]

These ambitious private initiatives involving massive expenditures highlight the potential of reaching the underserved and bridging the global digital gap. However, significant investment in technology that allows the flawless coordination of many aspects of communication among the various parties involved in the last mile is necessary to create smart and competitive rural areas.

Financing: Rising role of public-private partnerships

At present, most infrastructure in the ICT sector involves some degree of private sector participation, as the growing demand for infrastructure investment in last mile ICT cannot be met by public sources of finance alone. The private sector, because of its profit-seeking nature, is usually more capable of providing backbone infrastructure and services. Yet this very nature may also discourage the private sector from investing in remote and thinly populated rural areas that often entail greater risks, longer gestation, and lower rates of return.

Indeed, one reason digital connectivity remains far from inclusive is that most service providers operate in the private sector, which focuses infrastructure investments on more populated urban areas with more potential customers.[255] For instance, the Global System for Mobile Communications estimated that for mobile operators to justify deploying mobile towers or base stations, the site needs to serve at least 3,000 active daily users. However, as it also pointed out, rural areas with population densities of about 100 per square km represent more than 90% of Earth's land surface.[256] This explains why rural areas are lagging behind areas with higher population densities in fixed and mobile infrastructure availability, quality and servicing. The role of the public sector therefore remains important where private sector providers do not find it profitable to intervene. This occurs in places where individual subscriptions to fixed and mobile internet connections are too expensive, leaving people with lower incomes unable to benefit.

Many governments have attempted to extend affordable and universal internet coverage by providing free access in public places and residences via public-private partnership. In such a partnership, the private sector tends to bring the capital, speed and knowledge that is required for infrastructure expansion but is often lacking in government agencies. The public sector provides incentives (tax breaks, co-financing) and defends public interests (ensuring universal access at affordable prices and safeguarding the competitive environment).

The installation of Wi-Fi hotspots in developing countries is an example. Wi-Fi, an alternative to fixed networks that works on licence-exempt radio spectrums, offers a more economically feasible and faster way of connectivity with cheaper infrastructure requirements. The deployment of free public Wi-Fi is now ubiquitous in advanced countries, but authorities, entrepreneurs and private sector providers in low income countries are also taking steps to offer free public Wi-Fi access to the masses.

Public-private partnerships have been known to work well in setting up Wi-Fi hotspots in some parts of Africa, where high data costs limit internet adoption. For example, the Government of Botswana is assisting the roll-out of free Wi-Fi hotspots in rural villages and urban centres nationwide. In addition, Botswana Fibre Network (BoFiNet) has partnered with private internet service provider CENE Media to encourage internet use and expand its broadband network.[257]

In Kenya, a partnership between the State House Digital Team and Nakuru county government is offering residents free Wi-Fi access at a reported cost of $2 million. In Nigeria, similar collaboration between public and private agencies is providing free access at the Murtala Muhammed Airport Two in Lagos.[258]

South Africa leads the continent in providing free access to its citizens. The country currently lists more than 2,000 hotspots set up by public and private initiatives in nearly 60 cities.[259] Project Isizwe, an entrepreneurial non-profit organization that provides internet access to low income communities, has successfully deployed over 1,000 free Wi-Fi zones in Tshwane and Western Cape in partnership with the government.[260]

According to Alan Knott-Craig, Jr., who runs the project, it would not be possible without government commitment. The communities covered have limited disposable income. Some experts say that internet access should be classified as a basic service, along with water and electricity, and that, as with other utilities, everyone should be entitled to a free daily quota, paid for by government.[261]

However, Wi-Fi has a limited range, which makes it unsuitable for sparsely populated remote areas. Wireless cellular networks with wider coverage would be a better solution, especially at a time when almost everyone has access to a mobile phone. Mobile phones have, for instance, contributed substantially to agricultural productivity and growth in places where SMS has been used to send farmers information on market prices and climate conditions.[262]

Nevertheless, the construction of cell towers and wireless masts (for mobile or fixed wireless broadband) in every remote corner can be quite expensive, if not completely futile, without proper public-works coordination between private and public actors.

Need for smart regulation

Although most infrastructure investment is still publicly owned and operated in most sectors, market power has shifted into the hands of private firms in the telecommunications sector. To tackle anticompetitive behaviour among large firms and promote better implementation of last mile strategies, adequate operational discipline and design of good regulations are often necessary.

Figure 24 shows investment in ICT infrastructure projects with private sector participation in developing countries since the 1990s, by region. It reveals a staggering increase in the share of private ownership in total public-private ICT investment in all regions.

Most countries have independent regulatory bodies to act on market failures, stimulate market competition and favour equal access for all. These issue and oversee licences for network operators, allocate spectrum and other scarce resources efficiently, attract investment, and promote market competition and digital inclusion.

Advancing competition among private network operators is an essential part of extending connectivity. In Africa, mobile network penetration in countries with state-run monopolies is only half the level prevailing in countries that allow competition in the ICT sector.[263] In Latin America, the fully competitive market in Brazil has achieved more than twice the penetration rate – in both fixed-line telephony and fixed-line broadband – of monopoly-served Belize, another country in the region with a similar income level.[264]

In today's digital economy, radio spectrum allocation greatly determines power, as it governs all wireless devices used for every type of communication. Due to the rapid expansion of wireless mobile and internet services, regulators must carefully oversee the rise of monopoly power and the fair assignment of spectrum licences to network operators.

There are a number of important tools for promoting service expansion objectives. These include: spectrum licences emphasizing universal network coverage and anticompetitive safeguards in licensing conditions; promoting open access networks and infrastructure-sharing among licensed operators; and reallocating unassigned or underutilized spectrum bands to operators competent to deliver the highest benefit to society from its use.[265]

Concerns over monopoly power have also arisen regarding fibre optic networks. Owning an undersea fibre optic network has advantages, such as cost savings, more bandwidth and fewer delays. It also gives companies greater control over their data traffic management and equipment upgrading. Increased demand for network capacity – a result of the tremendous growth in digital data traffic – has led big tech companies such as Google, Facebook and Microsoft to acquire partial ownership of such networks. This gives rise to fears that the giants will assume even more power and abuse their control, in addition to impeding the functioning of traditional network operators.[266]

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Various types of regulation have been imposed in the telecommunications sector. Initially, sectors operated by public monopolies were mainly regulated by price controls. Alternatively, they required the operator to cross-subsidize investment in high-cost or low-revenue services and market segments, using excess profits and pricing from high-value segments, to offer basic universal access to telephone services.

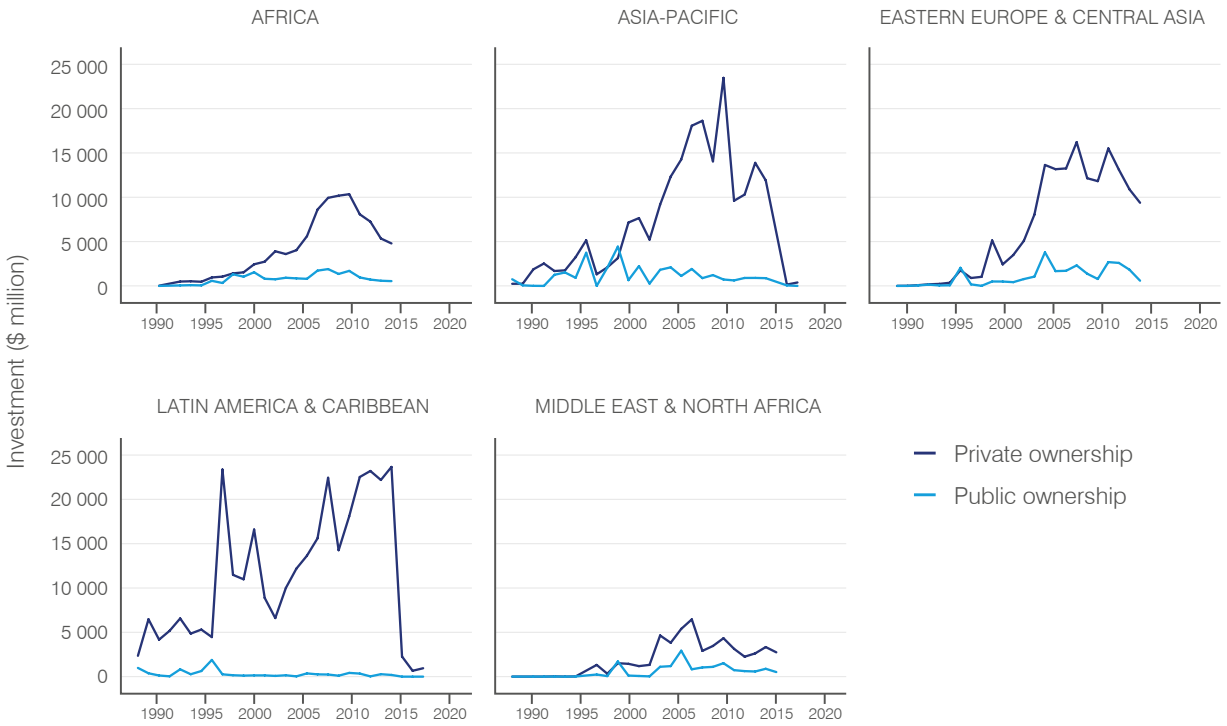
With current advances in technology and the spread of privatization and competition in the sector, however, policy and regulatory frameworks have changed. To ensure expansion of broadband coverage in addition to telephony, regulatory bodies or national governments may set up specific funds, such as Universal Service Funds, or national broadband strategies and mandates. The funds are made up of mandatory contributions from competing operators, usually based on a percentage of their annual operating revenues.[267] Funds are reallocated for investments or subsidies to support ICT/broadband programmes, including access to PCs and other digital devices, broadband internet connections, and localized content and services in remote and geographically challenging markets, otherwise unserved by market forces.[268]

Such funds, which have been established in many developed and developing countries, have given remote villages their first-ever telephone service. Pakistan's autonomous Universal Service Fund, for instance, is sourced through a 1.5% levy on licensed telecom operators. Five years after its establishment, it has brought broadband access to nearly 300 unserved towns and cities and has extended 3,000–5,000 km of fibre optic cables to remote rural areas.[269]

Malaysia's fund has provided more than 5,000 villages with wireless internet access, while Ghana's Investment Fund for Electronic Communications, Nigeria's Universal Service Provision Fund and Colombia's Vive Digital have been largely successful in disbursing funds to rural communities to create backbone networks and promote digital awareness and training.[270]

While the design of the regulatory framework may vary, it must ensure efficiency (allocative, productive and dynamic)[271]. An overbearing regulatory regime can be a major hurdle to service expansion. Stability in the regulatory environment is also needed, particularly for mobile network investments in developing countries, so that licensed operators are not deterred from making

FIGURE 24 Value of public-private investments in telecommunications



Note: Projects include only public-private partnership investments.
Source: ITC calculations based on Private Participation Project database, Public-Private Infrastructure Advisory Facility, and the World Bank (2016).

long-term investments because of uncertainty about retaining spectrum rights and access.

At the same time, flexibility and transparency in regulating operators in the ICT sector are essential to expand the range of products and services they can offer in rapidly evolving markets and technologies.[272] Such regulatory features will attract more private investors and eliminate both weak digital infrastructure and high operating costs.

Moving ahead: Creating value in coordination

Every mile counts, but it is the last/first mile that counts the most in promoting inclusiveness. Serving this segment requires universal access to current service delivery structures, covering remote and geographically isolated areas of the world. This involves reaching the most disadvantaged groups, avoiding discrimination and uneven progress, and attaining overall inclusiveness – making it possible for everyone to compete on an equal footing, as targeted by the SDGs.

In many countries, demand for infrastructure services exceeds supply, in both quantity and quality. In rural and outlying areas, consumers are dispersed and are calling for more infrastructure investment to reach additional users. To coordinate such costly and unpredictable investment while also ensuring the greatest economic and social benefits, it is necessary to use modern technologies, as well as careful and rigorous evaluation of infrastructure projects.

Evaluation tools, such as computational general equilibrium or cost-benefit analysis, are useful for effective project assessment.[273] However, they must be approached with caution, as there can be a lack of transparency in project evaluation, with reported instances of double counting or overstatement of the benefits of infrastructure projects and understatement of the costs.[274] For this reason, maintaining reliable data or records on how governments evaluate, decide and spend on infrastructure projects is vital for transparent and reliable policies, and for the delivery of large-scale projects.

Last mile infrastructure access can bring broader benefits of innovation, entrepreneurship and job creation in developing and emerging markets. However, as one would expect, such benefits do not come without a cost.

Private investment, innovation and public-private collaboration in transport and ICT infrastructure have enhanced connectivity and greatly shortened the last mile, resulting in lower costs, time, inventories and waste.[275]

However, much more still needs to be done to close the investment gap and the digital divide between countries and between rural and urban regions.

Local community stakeholders have a key role to play in developing their local ecosystem. The scope for deploying local community networks, where connectivity is non-existent or available at unaffordable prices, should not be underestimated. Local community networks are where infrastructure is built and operated by citizens wishing to provide connectivity to their village or rural/urban communities; they are increasingly used as local solutions to fill connectivity gaps. Such initiatives have been successful in providing rural connectivity in a variety of contexts: from deeply remote areas in India, Nepal and South Africa to refugee camps in northern Uganda, suburban towns in Namibia and Zimbabwe, and urban settlements in parts of the developing world that lack basic infrastructure.[276]

Large financing gaps, technical and efficiency requirements, and the need for regional integration and establishment of trustworthy, enabling institutions and regulations, must all be addressed for infrastructure to serve the last mile successfully. To safeguard sustainability, strategic collaboration with local institutions and capacity-building support from local governments are essential to ensure that citizens' needs and sensitivities are served.

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CHAPTER 5

Embracing change for business ecosystem 4.0

The digital revolution has already transformed our economies and society. It has transformed the way in which information is generated and accessed to such an extent that some have argued that data is 'the new oil'. New technologies and tools have entered our daily lives at home and in the workplace. Companies have new ways of doing business, and digital platforms now provide services that used to be the bread-and-butter of retailers, travel agents, banks and trade and investment support institutions (TISIs). These changes are creating immense opportunities for many. At the same time, however, they pose risks to economic growth and inclusiveness where the business ecosystem is not set up to harness the power of new technological possibilities.

TISIs in charge of furnishing market information, providing skills, and monitoring quality have an important role to play, as they are key determinants of the quality of the business ecosystem. In many places these institutions are either entirely public or are public-private non-profit service providers. In the past, they were not often known for being very dynamic or innovative. This chapter argues that such institutions need to fully embrace change and become 'cautious revolutionaries' to remain relevant.

In this period of radical change, those sticking to old methods may well be displaced by new actors, often from the private sector. Such a development would not necessarily benefit either SMEs or inclusiveness, as weaker economic players are most likely to suffer from market failures and malfunctions that non-profit service providers can address, but private sector players are free to ignore.

Cautious revolutionaries needed

For the benefit of SMEs around the world, cautious revolutionaries now are needed in the fields of trade and investment promotion, training and education, and quality control and certification. Cautious revolutionaries value and embrace data and technology and are open to new partnerships. They take risks, as the digital transformation is too recent for empirical studies to identify clearly what works and what does not. But being a cautious revolutionary also implies the need for prudence in the face of risks and novelty, because a main role of TISIs is to instil and maintain trust in markets while new technologies are being adopted.

Valuing data and technology

In an era considered by some to be undergoing a new industrial revolution in which 'data is the new oil', data and technology are indispensable. Harnessing technology can no longer be a sideline, and resources have to be channelled into taking advantage of the digital transformation. Communications and IT are now front office, not back office. And in financially constrained environments, these changes have to be introduced after thorough cost-benefit analysis.

Forging innovative partnerships

Given that the private sector appears to be several steps ahead of many TISIs or owns technologies and data of relevance to the entire economy, public and non-profit institutions are compelled to seek new partnerships.

Regulators have always had to work with the private sector to design smart regulation. Skills and education providers have also sometimes cooperated with the private sector to deliver skills needed in the labour market. The difference now is that regulators and skills providers may have to

collaborate with new entities, some of which may be taking dominant market positions while at the same time being at risk from fresh competitors.

In markets characterized by strong network externalities, in which the value of a product increases the more it is used, the tendency is for the winners to take all the spoils. The period when the winner has yet to emerge can be one of disruption and drastic change. In such circumstances, it can be difficult for regulators and skills providers to choose their partners.

For trade and investment promotion organizations (TIPOs), a subset of TISIs, the challenge is of a different nature. In the past they were the central points in business networks and the owners of information needed to promote trade or investment. In the new digital economy, online platforms are entering this space. One coping strategy for TIPOs is thus to partner with online platforms.

Taking calculated risks

TISIs need to embrace change even if information is incomplete. Data is more abundant than ever, but the digital transformation is too recent for large-scale causal studies to exist that assess the impact on TISIs, SMEs and the business ecosystem. In the absence of 'hard' evidence but under pressure of time, TISIs must take decisions within this context of uncertainty. This is also the context in which most of their clients are currently operating.

Creating trust

Although big data may produce more evidence, it does not automatically lead to better information. Where data sources are unknown and the algorithms that crunch them inaccessible, generated evidence is basically a black box. Users of the evidence have to trust those who generate it.

Mistrust due to insufficient communication can also arise after the adoption of new technologies. For example, to ensure that the voting results of the 2017 parliamentary elections in the Netherlands could not fall victim to interventions of hackers, the government decided to revert back to vote counting by hand rather than by machine.[277] This shows how the adoption of new technologies can collapse when trust disappears in markets characterized by so-called information asymmetries[278].

In the digital and platform economy, questions related to trust are abundant. Is news fake, or real? Is a signature trustworthy? Is privacy protected? Given information asymmetries, a major role of non-profit institutions is to foster trust in new technologies and ongoing change. Parents and young people want to be sure that investments in new skills are worthwhile, while SMEs want to be sure that business partners abroad are trustworthy. They want to understand how to ensure the safety of their business information in cyberspace. Generating trust will be one of the key roles of business ecosystem players in years to come if new technologies are to be embraced by businesses, and societies are to accept change.

Trade promotion, skills and quality

The digital economy represents a major change in the landscape of TISIs. Both the digital and platform economies are drastically altering the way the business ecosystem is structured, and are also changing the functions of these institutions within that ecosystem. Valuing data and technology, forging innovative partnerships, taking risks and creating trust mean different things for different institutions. They will all need to be kept abreast of, and incorporate, change in order to provide relevant services to their members. This report focuses on the three types of TISIs, namely trade and investment promotion organizations (TIPOs), vocational education and training providers, and quality infrastructure.

Trade and investment promotion organizations: Make big data work for small firms

TIPOs have traditionally played important roles in helping countries to increase their exports. Evidence in this report shows that they have been particularly successful in supporting exporters to enter new markets; nurturing new exporters and leading them to success; and providing training in export-related skills for quality certification.

This space is now increasingly occupied by digital platforms. Platforms can put sellers in contact with new buyers abroad, provide aspiring exporters with an opportunity to go international and in many cases signal quality or reliability via rating systems, circumventing more traditional forms of quality certification. Furthermore, platforms are starting to provide access to their data free of charge and tailor it to the needs of users. For example, Market Finder[279] of 'Think with Google' aims to give companies a head start in their international marketing strategy by providing advice on localization, global payments, customer care, international logistics, talent recruitment, tax and legal matters, and marketing and advertising.

Does that mean the end of TIPOs as we know them, with their services replaced by those of platforms? This is unlikely, because platforms do not pursue the strategic objectives typical of TIPOs and do not align their services with these objectives:

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- Platforms do not aim to brand a country or enhance its exports. They therefore do not tailor their services to such activities, nor do they address the coordination challenges that must be overcome for a critical mass of exporters to enter new markets.[280]
- While platforms offer rating systems that can help to assess the quality of suppliers' services and products, these systems are not always reliable because of biases from algorithms and the way they are used. Rankings generated through platforms do represent a new form of signalling quality or risk, but they do not address all the challenges linked to information asymmetry.[281] Trust is needed, and TIPOs have a role to play to the extent that they are considered reliable third parties.

To become effective players in business ecosystem 4.0, however, TIPOs need to be aware of the opportunities and challenges that new digital technologies create for their line of business.

Valuing data and technology

Notwithstanding the shortcomings of new technologies and big data, they can be very useful for TIPOs if the latter have the expertise to handle them or if they team up with platforms or data providers to be able to benefit from them.

Given the importance of data, TIPOs should consider using new technologies and data analysis to collect their own data and learn more about clients and partners in their networks. Online tools can complement traditional face-to-face relationships to interact with SMEs and assess their competitive weaknesses and strengths. The Australian Trade and Investment Commission, for instance, has developed an online tool that helps SMEs assess their readiness to export.[282]

TIPOs can also use data technologies to increase their understanding of foreign markets and provide tailored information for client SMEs. Switzerland Global Enterprise, the export promotion agency of the Swiss State Secretariat for Economic Affairs, is an example of an institution using digital tools to support its members (Box 8). Switzerland Global Enterprise designed Export Digital, a digital platform to help exporters acquire useful information about consumer behaviour. The programme is run in cooperation with Google and several private sector partners.

Digital approaches can also be used to market individual companies or provide them with training and other services. Hong Kong's Support and Consultation Centre for SMEs (SUCCESS), for example, is an e-platform that offers free business information and consultation services for SMEs. The platform is run by the Trade and Industry Department in association with industrial and trade organizations, professional bodies, private enterprises and other government departments. One of its innovative features is 'Meet the Advisors' Business Advisory Services. Through this feature SMEs can have an online consultation addressing issues linked to initiating and running their businesses.[283]

Lastly, TIPOs can create their own online platforms to facilitate contacts between local businesses and potential buyers in foreign markets, modernizing their traditional matchmaking services. In Latin America, connectamericas.com, an initiative of the Inter-American Development Bank with the support

BOX 8: Swiss platform provides market analysis, information

Export Digital is a platform launched by Switzerland Global Enterprise, the Swiss TIPO, in collaboration with Google. Its mission is to show Swiss SMEs how to enter attractive export markets and create opportunities for growth. The initiative includes other private sector partners, such as Credit Suisse, PricewaterhouseCoopers, Amber Road, and Swiss Export Risk Insurance SERV. An SME's greatest challenge is often to build online expertise among its employees in marketing and sales. In addition to digital channels, a business needs a good partner network, and additional marketing and distribution channels in the target market. Businesses should also be sure not to underestimate cultural and regulatory differences. Entering new markets is complicated.

Export Digital helps businesses identify new markets without having to resort to costly market research, and provides them with the knowledge needed to exploit the full potential of the internet in entering these markets. Companies can also find a wealth of learning content and help from experts on the platform.

'Swiss companies can use statistics to find out how often a term is searched […]. The data also shows which regions within a country produce Google searches for a particular product […]. This allows Swiss businesses to gain the kind of information about markets and countries that is becoming increasingly important in the age of e-commerce,' says Alberto Silini, Head of Consultancy at Switzerland Global Enterprise.

Source: Website of Export Digital, website of Switzerland Global Enterprise.

of Google, DHL, Visa and Alibaba, provides access to communities of clients, suppliers and investors in the region and worldwide, along industry lines. Recently, the West African Economic and Monetary Union launched connectuemoa.com, a platform offering information about business opportunities within the region and providing a directory of relevant companies so that members can connect and network with potential partners.

New technologies have the potential to enhance greatly the services traditionally provided by TIPOs, particularly in market information, assessing competitiveness, matchmaking and training. TIPOs typically have the choice between developing and running relevant tools themselves, or teaming up with platform providers. The latter can be cheaper in the short run and can provide automatic access to the most advanced technologies. Yet services obtained this way may be less tailored and TIPOs may lose some control over data, information and the services offered.

Forging innovative partnerships

The potential for partnerships in the platform economy goes well beyond the most traditional TIPO services situated in the 'connect pillar' of the competitiveness grid used in this report. Online platforms are increasingly providing such services as logistics and finance (Chapter 2). TIPOs can consider doing the same. In particular, export promotion agencies may want to create partnerships with logistics and/or financial service providers to offer a package of services to national exporters.

Platforms developed by TIPOs in Sri Lanka and Malaysia offer an example of how to integrate various business services. These initiatives involve close collaboration between TIPOs and the private sector.

EDB eMARKETPLACE, a platform developed by the Sri Lanka Export Development Board, helps firms showcase and sell their products and services online.[284] Registration is free and companies can display up to 10 product items.[285] The platform offers market and product information and brings together suppliers, buyers, shippers, logistics, and finance under one roof. For example, it includes a function that allows SMEs to calculate shipping costs using DHL services. It also offers low-cost 'ePromotion Services', helping SMEs increase their online visibility through web advertisements, web design and web hosting.

The Malaysian Electronic World Trade Platform (eWTP), set up by the Malaysian Digital Economy Corporation in partnership with Alibaba, offers services encompassing e-commerce, logistics, cloud computing, mobile payment and talent training. This platform is part of the Digital Free Trade Zone (DFTZ).[286] The novelty of DFTZ is that it includes both physical and virtual facilities to provide integrated logistical support, cross-border solutions, and trade facilitation.

Taking risks

In this rapidly changing environment, TIPOs must manage risks associated with the choice of technology, tools and partners.

There are myriad new technological solutions appearing in the market, but it is not yet clear which of them will survive. Are crypto-currencies just a fad, or are they here to stay? If the latter, which will endure? Will blockchain technologies become widely accepted? If so, for which uses? Will mobile payments used in one country spread to neighbouring ones?

Embracing technology requires investments in time and money. When making investment decisions, TIPOs have to assess the likelihood that specific technologies or tools will continue to be used over time. While they will be able to find guidance and information, they will have to take risks as to the timing of investments and the selection of technologies.

The same is true when it comes to selecting partners, which often goes hand in hand with selecting technology or platforms. In changing markets, a partner that is a strong player today may be a lame duck tomorrow. Another risk is that TIPOs entering into relationships with companies that have strong market power may end up being locked into arrangements that are no longer beneficial.

Creating trust

The role that TIPOs can play in generating trust is multilayered and should not be underestimated.

They can, for example, help their clients to make best use of the platforms that are relevant to their business. This can include providing information on such platforms and their reliability, as well as training on how to use them. TIPOs should consider collaborating with platform providers in such instances.

TIPOs can also generate trust in their country's economy by helping foreign investors, buyers or international platforms to find interesting or reliable local partners.

TIPOs can create their own platforms to showcase the products and services of potential exporters or projects and companies seeking to attract investors. Such platforms have the potential to reflect the strategic

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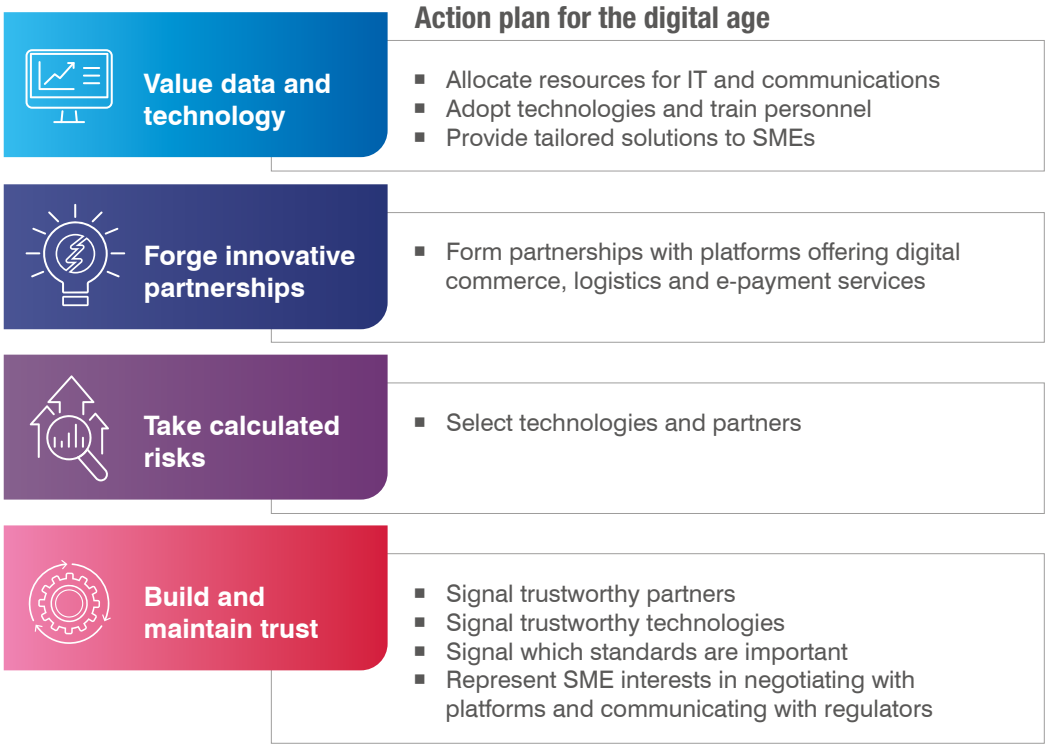
FIGURE 25 Trade and investment promotion organizations: Make big data work for small firms



Source: ITC.

direction of TIPOs. They can also signal quality, reliability and creditworthiness of companies featured on the platform by offering explicit TIPO backing. The TIPO then becomes a third-party quality signaller, a crucial player within any well-functioning quality infrastructure set-up. Where necessary, TIPOs can provide training to national companies to raise quality to the level needed for promotion via their own platforms.

In addition, TIPOs can support the development and maintenance of a favourable regulatory environment for new technologies and data use. Such an environment is crucial to promoting trust in new technologies and signalling to SMEs the technologies in which they should invest.

Figure 25 summarizes concrete actions TIPOs can take to make big data and other technological developments work for small firms.

Vocational education and training providers: Anticipate, act, adjust

Emerging technologies in the digital field, including artificial intelligence, robotics and 3D printing, change the skills demanded by businesses. This is happening at an unprecedented pace and is not about to be reversed.

As a result, employers in both developed and developing countries complain about the difficulty of finding workers with the right skills. In Europe, roughly four out of 10 establishments report such problems. About 30% of employers in Peru and Colombia report difficulties in filling vacancies; approximately 40% in Panama, Mexico, Costa Rica and Argentina; about 60% in India and nearly 70% in Brazil.[287] Meanwhile, one in four adults surveyed in the OECD reports a mismatch between the skills they have and the skills they need for their current job, according to a recent report on workforce reskilling.[288]

New technologies also change the way in which education and training are delivered. The technological revolution brings challenges and opportunities with respect to skills.

Taking risks

Training institutions must teach today the skills that trainees and students will use in the labour market years from now. Given that skills predictions change every few months, this is very difficult. Nonetheless these institutions need to react even if they lack some information. Failure to adjust may put entire cohorts of young people at risk. This means that decisions about curriculums and investments in technology have to be made in an environment of uncertainty.

Recent studies on skills demand indicate that a combination of complex problem-solving skills, technical skills, and social and emotional skills will be required in the near future.[289] As to technical skills, there is a distinction between digital skills and technical skills associated with the machinery, technology and robots that are specific to a particular job.

Regarding digital skills, ITU distinguishes between basic skills, intermediate skills and advanced skills (Figure 26). Many experts advise that basic digital skills should be included in the compulsory school curriculum. Science, technology, engineering and mathematics (STEM) education in the compulsory school curriculum prepare students for the advanced digital skills they will acquire in tertiary education.

For SMEs, advanced skills in digital entrepreneurship and cybersecurity are of particular importance. They also need a thorough understanding of the platform economy, including the role of financial information in that environment.

It is harder to generalize about the technological skills needed for specific jobs, including those identified as intermediate skills in Figure 26. The role of design tools is different for a carpenter than for a baker. The role of robotization may vary from hotels to health spas. In such cases, technical and vocational education and training institutions may have to take difficult decisions within a context of uncertainty – and it would be inadvisable to postpone such decisions.

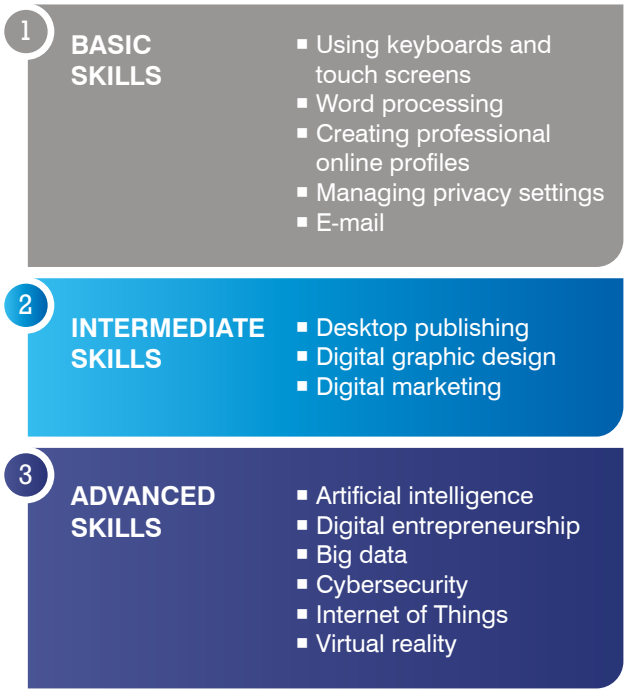
Forging innovative partnerships

Partnerships between company coalitions, government and local education institutions are likely to be key for sector specific upskilling and reskilling, combining theoretical and applied training.[290]

On-the-job training and learning by experience can be useful in a changing environment where skills become quickly obsolete.[291] On-the-job adult learning or informal learning outside the workplace is especially relevant for SMEs, which are less likely to participate in formal training courses. Learning programmes are more successful when all stakeholders are involved, with co-funded models showing strong potential. These are typical of successful vocational education systems, such as that of Germany.[292]

Vocational education has the potential to build capacities at the local level, where most SMEs operate, giving them the opportunity to adapt their business models using new technologies. Consolidation of these capacities helps support investment in new technologies at the local level through the creation of 'maker spaces'[293] and innovation hubs, incubation centres, technology parks and clusters.

FIGURE 26 Continuum of digital skills



Source: Based on ITU (2018).

Yet building sustainable public-private partnerships for vocational training and education is not straightforward. It has not proved easy to replicate successful apprenticeship systems, such as those in German-speaking countries, in countries that lack the relevant historical and institutional arrangements. Current technological change entails the additional difficulty of identifying the appropriate companies where training should take place. In fast-changing markets, some of today's successful gazelles may no longer be around tomorrow.

Despite such problems, public-private partnerships are likely to be necessary to launch and expand vocational and technical training, particularly in digital and job-specific skills. It is in the interest of education and training institutions to involve the most dynamic players in relevant markets in training activities. Industry associations may also need to be proactive and reach out to institutions to establish forward-looking collaboration.

Multinational corporations can also play a role; some of them already include digital skills in their corporate social responsibility initiatives. Vodafone, for instance, recently launched an international digital skills programme to provide career guidance and access to training in the digital economy for up to 10 million young people in 18 African countries.[294]

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Valuing data and technology

Education and training institutions can also take advantage of data and new technologies to improve and expand their offerings.

New ICT-based applications have the potential to expand greatly the reach and scope of vocational education courses. These courses reflect the best features of vocational learning as they are flexible, low-cost, modular, and focus on real-world skills. As technologies change the set of skills businesses demand, for example adding new skills such as 3D printing maintenance, such courses enable workers in vocational fields to retrain quickly and remain relevant in the labour market.[295]

In developing countries, which often do not have strong institution-led vocational training systems, virtual learning offers a way to leapfrog constraints and 'skill up' the work force. Examples of online training are 'Start and Improve Your Own Business' by the International Labour Organization, 'E-commerce for SMEs' by the ITC SME Trade Academy and 'Excel skills for business' by Coursera.[296]

In addition, data and digital technologies can help education and training institutions to forecast better the types of new jobs being created and the skills they will require. The challenge for education systems is to provide workers with skills that match those sought by businesses, and anticipating future skills is crucial.[297] Approaches that take both sectoral and geographical skills mismatches into account are likely to result in better outcomes.

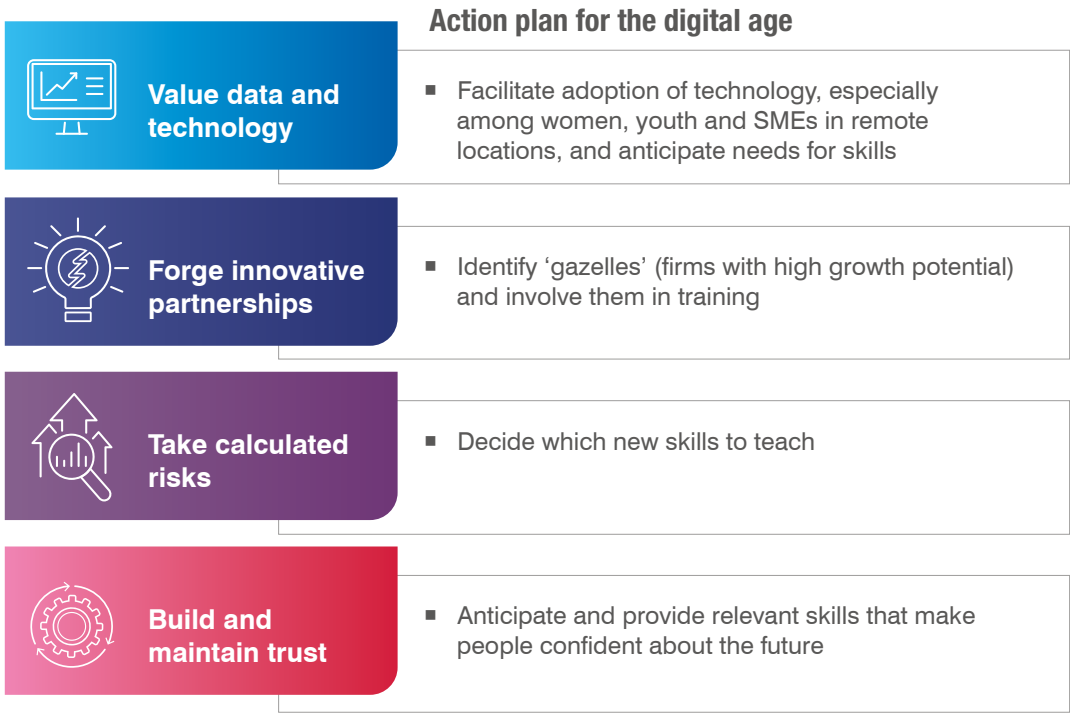
Creating trust

Strong education and training institutions can play a crucial role in building trust in the future. People who feel well prepared for new technologies are less wary of change and more likely to adopt them.

Creating trust involves more than providing skills to the young. Reskilling employees and redesigning work processes also play an important role.[298] Moreover, lifelong learning offers an opportunity to remain competitive, giving both low- and high-skilled workers a chance of success.[299] Countries with high levels of skills and abilities to absorb technology tend to have multifaceted lifelong learning systems to support and develop people's skills over their lifetime, making it easier for them to adopt change.[300]

Figure 27 summarizes specific activities that technical and vocational education and training institutions can undertake to ensure that the relevant skills are available for a well-functioning business ecosystem 4.0 and for trust in the future.

FIGURE 27 Vocational education and training providers: Anticipate, act, adjust



Source: ITC.

Quality assurance bodies: Build trust in the digital era

Standards, and the quality infrastructure that underlies them, bridge an information gap between buyers and suppliers by signalling quality, safety, interoperability or sustainability of products, services and processes.[301] New technologies have put pressure on quality assurance in two ways. First, the rapid growth of platforms has created new types of certifiers. For example, platforms can certify that small businesses selling through the platforms are legitimate legal entities, while users can rank products or services, such as through hotel and restaurant ratings on TripAdvisor. Second, new products and services, such as drones, self-driving cars and internet-based financial services, are emerging so rapidly that regulators and traditional quality infrastructure can be caught unprepared.

Creating trust

Despite the growing share of digital goods in international trade, many national quality infrastructure systems are not fully engaged in designing and certifying standards for digital products. Moreover, roles and responsibilities for quality assurance in the digital era are less well-defined than for physical goods. Standards today tend to be developed and maintained by private sector companies, trade associations, consortia or alliances, sidestepping traditional quality infrastructure.[302]

Yet there is still a role for traditional quality infrastructure, particularly in finding the right balance between governance and innovation. Striking this balance is crucial to building and maintaining trust in new technologies. It is also key for ensuring interoperability and facilitating the adoption of new technologies, especially by SMEs.

Although private sector actors may have the technical knowledge to develop complex standards,[303] without transparency, accountability and other forms of consumer protection, these market players may be tempted to abuse their rule-making power.[304] Change in the area of standardization is putting pressure on governments in developing countries to reform and develop their standardization infrastructure.[305]

For national quality infrastructure bodies, guiding principles in the digital standards system should be mediation, neutrality, consumer protection, and competition. As neutral arbiters, they can mediate between the interests of businesses and consumers of digital goods. They can focus their activities on safety and interoperability.

Furthermore, policymakers can adopt guidelines for regulating platforms and providers of internet certification, and for defining who is responsible for their quality ratings. For instance, regulators can request that platforms have mechanisms to detect fraud in user-generated reviews. One example is banning computer-generated reviews or reviews by users who have not purchased the product or service.

Taking risks

Regulation is often associated with burdens on business or innovation. Indeed, it can remove some of the freedom that is inherent in entrepreneurship. At the same time, however, it can foster innovation by creating a more secure environment. Regulation may also be necessary to prevent new technologies from disappearing because consumers lose trust in them.

In times of technological disruption it is difficult to assess which regulation or standard strikes the right balance. To avoid a situation where the lack of regulations and standards leaves people and companies unprotected and exposed, regulators often have to intervene, taking a calculated risk of overregulating.

Given that SMEs are economically vulnerable, it is in their interest for quality infrastructure bodies to be stronger and more proactive in setting standards and assessing conformity for digital goods, especially regarding cybersecurity and data privacy. National quality organizations can adopt international standards and recognize competent testing authorities outside of the country, while also participating in regional and international standard-setting bodies. For example, regulators can use existing international standards, such as ISO/IEC standards.[306]

The aim for policymakers is to build a predictable regulatory environment that strikes the right balance between protecting SMEs and consumers, and promoting innovation and technological progress.

Forging partnerships

Forging partnerships with the private sector is key to getting quality assurance right in the digital era. Collaboration between the private sector and public authorities is not new in the setting of regulations and standards. It is a traditional element in designing smart regulations and standards – rules that protect and foster compatibility while allowing business processes to function smoothly. Such partnerships now also have to be created with the relevant private sector players in new technologies.

Figure 28 provides examples of actions and best practices that quality assurance institutions can undertake to build trust in the digital economy.

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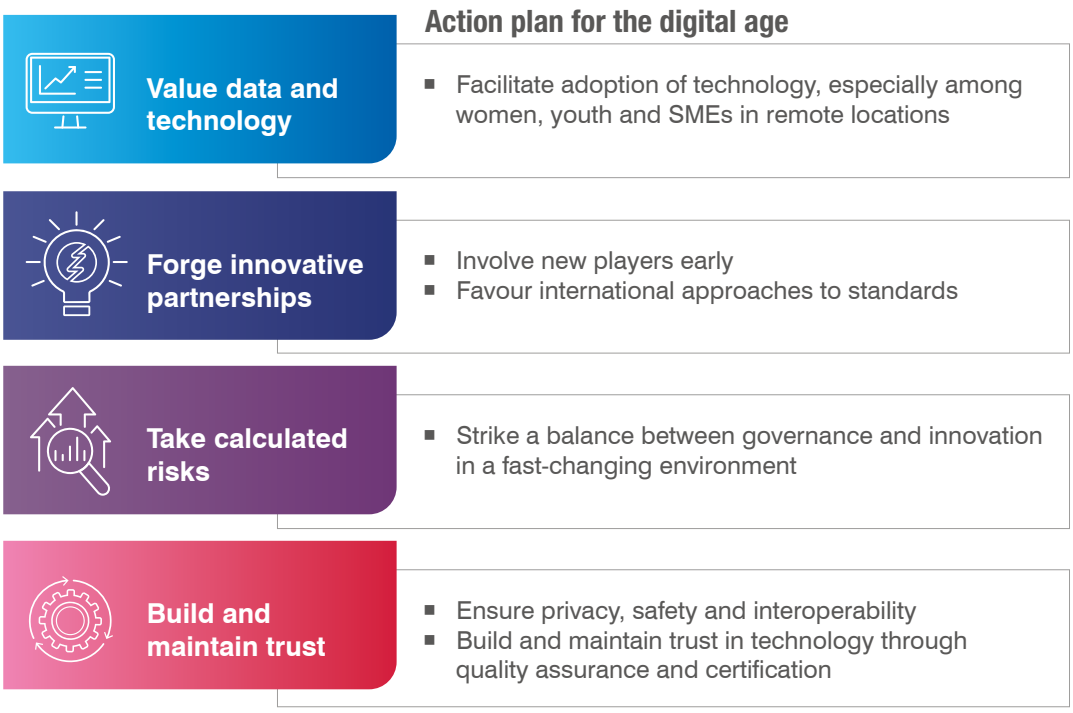
FIGURE 28 Quality assurance bodies: Build trust in the digital economy



Source: ITC.

Finance and infrastructure for tomorrow

Improving ICT-based finance

ICT-enabled finance solutions, capitalizing on advances in big data analytics, are providing access to finance to many clients that were unserved in the past. These advances allow companies to mine and exploit so-called 'alternative data'. Such data include information on the location of consumers, frequency and type of phone calls, frequency of utility bill payments, social media presence, and various other items. Based on this information, financial technology companies build models that calculate the propensity of consumers to repay their financial obligations and that provide them with the appropriate financial facilities.

Using data wisely

Big data analytics are particularly crucial in the absence of information required in traditional banking, such as regular pay cheques and relatively stable and sufficient income. Consequently, financial technology companies can provide access to finance and credit without relying on credit-scoring agencies, which do not operate in all markets. Instead, the financial technology companies generate their own scores and probabilities.

However, for all the advantages and benefits that ICT-based solutions have provided to consumers and SMEs, there are also risks, which have grown over the past few years.

The most serious of these is the lack of clarity about the details of financial tech firms' models. For example, some models confuse correlation with causality. An entrepreneur's education, or the type of school attended, may be correlated with his or her income and business management skills, but is not sufficient for determining his or her future income or ability to repay a loan. Some models assume this relationship, however.[307]

As is the case for most credit-scoring techniques, data analytics in financial services use the past to predict future outcomes. The past and present, however, often involve significant social, economic and historical biases that can undermine an entrepreneur's ability to obtain finance or credit.[308] This raises issues of fairness and equality of opportunity, even in an environment that depends so heavily on algorithms.

For example, in the search for data to illuminate a client's circumstances, some algorithms have used postal codes or geographic locations to help determine the kind of financial facilities provided. In many countries, however,

geographic location is closely correlated with race and social class, raising the spectre of bias, whether intentional or not.[309]

There are also issues about the type of data used, especially if it is not representative of the population that these analytics concern.

These issues highlight the fact that big data and its use in the financial industry remains subject to interpretation. Big data modellers must therefore be especially careful when building links between the variables for their models, understanding the importance of interpretation and taking responsibility for outcomes. As the data scientist and mathematician Cathy O'Neil writes, 'Big Data processes codify the past. They do not invent the future. Doing that requires moral imagination, and that's something only humans can provide.'[310]

Smart regulations

Moreover, while protecting trade secrets is part of any flourishing and competitive business culture, traditional banking regulations in both developed and developing countries generally stipulate the strict responsibility of banks to their clients. Such regulations may, for example, oblige banks to inform clients of their credit scores and, more importantly, of how to improve these scores.

Regulations of this sort are only beginning to cover ICT-based financial service providers in developed countries, and have yet to apply in the developing world. Developing countries continue to face challenges regarding consumer protection laws and their enforcement. This, combined with the sometimes desperate need of SMEs for finance, creates a potential for abuse by ICT-enabled financial service providers.

There have already been such abuses of the privacy of data acquired from SMEs and consumers through deceitful means. The United States Federal Trade Commission, for instance, shut down a financial technology company in 2017 for selling consumer information that was provided under the false premise of extending loan facilities.[311] Earlier this year the Commission charged a prominent peer-to-peer lender for falsely promising customers loans with 'no hidden fees'.[312]

In most countries, data privacy laws are either nascent or too outdated to cope with the speed of technological advances in financial services. The EU General Data Protection Regulation, which took effect in 2018, is one of the few recent laws to further protect data privacy and allow people some control over the use of their personal data and the duration of such use.[313]

There is considerable need and space for governments to regulate ICT-enabled financial services, while bearing in mind the many benefits such services have provided. In addition to issues of data privacy, there is the risk that such firms could overlend and create an economic bubble, as has happened in the past with traditional forms of finance. The bursting of such a bubble would be especially harmful to less well-off companies and individuals, who are more likely to need these types of services in the first place. As McKinsey & Company writes, 'It is not hard to lend based on different underwriting criteria when times are good; the hard part is getting the money back when times are tough'.[314]

Building skills

It is also urgent to upgrade the skills and understanding of the users of these ICT-based financial solutions. This is especially the case in developing countries, where financial technologies are booming but financial literacy is not widespread. Service providers, for example, should give clear instructions and use data visualization techniques to allow users to access and understand the fundamentals of the services provided and their contingencies.[315] Other stakeholders, including governments and non-profit organizations, should offer easily navigable spaces (online or face-to-face) to increase understanding of consumer and business rights. Younger entrepreneurs and consumers could also benefit from financial literacy and awareness programmes on the fast-paced digital age.

Infrastructure for business ecosystem 4.0

Connectivity is a critical pillar of SME competitiveness. For SMEs to trade effectively, customers must have access to their products. SMEs cannot survive, let alone grow, without the means to connect to markets, suppliers and service providers.

Even though physical and digital connectivity has increased exponentially worldwide in the past few years, many places remain isolated, without any means of reaching beyond their local community. This is particularly the case in low income countries and remote rural areas.

For many SMEs, lack of competitiveness is directly linked to being located in rural and sparsely populated areas, where connectivity infrastructure assets are difficult to extend and maintain. This is because the last mile of transport and/or ICT links between them and the closest hub or market is disproportionately expensive and difficult to develop.

Despite the broad benefits for SMEs of adequate and high-quality transport and ICT infrastructure, individual SMEs or small groups of SMEs do not have the capacity to

develop it themselves. Because such infrastructure links are collective goods requiring large-scale investment, planning and expertise, they are usually built and maintained by government agencies.[316]

Forging partnerships

Funding is needed to close existing transport and ICT infrastructure gaps, particularly in remote regions. The extent of the required funding is such as to call for private sector finance, as recognized in numerous global policy documents.[317]

For the private sector, however, there are disincentives to making such investments, given the greater risks, lower profitability and longer timeframes for building transport and ICT infrastructure in rural areas. This is one of the main explanations for the current gaps in digital connectivity, as most telecommunication service providers are private and their priority is populated urban areas with more potential customers.[318]

Public-private partnerships can offer a path for completing the last mile in infrastructure connectivity. By internalizing private sector capital and know-how, and by saving on heavy regulatory costs, public-private partnerships can lead to higher quality and lower prices and can encourage the rapid expansion of transport and ICT networks.

To boost private participation in last mile projects, governments must enhance incentives and create a conducive environment for private actors. The success of these partnerships hinges on the quality of governance and the proper drafting and structuring of contracts.

Regulating wisely

New emerging technologies also have the potential to address infrastructure gaps. There are a number of instances where innovations in digital technology have offered ways around barriers of cost and difficulties in delivering transport and ICT infrastructure. Examples include 3D printing of bridges,[319] using cargo drones for delivery[320] , and using balloons[321] to provide internet access. With enabling legislation, these innovations can act as leapfrog technologies in places without reliable physical and digital networks.

New technologies in the transport sector have to some extent reduced the cost of investment needed to meet growing demands, including for last mile orders. However, transport and ICT infrastructure are collective goods, and leaving investment solely to the private sector can lead to the abuse of monopoly power or the creation of cartels. Resulting high charges, such as user fees, can prevent access for a large segment of the population.

This calls for a regulatory landscape that recognizes the value of fair and efficient competition and adequately responds to the inefficiencies associated with providing last mile infrastructure. While the design of the regulatory framework may vary, it must ensure efficiency. On the one hand, a stable regulatory framework is needed so that operators are not deterred from making investments by any uncertainty about their rights and access. On the other hand, regulatory flexibility and transparency are essential so that operators can expand the range of products and services they offer in the face of rapidly evolving markets and technology.[322] These regulatory features can attract more private investors, eliminate weak infrastructure and reduce operating costs.

Finally, despite mounting investment in new and emerging technologies, their use remains limited and has not spread to all countries, whether high income or low income, especially in the remotest parts of the globe. As such technologies cannot completely replace hard infrastructure, renewed focus is needed on government commitments and collaborative strategies with the private sector to address demands for investment in last mile infrastructure and bridge the physical and digital divide.

Learning from the past

Amid discussions of a new industrial revolution and technological disruptions, it is important to underline that this is neither the first industrial revolution nor the first technological disruption to occur. The challenges that various stakeholders face are also not entirely new. Steam power and the electric telegraph arguably led to challenges and questioning similar to those seen today.

People who play a role in shaping business ecosystems can therefore learn from the past when deciding how to think about partnerships, how to assess risks and how to instil trust in times of change and potential market failures. This can help to avoid mistakes and build new ecosystems more rapidly.

One lesson from the past is that technological disruption and expanded globalization – particularly when they are combined – can trigger social unrest and popular resentment if not managed well. A strong business ecosystem will be key for managing change, and this report provides practical steps towards building such an ecosystem.

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CHAPTER 6

Country profiles and strategic snapshots

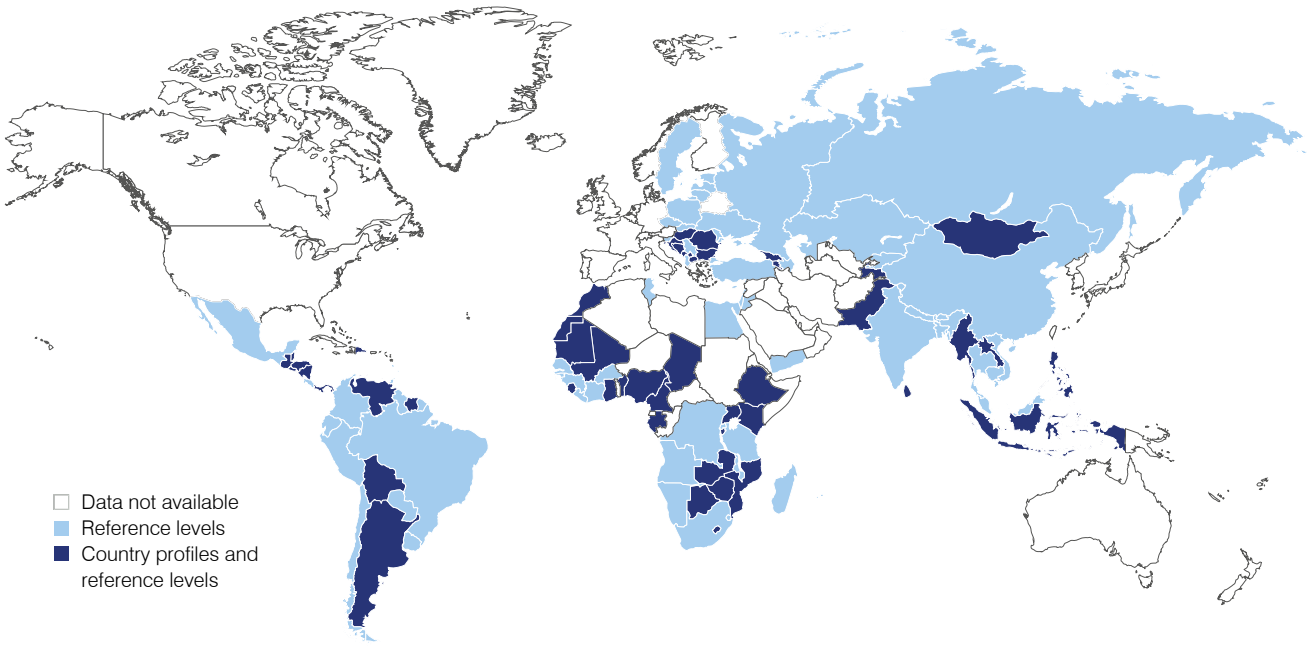
Edition 2018: What's new?

This year's edition includes 50 profiles of various countries from around the world (dark blue in Figure 29), 42 of which had never been previously introduced, bringing the total number of country profiles in all *SME Competitive Outlook* editions to 92 countries and growing.

The reference levels for the SME competitiveness grid are calculated based on 109 countries, all countries for which the necessary data is available (light blue in Figure 29). The underlying data has been updated whenever possible.

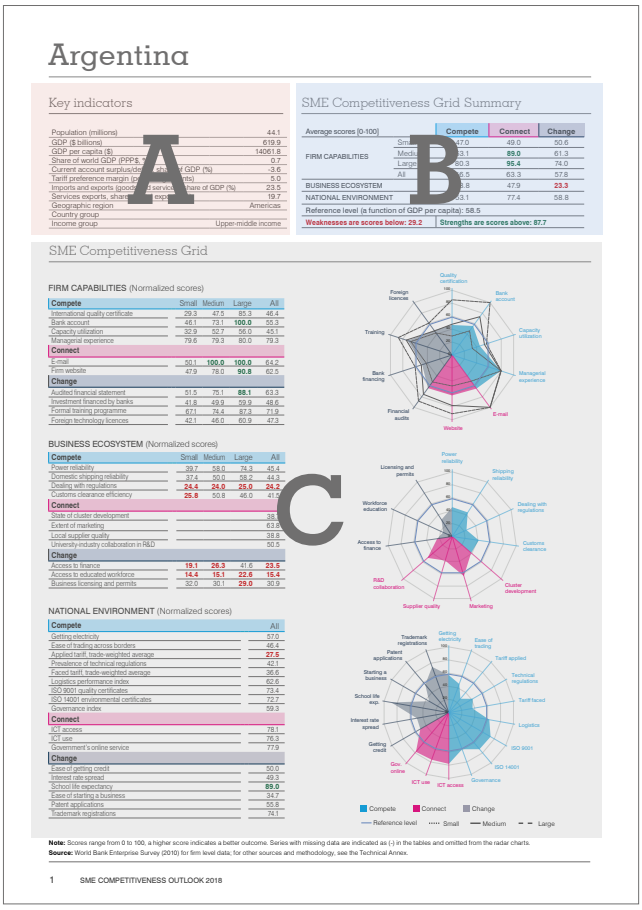
As in the previous edition, country profiles consist of two pages per country, with SME competitiveness indicators on the left page and export potential on the right page, complemented by a short analysis called 'Strategic snapshot'. Calculations and minor changes in the methodology are explained briefly in the abridged technical annex at the end of this report, and in full detail in the technical annex available online.[323]

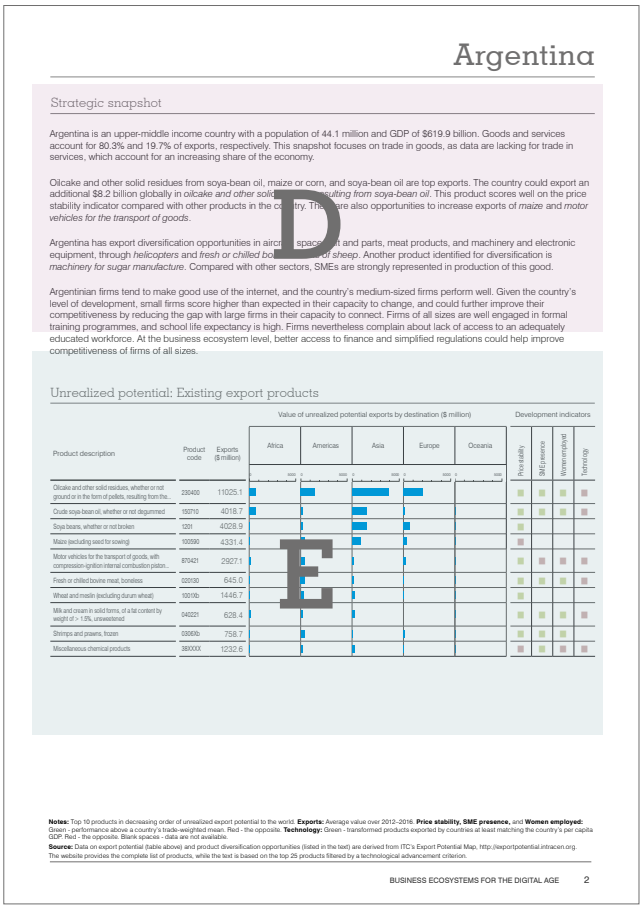
FIGURE 29 Countries included in the country profiles



Note: The software generating maps does not apply United Nations definitions of national borders.
Source: ITC.

FIGURE 30 Country profiles example





Readers' guide to country profiles

Key indicators

At the top left of each country profile, there are 11 key indicators on the country's population, economy, trade and groupings (Figure 30, area A).

SME competitiveness

SME competitiveness grid summary

The grid in the top right corner of the SME competitiveness page represents a table with summary statistics for each level and pillar of competitiveness (Figure 30, area B). Values are averages for each level-pillar combination, with higher numbers indicating higher competitiveness and lower numbers signalling room for improvement. Values in green indicate the country's strengths, and those in red indicate weaknesses. For firm-level capabilities, the profiles also provide indicators by company size, making it possible to distinguish the performance of small, medium-sized and large firms.

SME competitiveness grid

The SME competitiveness score is presented in tables and radar charts along three pillars and three levels of competitiveness.

The three pillars focus on capacities, clustering them as the following:

- Capacity to compete, in blue
- Capacity to connect, in pink
- Capacity to change, in grey.

Moreover, each pillar of competitiveness is determined at three levels:

- Firm level
- Business ecosystem level
- National environment level.

These pillars and levels of competitiveness make up the SME competitiveness grid, which is represented in tables and radar charts (Figure 30, area C). The indicator scores are normalized, so that higher numbers and larger coloured areas indicate stronger performance.

The coloured areas in each plot represent indicators computed at the national level (for firm-level data, indicators are produced by aggregating data over all firms). The solid dark blue line is the country-specific reference level. It is the expected level of indicators, taking into account the level of development of each country (approximated by its GDP per capita), and serving as the baseline for calculating strengths and weaknesses.

The radar charts are comparable across levels, making it possible to identify whether strengths and weaknesses lie in the firm capabilities, the business ecosystem or the national environment.

Firm capabilities are reported separately for small firms (a dotted black line), medium-sized firms (a solid black line) and large firms (a dashed black line). The closer the indicator score is to the edge of the radar chart, the more competitive the firms are. SME performance can be compared to large-firm performance; the performance gap is represented by the distance between the dashed and the dotted black lines.

SME export potential

Unrealized potential: Existing export products

The final section tabulates the top 10 products with the highest unrealized export potential, based on the ITC Export Potential Assessment methodology (Figure 30, area E). The table shows products in which the exporting country has already proven to be internationally competitive, but for which exports can still be increased.

The first column of the unrealized potential table contains the product's description and its code. The product group code is identical to the HS 6-digit code or, when code revisions made it necessary to group several HS 6 codes together, to the HS 4-digit or 2-digit code followed by letters. The next column indicates the corresponding total export value of the product, measured in millions of dollars (averaged over 2012–2016). The subsequent five columns show the unrealized potential export value for each of the geographic regions: Africa, Americas, Asia, Europe, and Oceania.

The products are listed with respect to the highest unrealized potential export value in the world market. The length of the blue bars represents the unrealized potential export value by region (also in millions of dollars), and is comparable across the products and markets listed in the table. Longer bars indicate a higher unrealized potential export value, revealing opportunities available to the country. Empty bars indicate that the target region has not consistently demanded the products in the past five years.

Development indicators

The final four columns add social and developmental dimensions. The indicators include:

- Price stability, reflecting the level of stability for associated export revenues.
- SME presence, or the level of participation of SMEs in the sector to which the product belongs.
- Women employed, reflecting the share of female employment in the product's sector.
- Technology, representing the level of technology used in the production of this product.

Development indicator measures are relative to the country's performance in other export sectors, with light green bullets indicating above-average performance and light red bullets indicating below-average performance. This implies that a given product, e.g. combed wool, may be a step up the value chain for one country, but not for others, or that the wool-processing sector may employ relatively more women in some countries than in others. Empty cells for development indicators mean the data is not available.

Strategic snapshot

The top section on the right page provides a concise text on countries' competitive strengths as well as an analysis of their export potential and SME performance (Figure 30, area D). Export potential is analysed along two dimensions: the ability to increase the export of existing products, and the ability to diversify exports into new products.[324] The export potential discussion currently focuses on goods, due to the limited data availability for services.

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Argentina

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Key indicators

Population (millions)	44.1
GDP ($ billions)	619.9
GDP per capita ($)	14061.8
Share of world GDP (PPP$, %)	0.7
Current account surplus/deficit, share of GDP (%)	-3.6
Tariff preference margin (percentage points)	5.0
Imports and exports (goods and services), share of GDP (%)	23.5
Services exports, share of total exports (%)	19.7
Geographic region	Americas
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	47.0	49.0	50.6
	Medium	63.1	**89.0**	61.3
	Large	80.3	**95.4**	74.0
	All	56.5	63.3	57.8
BUSINESS ECOSYSTEM		38.8	47.9	**23.3**
NATIONAL ENVIRONMENT		53.1	77.4	58.8
Reference level (a function of GDP per capita): 58.5				
Weaknesses are scores below: 29.2		**Strengths are scores above: 87.7**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

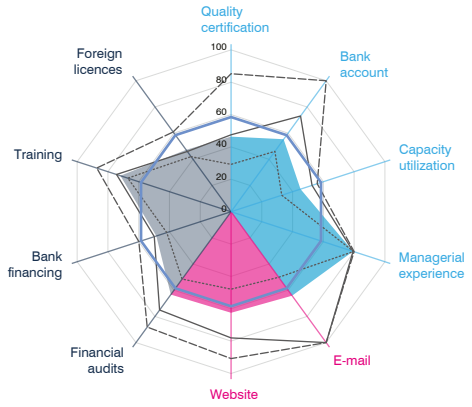
Compete	Small	Medium	Large	All
International quality certificate	29.3	47.5	85.3	46.4
Bank account	46.1	73.1	**100.0**	55.3
Capacity utilization	32.9	52.7	56.0	45.1
Managerial experience	79.6	79.3	80.0	79.3
Connect				
E-mail	50.1	**100.0**	**100.0**	64.2
Firm website	47.9	78.0	**90.8**	62.5
Change				
Audited financial statement	51.5	75.1	**88.1**	63.3
Investment financed by banks	41.8	49.9	59.9	48.6
Formal training programme	67.1	74.4	87.3	71.9
Foreign technology licences	42.1	46.0	60.9	47.3

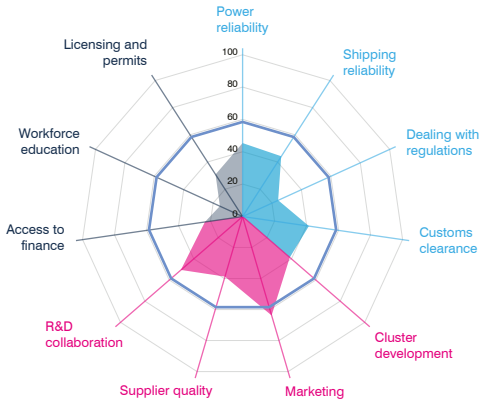
BUSINESS ECOSYSTEM (Normalized scores)

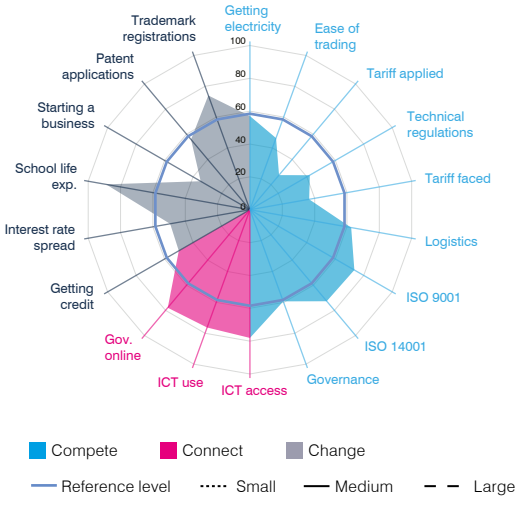
Compete	Small	Medium	Large	All
Power reliability	39.7	58.0	74.3	45.4
Domestic shipping reliability	37.4	50.0	58.2	44.3
Dealing with regulations	**24.4**	**24.0**	**25.0**	**24.2**
Customs clearance efficiency	**25.8**	50.8	46.0	41.5
Connect				
State of cluster development				38.7
Extent of marketing				63.8
Local supplier quality				38.8
University-industry collaboration in R&D				50.5
Change				
Access to finance	**19.1**	**26.3**	41.6	**23.5**
Access to educated workforce	**14.4**	**15.1**	**22.6**	**15.4**
Business licensing and permits	32.0	30.1	**29.0**	30.9

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	57.0
Ease of trading across borders	46.4
Applied tariff, trade-weighted average	**27.5**
Prevalence of technical regulations	42.1
Faced tariff, trade-weighted average	36.6
Logistics performance index	62.6
ISO 9001 quality certificates	73.4
ISO 14001 environmental certificates	72.7
Governance index	59.3
Connect	
ICT access	78.1
ICT use	76.3
Government's online service	77.9
Change	
Ease of getting credit	50.0
Interest rate spread	49.3
School life expectancy	**89.0**
Ease of starting a business	34.7
Patent applications	55.8
Trademark registrations	74.1







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Argentina

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Strategic snapshot

Argentina is an upper-middle income country with a population of 44.1 million and GDP of $619.9 billion. Goods and services account for 80.3% and 19.7% of exports, respectively. This snapshot focuses on trade in goods, as data are lacking for trade in services, which account for an increasing share of the economy.

Oilcake and other solid residues from soya-bean oil, maize or corn, and soya-bean oil are top exports. The country could export an additional $8.2 billion globally in *oilcake and other solid residues resulting from soya-bean oil*. This product scores well on the price stability indicator compared with other products in the country. There are also opportunities to increase exports of *maize* and *motor vehicles for the transport of goods*.

Argentina has export diversification opportunities in aircraft, spacecraft and parts, meat products, and machinery and electronic equipment, through *helicopters* and *fresh or chilled boneless cuts of sheep*. Another product identified for diversification is *machinery for sugar manufacture*. Compared with other sectors, SMEs are strongly represented in the production of this good.

Argentinian firms tend to make good use of the internet, and the country's medium-sized firms perform well. Given the country's level of development, small firms score higher than expected in their capacity to change, and could further improve their competitiveness by reducing the gap with large firms in their capacity to connect. Firms of all sizes are well engaged in formal training programmes, and school life expectancy is high. Firms nevertheless complain about lack of access to an adequately educated workforce. At the business ecosystem level, better access to finance and simplified regulations could help improve competitiveness of firms of all sizes.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the...	230400	11025.1									
Crude soya-bean oil, whether or not degummed	150710	4018.7									
Soya beans, whether or not broken	1201	4028.9									
Maize (excluding seed for sowing)	100590	4331.4									
Motor vehicles for the transport of goods, with compression-ignition internal combustion piston...	870421	2927.1									
Fresh or chilled bovine meat, boneless	020130	645.0									
Wheat and meslin (excluding durum wheat)	1001Xb	1446.7									
Milk and cream in solid forms, of a fat content by weight of > 1.5%, unsweetened	040221	628.4									
Shrimps and prawns, frozen	0306Xb	758.7									
Miscellaneous chemical products	38XXXX	1232.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Armenia

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Key indicators

Population (millions)	3.0
GDP ($ billions)	11.0
GDP per capita ($)	3690.3
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-3.6
Tariff preference margin (percentage points)	3.9
Imports and exports (goods and services), share of GDP (%)	74.5
Services exports, share of total exports (%)	50.5
Geographic region	Asia
Country group	LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	45.6	53.5	28.0
	Medium	49.0	**81.3**	36.6
	Large	63.0	65.3	39.2
	All	50.1	63.2	33.4
BUSINESS ECOSYSTEM		60.4	50.4	61.4
NATIONAL ENVIRONMENT		51.8	58.7	64.4
Reference level (a function of GDP per capita): 47.5				
Weaknesses are scores below: 23.8			**Strengths are scores above: 71.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

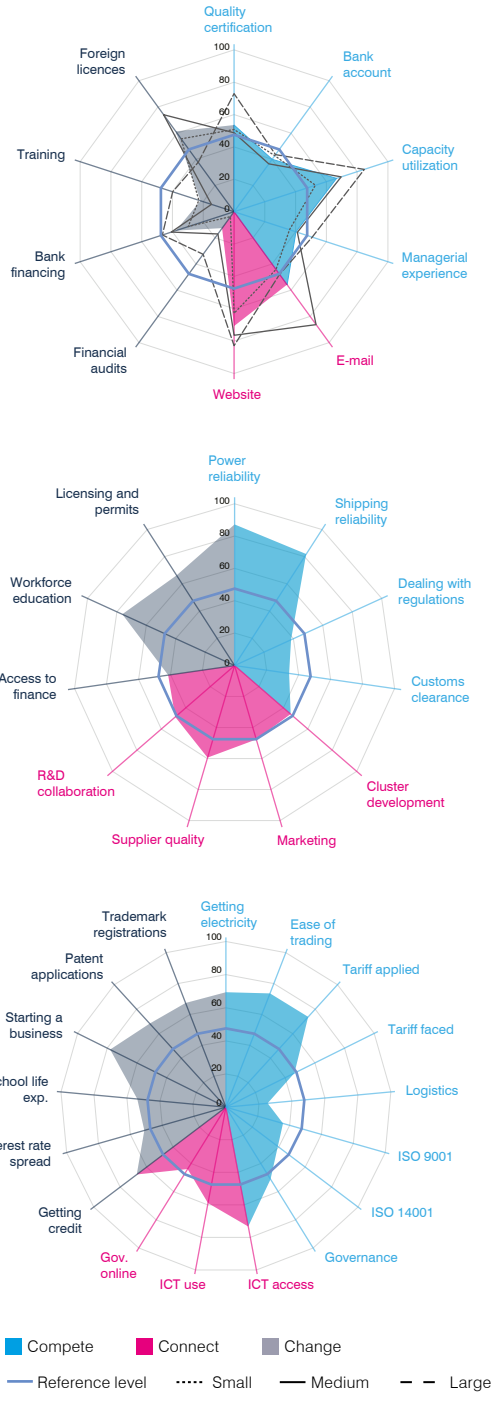
Compete	Small	Medium	Large	All
International quality certificate	50.8	48.8	**73.0**	53.5
Bank account	42.8	36.6	43.6	40.0
Capacity utilization	52.9	69.6	**84.7**	66.6
Managerial experience	36.0	41.2	50.9	40.2
Connect				
E–mail	44.2	**86.3**	47.9	55.8
Firm website	62.8	**76.4**	**82.8**	70.7
Change				
Audited financial statement	**3.8**	**17.0**	32.5	**12.6**
Investment financed by banks	29.7	40.7	46.6	37.8
Formal training programme	**22.8**	**14.6**	39.9	**21.8**
Foreign technology licences	55.6	**74.1**	37.7	61.4

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	**83.1**	**87.2**	**92.6**	**87.2**
Domestic shipping reliability	**81.9**	**72.8**	**72.8**	**81.9**
Dealing with regulations	42.3	33.5	42.5	38.4
Customs clearance efficiency	-	38.1	32.3	34.1
Connect				
State of cluster development				45.9
Extent of marketing				47.7
Local supplier quality				59.4
University-industry collaboration in R&D				48.6
Change				
Access to finance	44.0	38.1	44.5	41.5
Access to educated workforce	**77.8**	**80.2**	61.7	**76.4**
Business licensing and permits	63.1	**86.1**	43.8	66.3

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	69.4
Ease of trading across borders	**73.6**
Applied tariff, trade-weighted average	**73.7**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	46.2
Logistics performance index	25.3
ISO 9001 quality certificates	35.8
ISO 14001 environmental certificates	39.3
Governance index	51.2
Connect	
ICT access	**73.3**
ICT use	59.0
Government's online service	44.0
Change	
Ease of getting credit	67.5
Interest rate spread	51.2
School life expectancy	53.7
Ease of starting a business	**78.1**
Patent applications	68.3
Trademark registrations	67.5



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Armenia

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Strategic snapshot

Armenia is a lower-middle income country with a population of 3 million and GDP of $11 billion. Goods and services account for 49.5% and 50.5% of exports, respectively. This analysis focuses on trade in goods as data are lacking on trade in services, which account for a substantial share of the economy.

Copper ores and concentrates, cigarettes, and undenatured ethyl alcohol below 80% in strength are top exports. The country could export an additional $142 million in *spirits obtained by distilling grape wine or grape marc* to Asia, Europe and the Americas. Compared with other sectors in Armenia, women are strongly represented in the production of this product, which scores well on the price stability indicator. There are also opportunities to increase exports of *aluminium foil* and *ferro-molybdenum* to Europe.

Armenia has export diversification opportunities in footwear and optical products, watches and medical instruments through *footwear with outer soles and uppers of leather* and *wrist-watches with automatic winding*. Another product identified for diversification is *furniture of plastics*. Compared with the country's other sectors and products, SMEs are strongly represented in the production of this product, which scores well on the price stability indicator.

SMEs in Armenia are strongest in their capacity to connect, performing better than expected in comparison with their larger counterparts. Medium-sized firms make good use of the internet, and a large number own foreign technology licences. The use of the internet is supported by good ICT access at the national level. Firms find it difficult to have audited financial statements. Although few firms offer formal training to employees, firms report adequate access to skilled workers. Reliability of power and domestic shipping are also among strong features in the business ecosystem.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Spirits obtained by distilling grape wine or grape marc	220820	144.1									
Aluminium foil, not backed, rolled but not further worked, of a thickness of <= 0,2 mm (excluding...	760711	84.8									
Copper, unrefined; copper anodes for electrolytic refining	740200	75.5									
Diamonds, worked, but not mounted or set (excluding industrial diamonds)	710239	79.5									
Unwrought molybdenum, incl. bars and rods obtained simply by sintering; molybdenum waste...	8102XX	15.2									
Ferro-molybdenum	720270	71.1									
Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made...	620213	15.1									
Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres...	620113	11.0									
Carboys, bottles, flasks, jars, pots, phials and other containers, of glass, of a kind used for the...	701090	10.4									
Fruit and other edible parts of plants (excluding nuts, groundnuts and other seeds, pineapples,...	2008XX	4.3									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Belize

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Key indicators

Population (millions)	0.4
GDP ($ billions)	1.8
GDP per capita ($)	4698.6
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-8.0
Tariff preference margin (percentage points)	4.4
Imports and exports (goods and services), share of GDP (%)	116.3
Services exports, share of total exports (%)	61.2
Geographic region	Americas
Country group	SIDS
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	43.2	25.8	40.6
	Medium	52.5	**75.9**	57.4
	Large	66.3	74.0	**81.3**
	All	46.5	35.3	46.5
BUSINESS ECOSYSTEM		73.3	**17.6**	**24.7**
NATIONAL ENVIRONMENT		39.8	33.3	36.4
Reference level (a function of GDP per capita): 49.5				
Weaknesses are scores below: 24.8			**Strengths are scores above: 74.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

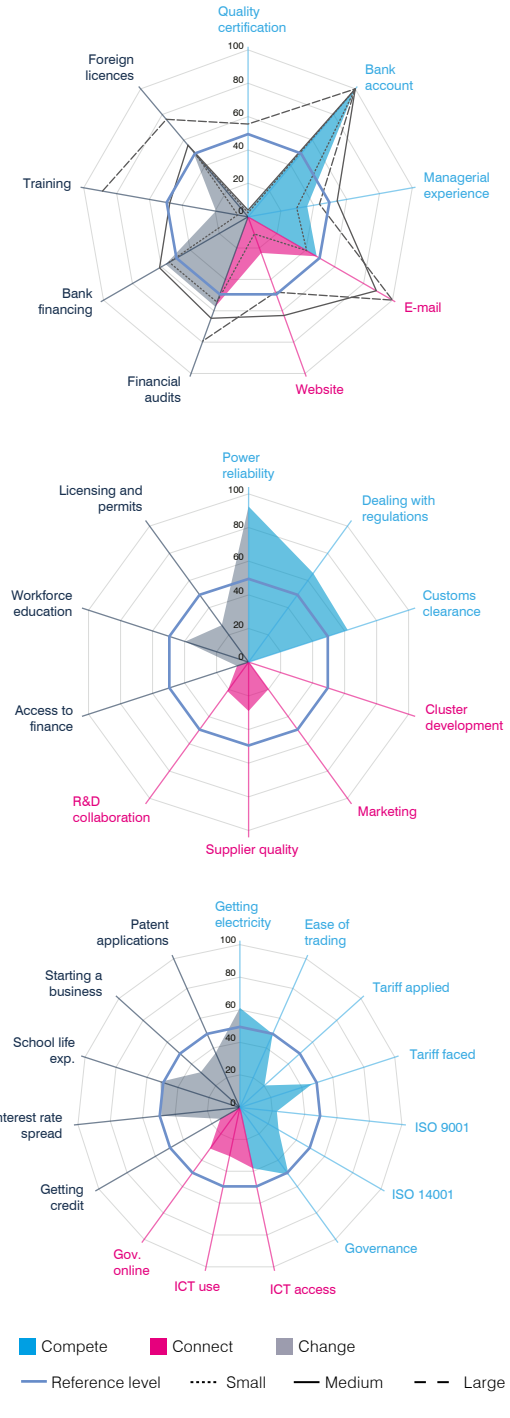
Compete	Small	Medium	Large	All
International quality certificate	**0.0**	**3.4**	55.5	**3.4**
Bank account	**100.0**	**100.0**	**100.0**	**100.0**
Capacity utilization	-	-	-	-
Managerial experience	29.7	54.2	43.4	36.0
Connect				
E–mail	40.6	**88.8**	**100.0**	47.5
Firm website	**11.0**	63.0	48.1	**23.2**
Change				
Audited financial statement	54.4	64.8	**79.3**	57.4
Investment financed by banks	54.6	61.2	-	57.0
Formal training programme	**6.3**	47.6	**88.6**	**19.6**
Foreign technology licences	47.3	55.9	**76.2**	51.9

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	**92.6**	**92.6**	**92.6**	**92.6**
Domestic shipping reliability	-	-	-	-
Dealing with regulations	66.0	62.4	64.9	65.4
Customs clearance efficiency	-	-	-	62.0
Connect				
State of cluster development				**0.0**
Extent of marketing				**20.0**
Local supplier quality				29.0
University–industry collaboration in R&D				**21.3**
Change				
Access to finance	**6.8**	**7.6**	**18.2**	**7.2**
Access to educated workforce	46.3	25.1	27.8	39.7
Business licensing and permits	26.4	28.4	37.0	27.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	61.2
Ease of trading across borders	49.4
Applied tariff, trade-weighted average	**20.3**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	46.5
Logistics performance index	-
ISO 9001 quality certificates	**22.8**
ISO 14001 environmental certificates	27.4
Governance index	50.9
Connect	
ICT access	38.1
ICT use	30.5
Government's online service	31.2
Change	
Ease of getting credit	**13.9**
Interest rate spread	48.5
School life expectancy	50.5
Ease of starting a business	32.4
Patent applications	36.7
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Belize

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Strategic snapshot

Belize is an upper-middle income country with a population of 0.4 million and GDP of $1.8 billion. Goods and services account for 38.8% and 61.2% of exports, respectively. Nonetheless, this snapshot focuses on trade in goods, as data are lacking for trade in services, which account for a substantial share of the economy.

Cane or beet sugar, fruit and vegetable juices and crustaceans are top exports. The country could export an additional $82 million in *bananas* to Americas and Europe. This product scores well on the price stability indicator compared with other goods in Belize. There are also opportunities to increase exports of *frozen fish* and *frozen orange juice*.

Belize has export diversification opportunities in chemicals, dairy products and miscellaneous manufactures, through products such as *vegetable waxes* and *milk and cream, concentrated and sweetened*. Compared with the country's other sectors, SMEs are strongly represented in the production of other goods identified for diversification, such as *articles of jewellery;* and *tricycles, scooters, pedal cars and similar wheeled toys*.

Small firms in Belize could improve their capacity to compete by obtaining international quality certificates; their capacity to connect by using the internet better, for example by creating websites; and their capacity to change by offering formal training to employees. Large firms are doing well in all these indicators, suggesting that it is feasible for small firms to catch up. At the business ecosystem level, Belize scores low on the state of cluster development, extent of marketing, and university-industry collaboration in R&D. There is also scope for improvement in firms' access to finance, especially as firms of all sizes already have bank accounts. Reliable access to electricity is a strong feature of the business ecosystem for firms of all sizes.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Bananas, incl. plantains, fresh or dried	0803	69.4									
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	71.4									
Other frozen fish	0303Xa	12.4									
Fresh pawpaws "papayas"	080720	10.2									
Frozen orange juice, unfermented, whether or not containing added sugar or other sweetening...	200911	26.8									
Acorns, horse-chestnuts, marc and other vegetable materials and vegetable waste, vegetable...	230800	3.1									
Shrimps and prawns, frozen	0306Xb	20.6									
Cane molasses resulting from the extraction or refining of sugar	170310	3.4									
Orange juice, unfermented, whether or not containing added sugar or other sweetening...	2009Xa	12.8									
Dried, shelled kidney beans "Phaseolus vulgaris", whether or not skinned or split	071333	5.2									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Benin

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Key indicators

Population (millions)	11.4
GDP ($ billions)	9.4
GDP per capita ($)	825.8
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-8.7
Tariff preference margin (percentage points)	8.9
Imports and exports (goods and services), share of GDP (%)	50.4
Services exports, share of total exports (%)	36.0
Geographic region	Africa
Country group	LDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	28.8	11.8	17.3
	Medium	58.2	42.6	35.0
	Large	71.2	79.7	44.6
	All	46.4	31.4	29.1
BUSINESS ECOSYSTEM		41.3	41.9	46.4
NATIONAL ENVIRONMENT		41.2	9.9	57.9
Reference level (a function of GDP per capita): 35.3				
Weaknesses are scores below: 17.6			Strengths are scores above: 52.9	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

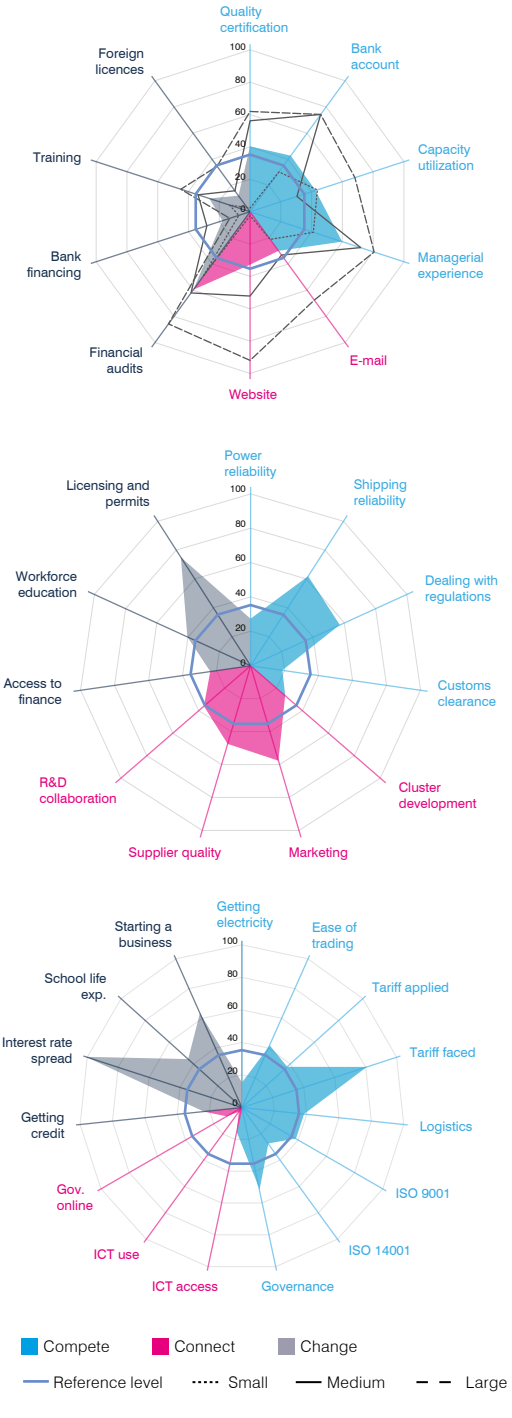
Compete	Small	Medium	Large	All
International quality certificate	0.0	56.2	61.9	40.4
Bank account	30.4	74.3	74.3	42.8
Capacity utilization	43.7	30.4	68.1	42.5
Managerial experience	41.2	71.9	80.7	59.9
Connect				
E-mail	21.1	33.1	67.5	29.9
Firm website	2.5	52.1	91.9	32.8
Change				
Audited financial statement	48.6	62.1	85.8	59.6
Investment financed by banks	7.3	28.1	13.2	18.0
Formal training programme	13.3	33.8	44.9	26.5
Foreign technology licences	0.0	16.0	34.7	12.2

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	33.3	22.6	24.8	27.3
Domestic shipping reliability	100.0	66.6	29.9	61.9
Dealing with regulations	54.8	62.4	53.7	57.1
Customs clearance efficiency	-	-	33.4	18.7
Connect				
State of cluster development				26.7
Extent of marketing				57.7
Local supplier quality				47.5
University-industry collaboration in R&D				36.0
Change				
Access to finance	16.0	41.3	21.9	23.7
Access to educated workforce	35.4	63.7	27.3	40.5
Business licensing and permits	95.0	78.1	51.5	75.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	15.4
Ease of trading across borders	41.8
Applied tariff, trade-weighted average	37.3
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	80.1
Logistics performance index	38.3
ISO 9001 quality certificates	38.3
ISO 14001 environmental certificates	27.4
Governance index	51.4
Connect	
ICT access	15.7
ICT use	3.3
Government's online service	10.9
Change	
Ease of getting credit	23.6
Interest rate spread	100.0
School life expectancy	44.5
Ease of starting a business	63.5
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Benin

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Strategic snapshot

Benin is a low income country with a population of 11.4 million and GDP of $9.4 billion. Goods and services account for 64% and 36% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking for trade in services, which account for a growing share of the economy.

Cotton, coconuts, Brazil and cashew nuts, and gold are top exports. The country could export an additional $244 million in *fresh or dried cashew nuts* to Asia. There are also opportunities to increase exports of *cotton* to Asia and of *fresh or dried pineapples* to Europe.

Benin has export diversification opportunities in textiles, vegetal residues and animal feed, and vegetable oils and fats, through *sacks and bags, for the packing of goods* and *oilcake and other solid residues resulting from the extraction of palm nuts or kernels*. Another product identified for diversification is *coconut oil and its fractions*. Compared with other goods in the country, SMEs and women are strongly represented in its production and it scores well on the price stability indicator.

Given the country's level of development, firms in Benin perform better than expected in their capacity to compete, due to experienced managers and good capacity utilization. The aggregate score for firms' capacity to compete remains high despite the low access of small firms to international quality certifications. Few small firms report using the internet, which is reflected in limited ICT access at the national level, affecting the capacity to connect. Few small firms have investment financed by banks, possess foreign technology licences or provide formal training to employees, which can have a negative impact on the capacity to change. At the business ecosystem level, there is scope for improvement in efficiency of customs clearance and in access to finance, especially for small firms. Firms rate highly domestic shipping reliability, regulatory efficiency, and business licences and permits.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Fresh or dried cashew nuts, in shell	080131	171.8									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	102.1									
Cotton, neither carded nor combed	520100	195.0									
Oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, soya beans,...	1207Xa	25.1									
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of...	4407Xb	23.3									
Fresh or dried pineapples	080430	5.2									
Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or...	440710	0.8									
Cotton seeds	1207Xb	2.2									
Fresh or dried cashew nuts, shelled	080132	4.9									
Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the...	230610	3.9									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Bolivia

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Key indicators

Population (millions)	11.1
GDP ($ billions)	37.8
GDP per capita ($)	3412.2
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-4.7
Tariff preference margin (percentage points)	3.0
Imports and exports (goods and services), share of GDP (%)	67.8
Services exports, share of total exports (%)	12.5
Geographic region	Americas
Country group	LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.2	32.0	57.0
	Medium	56.5	57.4	**80.6**
	Large	58.8	**75.1**	**88.3**
	All	39.1	37.9	64.6
BUSINESS ECOSYSTEM		37.7	29.4	44.9
NATIONAL ENVIRONMENT		50.8	47.0	32.7
Reference level (a function of GDP per capita): 46.9				
Weaknesses are scores below: 23.4			**Strengths are scores above: 70.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

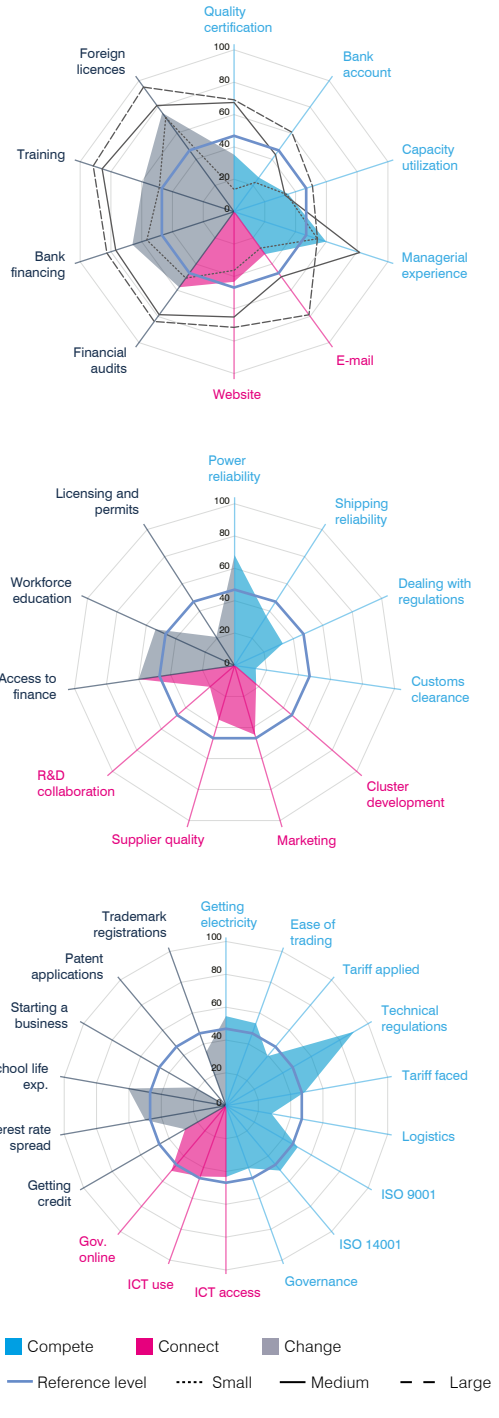
Compete	Small	Medium	Large	All
International quality certificate	**13.8**	67.5	69.2	35.2
Bank account	**22.3**	43.6	60.7	26.1
Capacity utilization	34.3	33.1	51.0	35.3
Managerial experience	54.2	**81.7**	54.2	59.9
Connect				
E–mail	27.8	49.7	**78.8**	32.5
Firm website	36.2	65.1	**71.5**	43.3
Change				
Audited financial statement	50.8	**78.7**	**83.9**	57.7
Investment financed by banks	56.7	**76.9**	**82.6**	66.0
Formal training programme	48.5	**85.7**	**91.5**	59.1
Foreign technology licences	**71.9**	**81.1**	**95.2**	**75.5**

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	66.7	**72.1**	70.1	68.3
Domestic shipping reliability	34.2	58.2	52.4	36.3
Dealing with regulations	34.1	33.2	**18.6**	32.8
Customs clearance efficiency	-	-	**10.8**	**13.3**
Connect				
State of cluster development				**17.7**
Extent of marketing				44.7
Local supplier quality				35.0
University-industry collaboration in R&D				**20.2**
Change				
Access to finance	59.0	58.6	**84.6**	59.9
Access to educated workforce	58.3	46.5	29.9	53.7
Business licensing and permits	**19.7**	28.0	**16.4**	**21.0**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	54.5
Ease of trading across borders	53.4
Applied tariff, trade-weighted average	39.4
Prevalence of technical regulations	**90.1**
Faced tariff, trade-weighted average	48.9
Logistics performance index	28.2
ISO 9001 quality certificates	50.5
ISO 14001 environmental certificates	51.6
Governance index	40.5
Connect	
ICT access	43.4
ICT use	45.8
Government's online service	51.7
Change	
Ease of getting credit	28.6
Interest rate spread	50.0
School life expectancy	60.4
Ease of starting a business	**22.3**
Patent applications	**0.0**
Trademark registrations	34.9



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2017) for firm level data; for other sources and methodology, see the Technical Annex.

Bolivia

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Strategic snapshot

Bolivia is a lower-middle income country with a population of 11.1 million and GDP of $37.8 billion. Goods and services account for 87.5% and 12.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking for trade in services, which account for a growing share of the economy.

Petroleum gases, zinc ores and concentrates, and gold are top exports. The country could export an additional $328 million in *oilcake and other solid residues resulting from the extraction of soya-bean oil* to its home region, Asia and Europe. This product scores well on the price stability indicator compared with the country's other products. It also scores well on the technology indicator, scoring export success in more technologically advanced countries. There are also opportunities to increase exports of *undenatured ethyl alcohol* and *unwrought tin* to Bolivia's home region and Europe.

Bolivia has export diversification opportunities in chemicals, beauty products and perfumes, and vegetables, through *quebracho extract* and *oils of sweet and bitter orange*. Another group of products identified for diversification – *dried vegetables and mixtures of vegetables* – is characterized by a strong presence of women in its production and scores well on the price stability indicator, compared with the country's other products and sectors.

Regarding capacity to change, the gap in between medium-sized and large firms is narrower than expected, suggesting it may be feasible for small firms to get to the same level as their larger counterparts. Few small firms attain international quality certifications and possess a bank account, impairing their capacity to compete. At the business ecosystem level, there is scope for improvement in promoting cluster development, university-industry collaboration in R&D, customs clearance efficiency, and business licences and permits. Access to finance is easier than expected given the country's level of development, but this score is driven by large firms.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 200	0 200	0 200	0 200	0 200				
Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the...	230400	617.6									
Fresh or dried brazil nuts, shelled	080122	163.6									
Crude soya-bean oil, whether or not degummed	150710	273.9									
Soya beans, whether or not broken	1201	120.4									
Undenatured ethyl alcohol, of actual alcoholic strength of >= 80%	220710	65.8									
Bananas, incl. plantains, fresh or dried	0803	34.6									
Unwrought tin, not alloyed	800110	303.4									
Dried, shelled kidney beans "Phaseolus vulgaris", whether or not skinned or split	071333	30.0									
Milk and cream in solid forms, of a fat content by weight of > 1,5%, unsweetened	040221	22.6									
Soya bean flour and meal	120810	31.2									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Bosnia and Herzegovina

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Key indicators

Population (millions)	3.8
GDP ($ billions)	17.5
GDP per capita ($)	4540.5
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.3
Tariff preference margin (percentage points)	12.4
Imports and exports (goods and services), share of GDP (%)	100.3
Services exports, share of total exports (%)	24.5
Geographic region	Europe
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	52.2	62.2	56.8
	Medium	53.9	69.2	68.7
	Large	73.7	**90.0**	58.0
	All	54.4	66.4	61.7
BUSINESS ECOSYSTEM		61.9	42.2	62.4
NATIONAL ENVIRONMENT		56.4	56.9	45.4
Reference level (a function of GDP per capita): 49.2				
Weaknesses are scores below: 24.6			**Strengths are scores above: 73.8**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

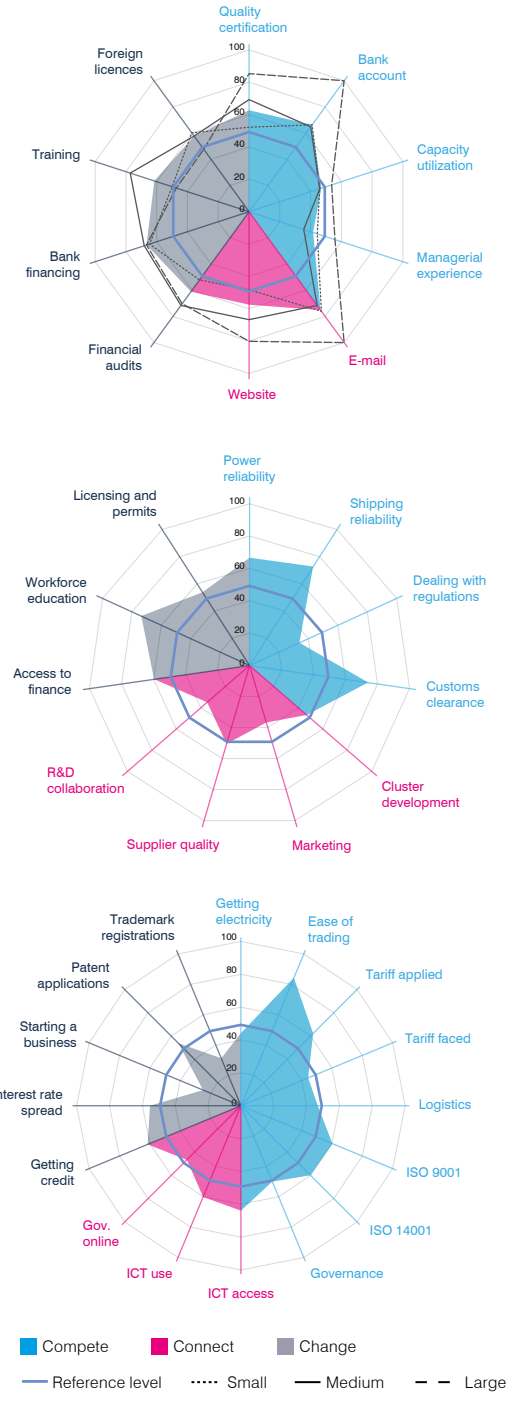
Compete	Small	Medium	Large	All
International quality certificate	52.2	69.3	**85.3**	62.7
Bank account	66.4	64.8	**100.0**	66.4
Capacity utilization	45.9	45.9	53.7	47.0
Managerial experience	44.3	35.5	55.8	41.6
Connect				
E-mail	**76.1**	71.7	**100.0**	**75.2**
Firm website	48.3	66.7	**80.1**	57.5
Change				
Audited financial statement	52.2	71.6	70.3	61.1
Investment financed by banks	64.7	68.1	66.6	66.6
Formal training programme	50.0	**77.2**	47.3	61.5
Foreign technology licences	60.2	57.8	47.7	57.8

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	68.3	72.1	40.9	66.7
Domestic shipping reliability	66.6	**81.9**	**100.0**	72.8
Dealing with regulations	37.0	29.7	38.9	33.9
Customs clearance efficiency	**75.3**	72.6	**78.8**	**74.1**
Connect				
State of cluster development				46.8
Extent of marketing				36.8
Local supplier quality				50.6
University-industry collaboration in R&D				34.8
Change				
Access to finance	60.7	63.1	37.3	59.7
Access to educated workforce	**80.5**	69.9	53.7	73.6
Business licensing and permits	52.5	55.5	55.5	53.8

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	44.2
Ease of trading across borders	**83.0**
Applied tariff, trade-weighted average	62.2
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	44.3
Logistics performance index	46.8
ISO 9001 quality certificates	60.4
ISO 14001 environmental certificates	59.9
Governance index	50.0
Connect	
ICT access	63.9
ICT use	60.2
Government's online service	46.6
Change	
Ease of getting credit	61.5
Interest rate spread	55.3
School life expectancy	-
Ease of starting a business	24.9
Patent applications	53.8
Trademark registrations	31.3



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Bosnia and Herzegovina

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Strategic snapshot

Bosnia and Herzegovina is an upper-middle income country with a population of 3.8 million and GDP of $17.5 billion. Goods and services account for 75.5% and 24.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Seats and seat parts, wood chips thicker than 6mm, and electrical energy are top exports. The country could export an additional $210 million in *unwrought aluminium alloys* to its home region. This product scores well on the price stability indicator compared with the country's other products. There are also export opportunities in the home region for *parts of seats* and *footwear with outer soles of rubber, plastics or composition leather*.

Bosnia and Herzegovina has export diversification opportunities in apparel, motor vehicles and parts, and ceramic articles, through *women's or girls' jackets and blazers of cotton* and *safety seat belts for motor vehicles*. Compared with other sectors in the country, SMEs are strongly represented in the production of another group of products identified for diversification – *unglazed ceramic flags and paving, hearth or wall tiles*.

Firms in Bosnia and Herzegovina perform better than expected in their capacity to connect, given the country's level of development. Most small firms make good use of the internet, and obtain bank financing for their investments. At the business ecosystem level, there is room for improvement in the use of marketing tools and techniques, dealing with regulations, and R&D collaboration between businesses and universities. Efficient customs clearance procedures, reliable domestic shipping and educated workforce are strong features of the business ecosystem.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Unwrought aluminium alloys	760120	200.3									
Parts of seats, n.e.s.	940190	275.8									
Footwear with outer soles of rubber, plastics or composition leather, with uppers of leather...	6403XX	219.5									
Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-...	440710	71.1									
Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel, of circular cross-section...	721391	87.5									
Milk and cream of a fat content by weight of > 1% but <= 6%, not concentrated nor containing...	040120	29.3									
Uppers and parts thereof (excluding stiffeners and general parts made of asbestos)	640610	79.0									
Semi-finished products of iron or non-alloy steel containing, by weight, < 0,25% of carbon, of square...	720711	43.7									
Grill, netting and fencing, welded at the intersection, having a mesh size of >= 100 cm², of iron or steel...	731420	36.8									
Bars, rods and solid profiles, of aluminium alloys, n.e.s.	760429	69.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Botswana

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Key indicators

Population (millions)	2.2
GDP ($ billions)	16.7
GDP per capita ($)	7673.8
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	4.5
Tariff preference margin (percentage points)	1.3
Imports and exports (goods and services), share of GDP (%)	109.6
Services exports, share of total exports (%)	16.5
Geographic region	Africa
Country group	LLDC
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	56.0	29.1	52.6
	Medium	59.4	50.3	68.8
	Large	71.0	70.3	76.4
	All	58.7	37.5	61.8
BUSINESS ECOSYSTEM		46.9	43.9	33.1
NATIONAL ENVIRONMENT		55.2	42.6	39.9

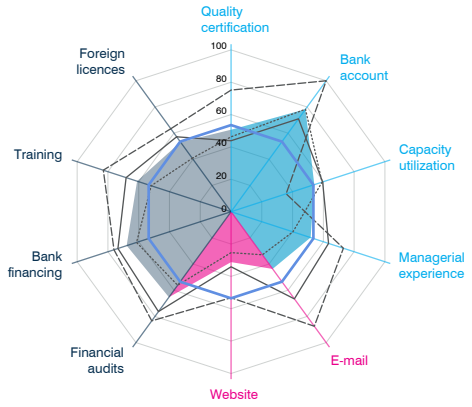
Reference level (a function of GDP per capita): 53.5

Weaknesses are scores below: 26.8 | **Strengths are scores above: 80.3**

SME Competitiveness Grid

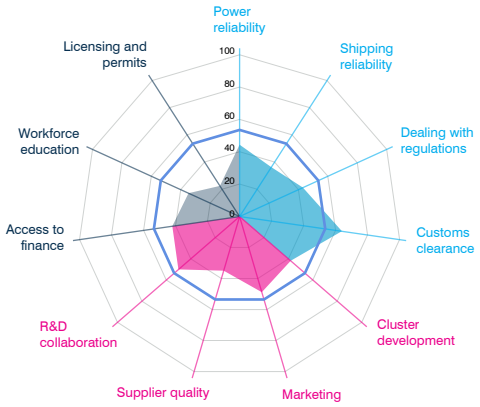
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	46.2	43.8	75.1	50.7
Bank account	78.3	70.9	**100.0**	78.3
Capacity utilization	59.1	59.5	35.8	54.1
Managerial experience	40.2	63.4	73.0	51.7
Connect				
E–mail	32.9	66.6	**87.5**	43.7
Firm website	**25.3**	34.1	53.2	31.2
Change				
Audited financial statement	56.2	76.3	**83.4**	65.4
Investment financed by banks	61.4	73.5	76.0	67.8
Formal training programme	51.9	68.2	**83.0**	61.0
Foreign technology licences	40.8	57.2	63.3	53.2



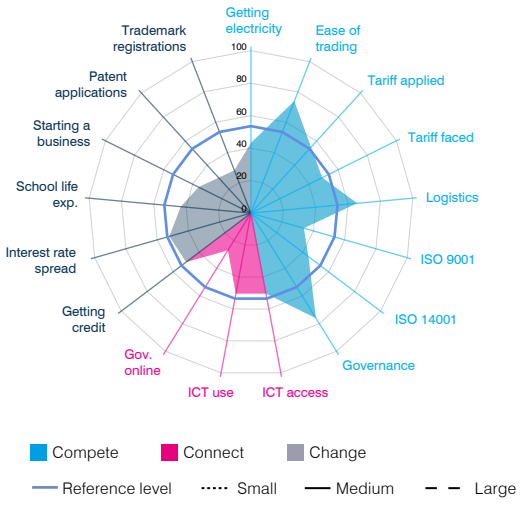
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	42.5	44.4	52.8	44.4
Domestic shipping reliability	35.2	36.3	41.2	36.3
Dealing with regulations	44.5	43.8	35.6	43.0
Customs clearance efficiency	-	**86.3**	55.0	64.0
Connect				
State of cluster development				41.9
Extent of marketing				48.8
Local supplier quality				35.0
University-industry collaboration in R&D				50.0
Change				
Access to finance	33.6	54.8	61.9	42.0
Access to educated workforce	34.7	37.7	28.6	34.7
Business licensing and permits	**21.7**	**21.6**	29.4	**22.5**



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	43.2
Ease of trading across borders	74.0
Applied tariff, trade-weighted average	55.0
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	49.1
Logistics performance index	65.7
ISO 9001 quality certificates	33.9
ISO 14001 environmental certificates	44.4
Governance index	76.1
Connect	
ICT access	50.4
ICT use	50.4
Government's online service	26.9
Change	
Ease of getting credit	50.0
Interest rate spread	52.2
School life expectancy	43.4
Ease of starting a business	36.0
Patent applications	29.5
Trademark registrations	28.3



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Botswana

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Strategic snapshot

Botswana is an upper-middle income country with a population of 2.2 million and GDP of $16.7 billion. Goods and services account for 83.5% and 16.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Diamonds, nickel mattes and nickel oxide sinters, and insulated electric wire and conductors are top exports. The country could export an additional $158 million in *nickel mattes* to its home region and Europe. This product scores well on the price stability indicator compared with the country's other products. There are also export opportunities to Asia and Europe for *diamonds* and *frozen, boneless meat of bovine animals*.

Botswana has export diversification opportunities in alcoholic beverages and food and meat products, through *gin and geneva* and *food preparations for infant use*. Another product identified for diversification is *fresh or chilled edible offal of bovine animals*. Compared with other sectors in Botswana, women are strongly represented in the production of this good and it scores well on the price stability indicator.

Small firms in Botswana perform better than expected in their capacity to compete and capacity to change, given the country's level of development, while their capacity to connect could be strengthened by a better use of the internet. At the business ecosystem level, firms of all sizes see room for improvement in dealing with business licensing and permits. Lack of power reliability can also be a hurdle. Customs clearance efficiency is a strong aspect of the business ecosystem for a country at Botswana's development level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Nickel mattes	750110	273.9									
Diamonds, worked, but not mounted or set (excluding industrial diamonds)	710239	385.4									
Industrial diamonds unworked or simply sawn, cleaved or bruted	710221	56.2									
Frozen, boneless meat of bovine animals	020230	39.0									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	63.7									
Rigid tubes, pipes and hoses, of plastics (excluding those of polymers of ethylene, propylene and vinyl...	391729	10.9									
Chewing gum, whether or not sugar-coated	170410	8.4									
Fresh or chilled bovine meat, boneless	020130	39.5									
Toilet linen and kitchen linen, of terry towelling or similar terry fabrics of cotton (excluding floorcloths...	630260	10.8									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather",...	41XXXa	5.0									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Bulgaria

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Key indicators

Population (millions)	7.1
GDP ($ billions)	56.0
GDP per capita ($)	7924.0
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	2.5
Tariff preference margin (percentage points)	2.3
Imports and exports (goods and services), share of GDP (%)	134.1
Services exports, share of total exports (%)	23.3
Geographic region	Europe
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	51.9	42.2	33.4
	Medium	69.0	**81.9**	57.2
	Large	**82.0**	**94.6**	61.0
	All	59.1	50.9	44.9
BUSINESS ECOSYSTEM		65.4	53.0	51.6
NATIONAL ENVIRONMENT		66.5	72.4	66.2
Reference level (a function of GDP per capita): 53.8				
Weaknesses are scores below: 26.9		**Strengths are scores above: 80.7**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

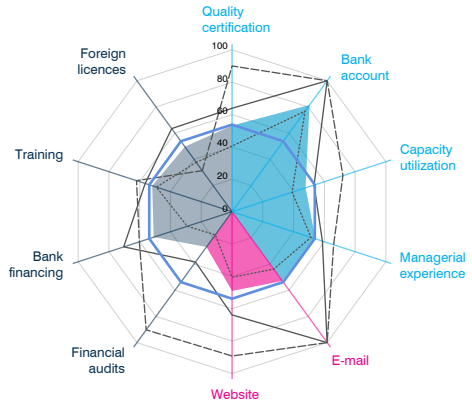
Compete	Small	Medium	Large	All
International quality certificate	40.5	63.9	**90.0**	53.2
Bank account	76.8	**100.0**	**100.0**	**81.5**
Capacity utilization	39.0	53.3	72.1	47.8
Managerial experience	51.3	58.7	66.0	54.2
Connect				
E–mail	43.9	**100.0**	**100.0**	52.9
Firm website	40.5	63.8	**89.2**	49.0
Change				
Audited financial statement	**17.7**	38.5	**90.3**	27.0
Investment financed by banks	29.1	70.4	60.2	50.9
Formal training programme	49.2	56.4	62.1	51.9
Foreign technology licences	37.7	63.5	31.3	49.7

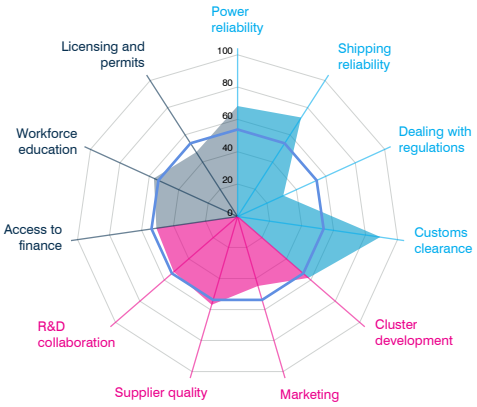
BUSINESS ECOSYSTEM (Normalized scores)

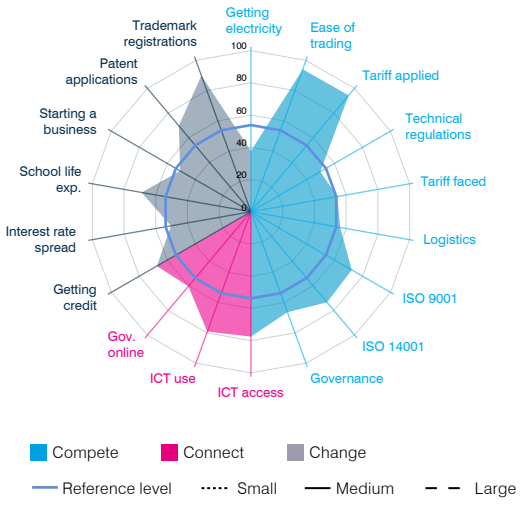
Compete	Small	Medium	Large	All
Power reliability	74.3	58.0	59.0	68.3
Domestic shipping reliability	72.8	72.8	**100.0**	72.8
Dealing with regulations	30.0	34.1	34.5	31.1
Customs clearance efficiency	-	**88.6**	**88.0**	**89.3**
Connect				
State of cluster development				58.1
Extent of marketing				44.8
Local supplier quality				57.0
University-industry collaboration in R&D				52.3
Change				
Access to finance	45.6	71.9	44.3	50.8
Access to educated workforce	56.7	52.3	**82.1**	56.9
Business licensing and permits	45.8	46.0	**85.3**	47.3

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	37.8
Ease of trading across borders	**94.1**
Applied tariff, trade-weighted average	**94.3**
Prevalence of technical regulations	49.8
Faced tariff, trade-weighted average	54.4
Logistics performance index	56.3
ISO 9001 quality certificates	72.3
ISO 14001 environmental certificates	73.5
Governance index	66.4
Connect	
ICT access	77.5
ICT use	79.2
Government's online service	60.4
Change	
Ease of getting credit	67.5
Interest rate spread	50.4
School life expectancy	68.9
Ease of starting a business	50.7
Patent applications	69.6
Trademark registrations	**90.0**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Bulgaria

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Strategic snapshot

Bulgaria is an upper-middle income country with a population of 7.1 million and GDP of $56 billion. Goods and services account for 76.7% and 23.3% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils, refined copper, and wheat and meslin are top exports. The country could export to its home region an additional $980 million in *pharmaceutical products*. There are also export opportunities to its home region and Asia for *refined copper* and *sunflower seeds*, both of which score well on the price stability indicator.

Bulgaria has export diversification opportunities in machinery and electronic equipment, miscellaneous manufactured products and textile fabrics, through *electro-thermic coffee or tea makers* and *electric table, desk, bedside or floor-standing lamps*. Compared with other economic sectors, women are strongly represented in the production of another group of goods identified for diversification – *articles of yarn*.

Firms in Bulgaria perform better than expected in their capacity to compete given the country's level of development. Nevertheless, small firms find it difficult to have their financial statements audited, and few small firms have their investments financed by banks. Medium-sized and large firms also perform well in their capacity to connect, suggesting it may be feasible for small firms to close the connectivity gap with larger firms. Efficient customs procedures, power reliability and domestic shipping reliability are strong features of the business ecosystem, while dealing with regulations has scope for improvement.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	920.8									
Copper, refined, in the form of cathodes and sections of cathodes	740311	1488.4									
Sunflower seeds, whether or not broken	120600	506.8									
Wheat and meslin (excluding durum wheat)	1001Xb	718.3									
Copper, unrefined; copper anodes for electrolytic refining	740200	790.7									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	332.3									
Maize (excluding seed for sowing)	100590	321.1									
Rape or colza seeds, whether or not broken	1205	182.2									
Crude sunflower-seed or safflower oil	151211	144.0									
Parts suitable for use solely or principally with the apparatus of heading 8535, 8536 or 8537, n.e.s...	853890	203.7									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Burundi

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Key indicators

Population (millions)	9.9
GDP ($ billions)	3.4
GDP per capita ($)	343.4
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-12.4
Tariff preference margin (percentage points)	6.7
Imports and exports (goods and services), share of GDP (%)	32.1
Services exports, share of total exports (%)	33.5
Geographic region	Africa
Country group	LDC, LLDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	39.5	17.9	24.4
	Medium	**44.4**	26.1	**51.3**
	Large	**60.3**	**70.4**	**63.4**
	All	**43.0**	24.3	**46.0**
BUSINESS ECOSYSTEM		**43.1**	32.4	**53.8**
NATIONAL ENVIRONMENT		25.3	**6.5**	38.4
Reference level (a function of GDP per capita): 28.1				
Weaknesses are scores below: 14.1		**Strengths are scores above: 42.2**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

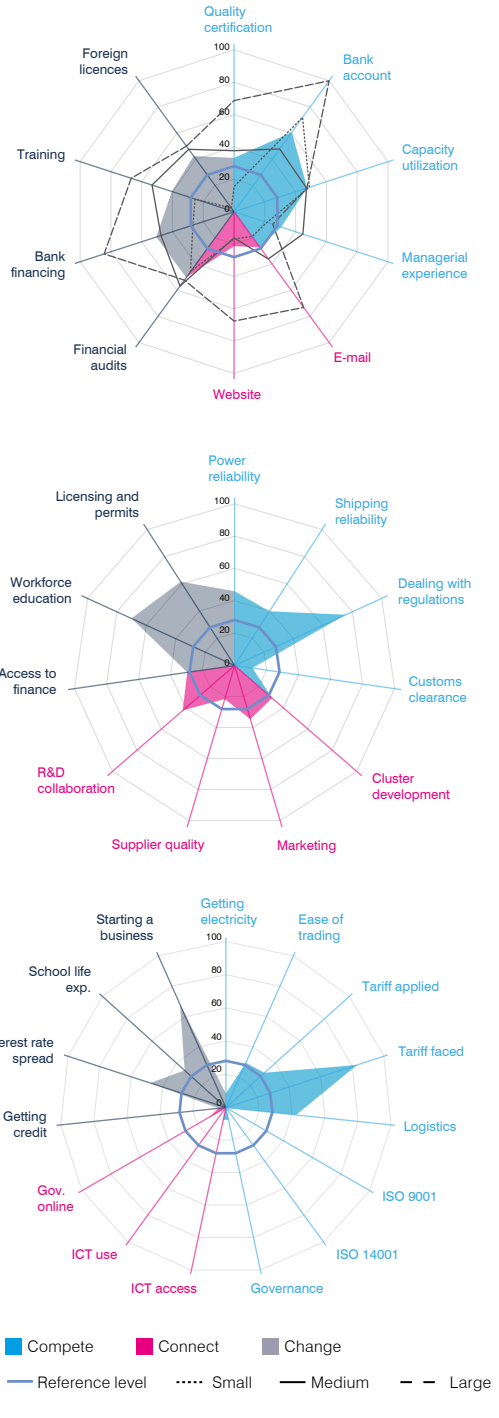
Compete	Small	Medium	Large	All
International quality certificate	15.5	37.7	**68.7**	33.2
Bank account	**72.0**	**47.9**	**100.0**	**60.7**
Capacity utilization	**49.0**	**47.2**	**47.4**	**47.6**
Managerial experience	21.4	**44.8**	25.1	30.7
Connect				
E–mail	19.0	36.1	**73.2**	27.2
Firm website	16.8	16.2	**67.6**	21.3
Change				
Audited financial statement	**45.7**	**56.8**	**52.3**	**50.3**
Investment financed by banks	26.7	**47.5**	**84.4**	**50.5**
Formal training programme	25.3	**53.3**	**66.8**	40.5
Foreign technology licences	**0.0**	**47.7**	**50.0**	**42.5**

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	**50.0**	**43.9**	34.7	**45.9**
Domestic shipping reliability	**100.0**	33.3	-	39.9
Dealing with regulations	**80.4**	**75.5**	**56.3**	**75.5**
Customs clearance efficiency	-	**6.8**	-	**11.2**
Connect				
State of cluster development				30.8
Extent of marketing				34.7
Local supplier quality				21.6
University–industry collaboration in R&D				**42.5**
Change				
Access to finance	33.6	21.4	**43.6**	29.6
Access to educated workforce	**68.5**	**67.8**	**93.1**	**70.1**
Business licensing and permits	**60.9**	**57.0**	**100.0**	**61.6**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**8.5**
Ease of trading across borders	29.5
Applied tariff, trade-weighted average	31.3
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**83.1**
Logistics performance index	**42.5**
ISO 9001 quality certificates	**0.0**
ISO 14001 environmental certificates	**0.0**
Governance index	**7.6**
Connect	
ICT access	**7.7**
ICT use	**0.0**
Government's online service	**11.7**
Change	
Ease of getting credit	**4.5**
Interest rate spread	**47.9**
School life expectancy	33.5
Ease of starting a business	**67.9**
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2014) for firm level data; for other sources and methodology, see the Technical Annex.

Burundi

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Strategic snapshot

Burundi is a low income country with a population of 9.9 million and GDP of $3.4 billion. Goods and services account for 66.5% and 33.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Coffee, gold and tea are top exports. The country could export an additional $7.4 million in coffee to Europe and Asia. This product scores well on the price stability indicator compared with other products in the country. There are also export opportunities for *black fermented tea* and *hides, skins and leather of animals*.

Burundi has export diversification opportunities in vegetable oils and fats, wood products, vegetal residues and animal feed, through *palm oil and its fractions* and *basketwork, wickerwork and other articles made directly from vegetable plaiting materials*. Another product identified for diversification is *oilcake and other solid residues resulting from the extraction of palm nuts or kernels*. Compared with other products and sectors in Burundi, SMEs and women are strongly represented in the production of this good, which scores well on the price stability indicator.

When compared with firms in countries with a similar development level, those in Burundi perform well in their capacity to compete and capacity to change. Small firms could improve their capacity to change by acquiring foreign technology licences. Compared with countries at a similar level of development, the business ecosystem features straightforward licensing and permit requirements, and adequate access to educated workers, while there is room for improvement in customs clearance efficiency.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Coffee (excluding roasted and decaffeinated)	090111	42.7									
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090240	14.1									
Hides, skins and leather of animals other than bovine "incl. buffalo" and equine animals, sheep,...	41XXXd	2.4									
Essential oils, whether or not terpeneless, incl. concretes and absolutes (excluding those of citrus...	330129	0.3									
Decaffeinated coffee (excluding roasted)	090112	0.9									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather"...	41XXXa	1.0									
Ornamental fish	0301Xa	0.2									
Bran, sharps and other residues of wheat, whether or not in the form of pellets, derived from sifting, milling...	230230	0.3									
Fresh tamarinds, cashew apples, jackfruit, lychees, sapodillo plums, passion fruit, carambola,...	0810XX	0.2									
Bananas, incl. plantains, fresh or dried	0803	0.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Cabo Verde

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Key indicators

Population (millions)	0.5
GDP ($ billions)	1.7
GDP per capita ($)	3212.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-6.1
Tariff preference margin (percentage points)	0.7
Imports and exports (goods and services), share of GDP (%)	103.6
Services exports, share of total exports (%)	70.7
Geographic region	Africa
Country group	SIDS
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	43.5	**17.1**	35.0
	Medium	68.2	26.6	66.8
	Large	67.9	**70.5**	65.4
	All	50.3	**19.9**	44.6
BUSINESS ECOSYSTEM		51.3	40.9	31.9
NATIONAL ENVIRONMENT		44.3	55.1	46.8
Reference level (a function of GDP per capita): 46.4				
Weaknesses are scores below: 23.2			**Strengths are scores above: 69.6**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

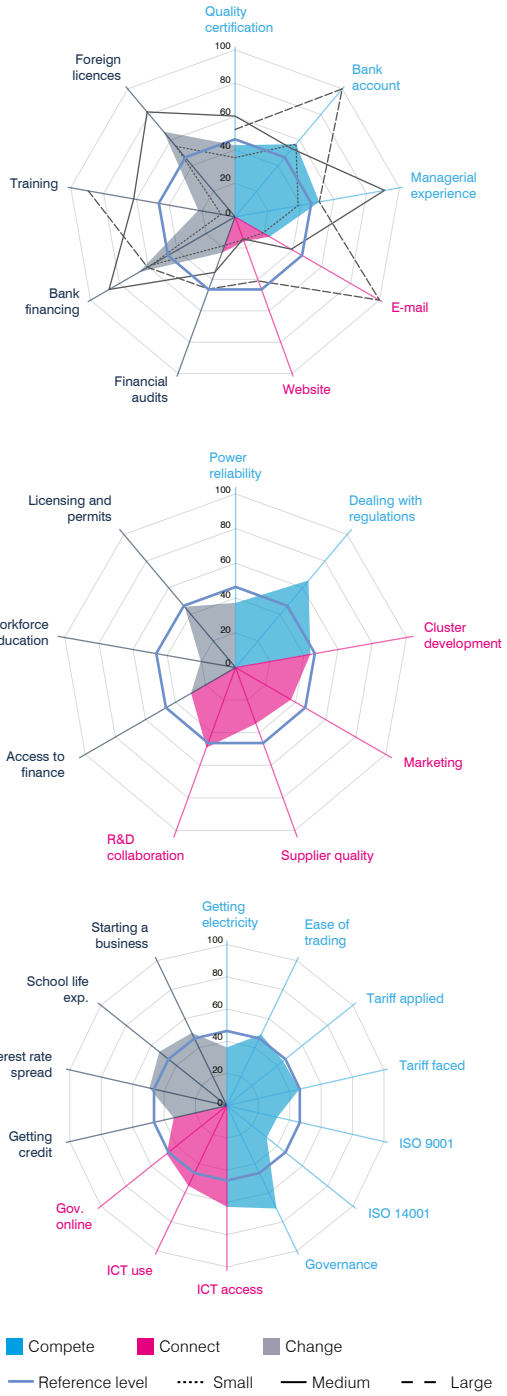
Compete	Small	Medium	Large	All
International quality certificate	35.4	60.4	52.3	42.9
Bank account	56.8	53.1	**100.0**	56.8
Capacity utilization	-	-	-	-
Managerial experience	38.4	**91.0**	51.3	51.3
Connect				
E–mail	**19.4**	39.0	**100.0**	24.0
Firm website	**14.7**	**14.2**	41.0	**15.8**
Change				
Audited financial statement	**18.3**	35.5	46.2	**23.0**
Investment financed by banks	58.1	**87.2**	60.6	66.6
Formal training programme	**8.5**	62.5	**89.4**	**22.3**
Foreign technology licences	55.0	**82.0**	-	66.6

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	32.8	53.6	47.0	37.2
Domestic shipping reliability	-	-	-	-
Dealing with regulations	**71.3**	52.3	50.0	65.4
Customs clearance efficiency	-	-	-	-
Connect				
State of cluster development				43.8
Extent of marketing				37.0
Local supplier quality				34.5
University–industry collaboration in R&D				48.4
Change				
Access to finance	33.2	**22.1**	**13.1**	29.6
Access to educated workforce	**19.6**	23.3	**19.9**	**20.4**
Business licensing and permits	47.1	41.2	40.7	45.6

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	36.2
Ease of trading across borders	48.6
Applied tariff, trade-weighted average	44.6
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	46.2
Logistics performance index	-
ISO 9001 quality certificates	32.1
ISO 14001 environmental certificates	31.6
Governance index	**70.8**
Connect	
ICT access	62.8
ICT use	55.2
Government's online service	47.4
Change	
Ease of getting credit	33.8
Interest rate spread	49.3
School life expectancy	53.7
Ease of starting a business	50.2
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2009) for firm level data; for other sources and methodology, see the Technical Annex.

Cabo Verde

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Strategic snapshot

Cabo Verde is a lower-middle income country with a population of 0.5 million and GDP of $1.7 billion. Goods and services account for 29.3% and 70.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Prepared or preserved fish, frozen fish, men's or boys' suits and parts of footwear are top exports. The country could export an additional $32 million in *frozen yellowfin tunas* to Europe. SMEs are strongly represented in the production of this product, compared with the country's other goods. There are also export opportunities to Europe for *uppers and parts of footwear* and *rum and other spirits*.

Cabo Verde has export diversification opportunities in apparel, miscellaneous manufactured products, and fish and shellfish, through *knitted or crocheted women's or girls' jackets and blazers of cotton* and *articles of bedding and similar furnishing*. Compared with other sectors in Cabo Verde, SMEs are strongly represented in the production of another group of products identified for diversification – *fish fillets, dried, salted or in brine*.

Firms in Cabo Verde perform better than expected in their capacity to compete, given the country's level of development. There is room for improvement in firms' capacity to change, with few firms having audited financial statements or offering formal training to employees. SMEs have also room for improvement in their capacity to connect, notably in using the internet. At the business ecosystem level, firm competitiveness could be boosted through improved access to an educated workforce and to finance, as well as through the promotion of marketing tools and techniques and the enhancement of local supplier quality.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Frozen yellowfin tunas "Thunnus albacares"	030342	11.8									
Frozen skipjack or stripe-bellied bonito "Euthynnus -Katsuwonus- pelamis"	030343	13.4									
Prepared or preserved tunas, skipjack and Atlantic bonito, whole or in pieces (excluding minced)	160414	6.2									
Prepared or preserved mackerel, whole or in pieces (excluding minced)	160415	11.7									
Prepared or preserved fish, whole or in pieces but not minced (excluding salmon, herrings, sardines,...	1604Xa	9.7									
Uppers and parts thereof (excluding stiffeners and general parts made of asbestos)	640610	4.6									
Frozen tunas of the genus "Thunnus" (excluding albacore or longfinned tunas "Thunnus alalunga"...	0303Xc	3.7									
Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding knitted or...	620342	2.2									
Rum and other spirits obtained by distilling fermented sugar-cane products	220840	0.5									
T-shirts, singlets and other vests of textile materials, knitted or crocheted (excluding cotton)	610990	0.8									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Cameroon

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Key indicators

Population (millions)	24.3
GDP ($ billions)	30.7
GDP per capita ($)	1262.6
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-3.6
Tariff preference margin (percentage points)	2.5
Imports and exports (goods and services), share of GDP (%)	48.5
Services exports, share of total exports (%)	27.2
Geographic region	Africa
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.5	**13.1**	25.1
	Medium	49.5	34.3	**60.3**
	Large	40.4	56.0	**66.5**
	All	33.6	**18.5**	39.5
BUSINESS ECOSYSTEM		31.8	46.0	35.1
NATIONAL ENVIRONMENT		35.9	**17.0**	47.6
Reference level (a function of GDP per capita): 38.8				
Weaknesses are scores below: 19.4			**Strengths are scores above: 58.1**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

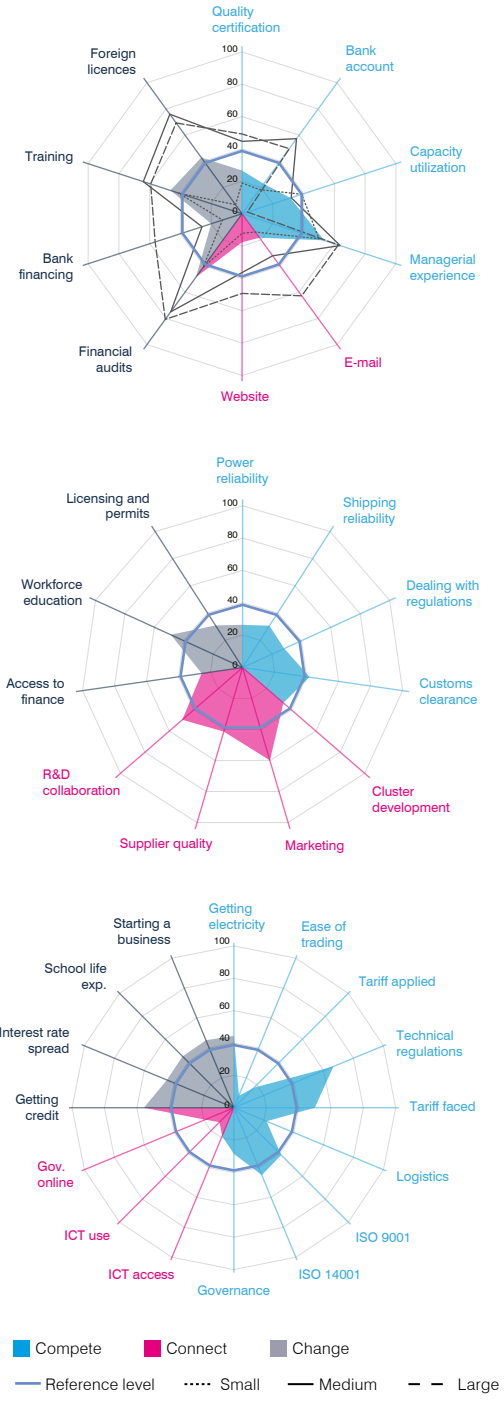
Compete	Small	Medium	Large	All
International quality certificate	**19.0**	44.7	49.2	26.7
Bank account	**18.4**	57.3	49.6	22.9
Capacity utilization	38.8	32.0	**0.0**	31.4
Managerial experience	50.0	**63.8**	**62.6**	53.4
Connect				
E-mail	**14.0**	32.2	**62.8**	**18.4**
Firm website	**12.1**	36.4	49.3	**18.7**
Change				
Audited financial statement	40.2	**75.0**	**80.7**	48.6
Investment financed by banks	**12.7**	26.0	56.5	20.0
Formal training programme	40.6	**64.2**	**59.4**	46.5
Foreign technology licences	**6.9**	**76.0**	**69.3**	42.9

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	23.7	36.9	33.9	26.4
Domestic shipping reliability	34.2	25.1	24.5	30.7
Dealing with regulations	28.3	37.0	**12.5**	28.3
Customs clearance efficiency	-	-	26.1	41.9
Connect				
State of cluster development				33.4
Extent of marketing				**60.0**
Local supplier quality				41.3
University-industry collaboration in R&D				49.4
Change				
Access to finance	22.6	41.8	20.2	25.5
Access to educated workforce	50.9	45.2	39.4	48.8
Business licensing and permits	26.8	44.4	55.5	30.9

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	44.4
Ease of trading across borders	**8.1**
Applied tariff, trade-weighted average	**17.6**
Prevalence of technical regulations	**66.6**
Faced tariff, trade-weighted average	50.0
Logistics performance index	21.8
ISO 9001 quality certificates	41.3
ISO 14001 environmental certificates	45.1
Governance index	28.6
Connect	
ICT access	**19.0**
ICT use	**12.6**
Government's online service	**19.3**
Change	
Ease of getting credit	55.7
Interest rate spread	44.8
School life expectancy	44.9
Ease of starting a business	45.2
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Cameroon

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Strategic snapshot

Cameroon is a lower-middle income country with a population of 24.3 million and GDP of $30.7 billion. Goods and services account for 72.8% and 27.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Cocoa beans, wood and cotton are top exports. The country could export an additional $588 million in *cocoa beans* to the Americas, Asia and Europe. This product scores well on the price stability indicator compared with other products in the country. There are also export opportunities to Asia and Europe for *bananas* and for *cotton* to Asia.

Cameroon has export diversification opportunities in vegetable residues and animal feed, non-alcoholic beverages and textile products, through *oilcake and other solid residues resulting from the extraction of coconut or copra,* and *pineapple juice*. Another product identified for diversification – *sacks and bags, for the packing of goods* – scores well on the price stability indicator compared with the country's other goods.

Firms in Cameroon score better than expected in their capacity to change, given the country's level of development. Medium-sized and large firms drive this performance. There is room for improvement for small firms in their capacity to compete, connect and change. Only few small firms possess a bank account, have bank financing, own foreign technology licences or make good use of the internet. The latter may be linked to ICT limitations at the national level. At the business ecosystem level, firms report access to an educated workforce that is better than expected for a country at Cameroon's level of development, sufficient use of marketing tools and techniques, and local supplier quality that is better than expected given the country's development level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Cocoa beans, whole or broken, raw or roasted	180100	543.6									
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of...	4407Xb	354.1									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	228.5									
Bananas, incl. plantains, fresh or dried	0803	195.4									
Cotton, neither carded nor combed	520100	167.4									
Cocoa paste, wholly or partly defatted	180320	30.0									
Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded...	340119	44.5									
Aluminium, not alloyed, unwrought	760110	102.2									
Cocoa butter, fat and oil	180400	36.3									
Coffee (excluding roasted and decaffeinated)	090111	62.8									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Chad

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Key indicators

Population (millions)	12.2
GDP ($ billions)	9.7
GDP per capita ($)	799.4
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-2.0
Tariff preference margin (percentage points)	0.1
Imports and exports (goods and services), share of GDP (%)	59.1
Services exports, share of total exports (%)	13.2
Geographic region	Africa
Country group	LDC, LLDC
Income group	Low income

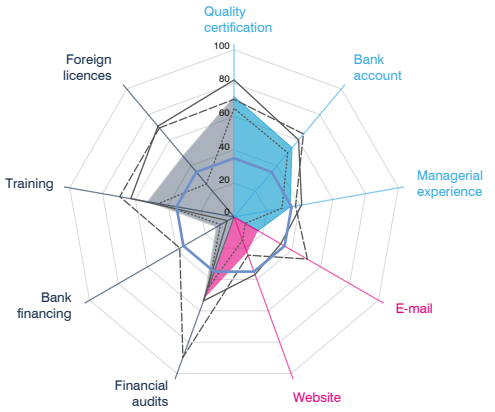
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	48.1	**11.4**	31.7
	Medium	**61.1**	34.6	48.0
	Large	**57.5**	37.7	**66.6**
	All	**53.3**	19.8	41.1
BUSINESS ECOSYSTEM		30.5	19.5	18.4
NATIONAL ENVIRONMENT		29.3	**5.4**	20.6
Reference level (a function of GDP per capita): 35.0				
Weaknesses are scores below: 17.5			**Strengths are scores above: 52.5**	

SME Competitiveness Grid

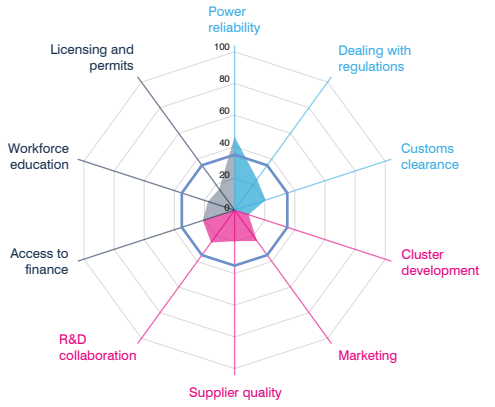
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**65.0**	**82.0**	**70.4**	**71.9**
Bank account	50.0	**60.1**	**64.8**	**54.0**
Capacity utilization	-	-	-	-
Managerial experience	29.2	41.2	37.4	34.1
Connect				
E–mail	**7.8**	32.4	50.8	**16.6**
Firm website	**14.9**	36.9	24.5	22.9
Change				
Audited financial statement	45.4	**53.8**	**89.8**	51.9
Investment financed by banks	**9.3**	**4.6**	37.5	**12.2**
Formal training programme	45.8	**62.8**	**69.6**	**52.6**
Foreign technology licences	26.3	**70.9**	**69.5**	47.7



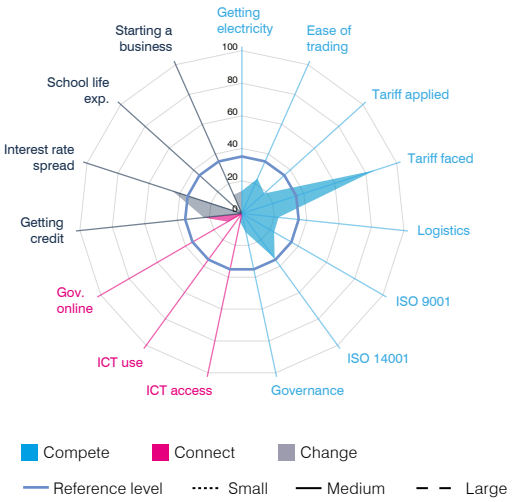
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	47.6	51.4	31.5	46.4
Domestic shipping reliability	-	-	-	-
Dealing with regulations	25.6	21.4	28.6	24.2
Customs clearance efficiency	24.9	-	-	20.9
Connect				
State of cluster development				**9.3**
Extent of marketing				24.2
Local supplier quality				19.5
University–industry collaboration in R&D				25.3
Change				
Access to finance	19.2	22.1	29.5	21.0
Access to educated workforce	17.7	18.2	**15.9**	17.7
Business licensing and permits	**13.8**	18.0	34.0	**16.5**



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**13.8**
Ease of trading across borders	24.1
Applied tariff, trade-weighted average	18.9
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**85.9**
Logistics performance index	22.7
ISO 9001 quality certificates	22.8
ISO 14001 environmental certificates	34.1
Governance index	**11.8**
Connect	
ICT access	**5.5**
ICT use	**0.7**
Government's online service	**10.0**
Change	
Ease of getting credit	23.6
Interest rate spread	44.8
School life expectancy	**0.8**
Ease of starting a business	**13.0**
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2009) for firm level data; for other sources and methodology, see the Technical Annex.

Chad

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Strategic snapshot

Chad is a low income country with a population of 12.2 million and GDP of $9.7 billion. Goods and services account for 86.8% and 13.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Crude petroleum oils, gold and cotton are top exports. The country could export an additional $23 million in *natural gum Arabic* to the Americas, Asia and Europe. There are also export opportunities for *sesamum seeds* and *cotton,* both of which score well on the price stability indicator compared with the country's other products.

Chad has export diversification opportunities in vegetable oils and fats, wood and skins and leather products, through *crude palm oil* and *wood statuettes and other ornaments*. Another group of products identified for diversification is *hides and skins of goats*.

Firms in Chad perform well in their capacity to compete, with the score largely driven by the number of firms possessing a bank account and holding internationally recognized quality certificates. Small firms could strengthen their capacity to connect, by better using the internet, and their capacity to change, through improved bank financing. At the business ecosystem level, firms report burdensome licensing and permits, inadequate cluster development, and limited access to an educated workforce.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Natural gum Arabic	130120	26.0									
Sesamum seeds, whether or not broken	120740	18.1									
Cotton, neither carded nor combed	520100	50.3									
Polypropylene, in primary forms	390210	1.0									
Lac; natural gums, resins, gum-resins, balsams and other natural oleoresins (excluding gum Arabic)	130190	0.2									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather"...	41XXXa	0.4									
Hides, skins and leather of reptiles ("incl. parchment-dressed leather", excluding chamois...	41XXXc	0.2									
Instruments and appliances for aeronautical or space navigation (excluding compasses and radio...	901420	0.3									
Parts of aeroplanes or helicopters, n.e.s. (excluding those for gliders)	880330	0.5									
Hides, skins and leather of animals other than bovine "incl. buffalo" and equine animals, sheep, lambs...	41XXXd	0.0									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Croatia

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Key indicators

Population (millions)	4.2
GDP ($ billions)	53.5
GDP per capita ($)	12863.0
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	3.8
Tariff preference margin (percentage points)	3.7
Imports and exports (goods and services), share of GDP (%)	101.4
Services exports, share of total exports (%)	49.2
Geographic region	Europe
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	58.6	62.6	42.2
	Medium	64.6	81.3	52.2
	Large	71.2	**100.0**	66.7
	All	61.2	68.6	46.2
BUSINESS ECOSYSTEM		57.5	40.7	60.5
NATIONAL ENVIRONMENT		71.6	83.8	61.0
Reference level (a function of GDP per capita): 57.7				
Weaknesses are scores below: 28.9		**Strengths are scores above: 86.6**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

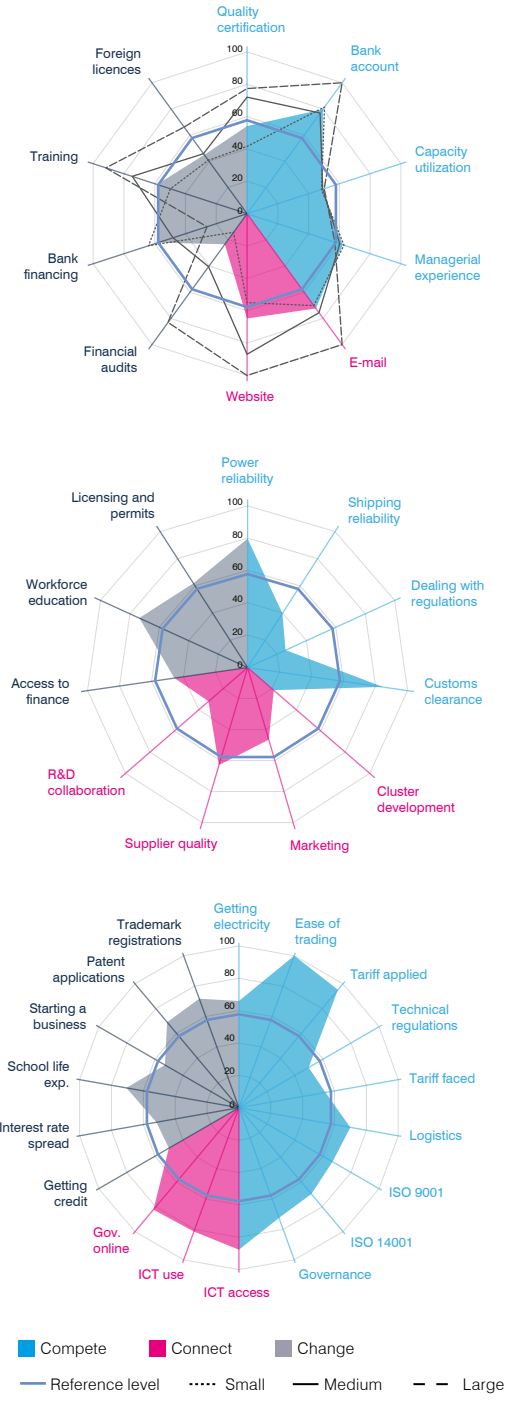
Compete	Small	Medium	Large	All
International quality certificate	41.6	72.0	77.3	54.1
Bank account	81.5	76.8	**100.0**	79.8
Capacity utilization	48.4	49.2	50.2	48.8
Managerial experience	63.0	60.3	57.1	62.2
Connect				
E-mail	70.2	75.6	**100.0**	72.4
Firm website	55.0	**86.9**	**100.0**	64.8
Change				
Audited financial statement	**14.2**	40.4	83.1	**23.4**
Investment financed by banks	64.0	48.2	**26.0**	57.9
Formal training programme	49.8	74.6	**91.7**	58.5
Foreign technology licences	40.8	45.8	66.1	45.0

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	83.1	72.1	**92.6**	79.7
Domestic shipping reliability	36.3	46.0	66.6	39.9
Dealing with regulations	**27.7**	**22.0**	**25.0**	**25.8**
Customs clearance efficiency	**86.9**	84.1	81.6	84.7
Connect				
State of cluster development				**21.5**
Extent of marketing				46.5
Local supplier quality				63.0
University-industry collaboration in R&D				32.0
Change				
Access to finance	41.4	57.9	59.5	45.8
Access to educated workforce	81.1	57.4	**96.2**	73.6
Business licensing and permits	59.5	66.7	**90.7**	62.0

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	66.0
Ease of trading across borders	**100.0**
Applied tariff, trade-weighted average	**95.2**
Prevalence of technical regulations	49.7
Faced tariff, trade-weighted average	54.4
Logistics performance index	69.9
ISO 9001 quality certificates	66.8
ISO 14001 environmental certificates	69.7
Governance index	72.4
Connect	
ICT access	**87.8**
ICT use	81.4
Government's online service	82.3
Change	
Ease of getting credit	50.0
Interest rate spread	51.8
School life expectancy	70.7
Ease of starting a business	52.8
Patent applications	69.1
Trademark registrations	71.7



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Croatia

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Strategic snapshot

Croatia is an upper-middle income country with a population of 4.2 million and GDP of $53.5 billion. Goods and services account for 50.8% and 49.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Petroleum oils, medicines, and electrical energy are top exports. The country could export an additional $440 million in *pharmaceutical products* to its home region. There are also export opportunities to the home region for *pantyhose, tights, stockings, socks and other hosiery* and *parts of seats*. Both goods score well on the price stability indicator compared with other goods in the country.

Croatia has export diversification opportunities in miscellaneous manufactured products, and machinery and electronic equipment, through *plastic insulating fittings for electrical purposes* and *heat pumps*. Another product identified for diversification is *wind-powered generating sets*. Compared with other sectors, SMEs are strongly represented in the production of this good.

Firms in Croatia perform better than expected in their capacity to connect, given the country's level of development. Large firms make better use of the internet, suggesting that small firms can catch up. Few small firms audit their financial statements. There is scope for improvement at the business ecosystem level, notably in reducing cumbersome regulations, promoting cluster development and reinforcing collaboration in R&D between industry and universities.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	631.3									
Pantyhose, tights, stockings, socks and other hosiery, incl. graduated compression hosiery [e.g...	6115	174.5									
Parts of seats, n.e.s.	940190	214.1									
Cane or beet sugar and chemically pure sucrose, in solid form (excluding cane and beet sugar containing...	170199	117.7									
Urea, whether or not in aqueous solution (excluding that in pellet or similar forms, or in packages with a...	310210	123.6									
Articles of leather or composition leather (excluding saddlery and harness bags; cases and similar...	420500	104.6									
Mineral or chemical fertilisers containing the three fertilising elements nitrogen, phosphorus and...	310520	69.6									
Footwear with outer soles of rubber, plastics or composition leather, with uppers of leather...	6403XX	134.4									
Portland cement (excluding white, whether or not artificially coloured)	252329	79.5									
Oak "Quercus spp.", sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or...	440791	127.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Dominican Republic

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Key indicators

Population (millions)	10.2
GDP ($ billions)	74.9
GDP per capita ($)	7360.5
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-1.6
Tariff preference margin (percentage points)	3.4
Imports and exports (goods and services), share of GDP (%)	53.4
Services exports, share of total exports (%)	47.4
Geographic region	Americas
Country group	SIDS
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	26.8	27.7	50.3
	Medium	39.9	52.2	50.0
	Large	51.4	69.6	59.8
	All	34.0	36.1	50.8
BUSINESS ECOSYSTEM		48.0	49.4	51.4
NATIONAL ENVIRONMENT		53.1	49.8	46.7
Reference level (a function of GDP per capita): 53.2				
Weaknesses are scores below: 26.6			Strengths are scores above: 79.8	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

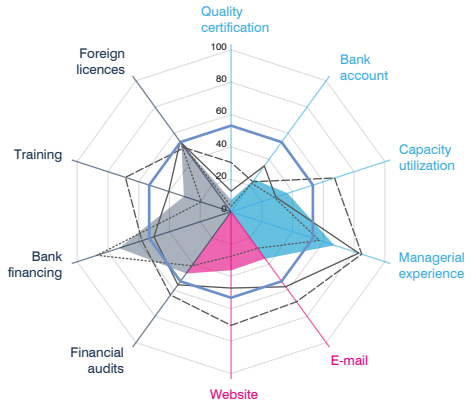
Compete	Small	Medium	Large	All
International quality certificate	**0.0**	**12.7**	30.4	**7.3**
Bank account	**21.7**	35.0	**22.9**	**24.5**
Capacity utilization	28.2	29.1	67.2	36.8
Managerial experience	57.5	**83.0**	**85.0**	67.2
Connect				
E-mail	28.0	57.3	68.8	36.0
Firm website	27.5	47.2	70.3	36.2
Change				
Audited financial statement	41.4	55.9	63.7	47.2
Investment financed by banks	**87.1**	50.1	57.9	72.8
Formal training programme	**19.3**	40.5	68.6	30.6
Foreign technology licences	53.3	53.5	48.9	52.4

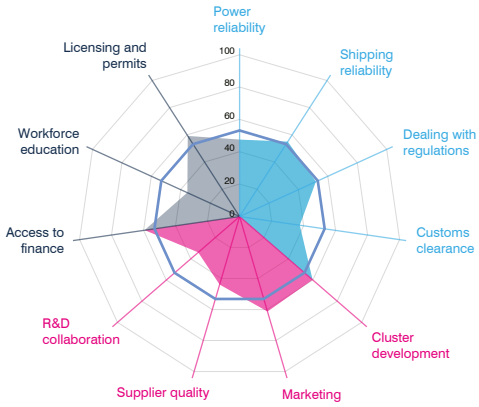
BUSINESS ECOSYSTEM (Normalized scores)

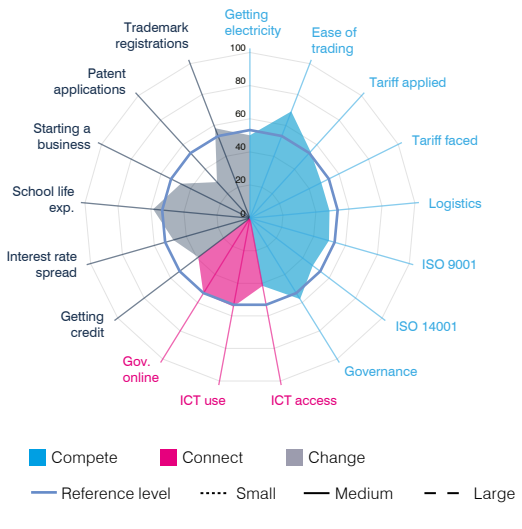
Compete	Small	Medium	Large	All
Power reliability	43.0	65.2	63.8	47.6
Domestic shipping reliability	72.8	42.7	**81.9**	55.1
Dealing with regulations	52.3	52.0	49.4	52.0
Customs clearance efficiency	-	44.8	37.3	37.6
Connect				
State of cluster development				59.8
Extent of marketing				60.1
Local supplier quality				43.9
University-industry collaboration in R&D				33.9
Change				
Access to finance	53.2	70.9	79.6	59.3
Access to educated workforce	36.4	38.4	**24.1**	35.5
Business licensing and permits	56.1	63.1	74.5	59.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	50.0
Ease of trading across borders	69.1
Applied tariff, trade-weighted average	54.4
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	48.1
Logistics performance index	48.3
ISO 9001 quality certificates	49.6
ISO 14001 environmental certificates	47.6
Governance index	57.5
Connect	
ICT access	41.6
ICT use	54.3
Government's online service	53.5
Change	
Ease of getting credit	39.1
Interest rate spread	48.0
School life expectancy	58.7
Ease of starting a business	46.6
Patent applications	29.5
Trademark registrations	58.2







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Dominican Republic

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Strategic snapshot

The Dominican Republic is an upper-middle income country with a population of 10.2 million and GDP of $74.9 billion. Goods and services account for 52.6% and 47.4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Gold, instruments and appliances used in medical, surgical, dental or veterinary sciences, and cigars are top exports. The country could export an additional $952 million in *instruments and appliances used in medical, surgical or veterinary sciences* to its home region and Europe. There are also export opportunities in these regions for *t-shirts, singlets and other vests of cotton* and *bananas*, with both products scoring well on the price stability indicator.

The Dominican Republic has export diversification opportunities in miscellaneous manufactured products, metal products and metals, through *festival, carnival or other entertainment articles* and *wire of non-alloy aluminium*. Compared with other sectors in the country, SMEs are strongly represented in the production of another group of products identified for diversification – *statuettes and other ornaments of base metal*.

Firms in the Dominican Republic perform better than expected in their capacity to change given the country's level of development, but underperform in their capacity to compete, compared with other countries with a similar level of development. Firms find it difficult to obtain international quality certifications, and few have a bank account. Small firms rarely offer formal training to employees, and firms of all sizes report limited access to educated workforce. At the business ecosystem level, there is scope for improvement in making customs clearance more efficient, and in reinforcing the collaboration in R&D between industry and universities.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Instruments and appliances used in medical, surgical or veterinary sciences, n.e.s.	901890	840.2									
T-shirts, singlets and other vests of cotton, knitted or crocheted	610910	325.5									
Bananas, incl. plantains, fresh or dried	0803	330.5									
Automatic circuit breakers for a voltage <= 1.000 V	853620	345.5									
Preparations for sauces and prepared sauces; mixed condiments and seasonings (excluding...	210390	68.0									
Portland cement (excluding white, whether or not artificially coloured)	252329	88.6									
Cocoa beans, whole or broken, raw or roasted	180100	216.4									
Needles, catheters, cannulae and the like, used in medical, surgical, dental or veterinary sciences...	901839	90.8									
Rum and other spirits obtained by distilling fermented sugar-cane products	220840	95.2									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	185.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

El Salvador

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Key indicators

Population (millions)	6.4
GDP ($ billions)	27.4
GDP per capita ($)	4303.2
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-1.0
Tariff preference margin (percentage points)	9.5
Imports and exports (goods and services), share of GDP (%)	75.9
Services exports, share of total exports (%)	29.9
Geographic region	Americas
Country group	
Income group	Lower-middle income

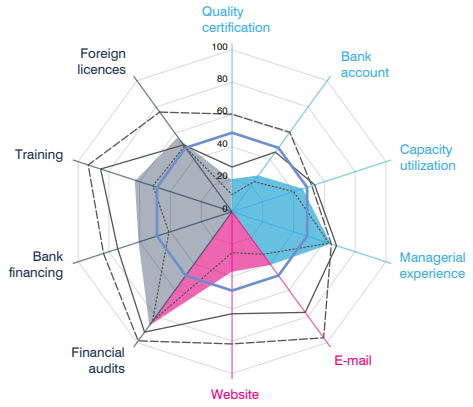
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	34.1	28.9	56.2
	Medium	48.7	70.0	**75.7**
	Large	59.3	**89.0**	**87.9**
	All	39.5	38.7	66.5
BUSINESS ECOSYSTEM		45.3	40.6	40.2
NATIONAL ENVIRONMENT		51.5	43.0	46.1
Reference level (a function of GDP per capita): 48.8				
Weaknesses are scores below: 24.4		**Strengths are scores above: 73.2**		

SME Competitiveness Grid

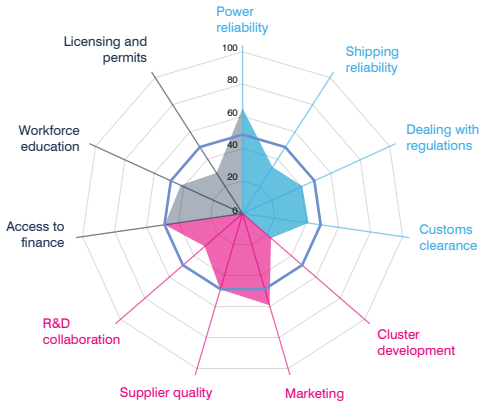
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**10.5**	27.6	60.3	**20.2**
Bank account	**23.1**	45.5	60.7	27.7
Capacity utilization	40.0	53.7	51.8	45.9
Managerial experience	63.0	67.9	64.5	64.1
Connect				
E-mail	32.6	**76.9**	**96.3**	40.6
Firm website	25.3	63.1	**81.7**	36.7
Change				
Audited financial statement	**82.4**	**92.0**	**98.7**	**85.6**
Investment financed by banks	41.0	**74.3**	**83.6**	60.4
Formal training programme	51.4	**85.4**	**93.5**	62.8
Foreign technology licences	50.0	51.0	**76.1**	57.1



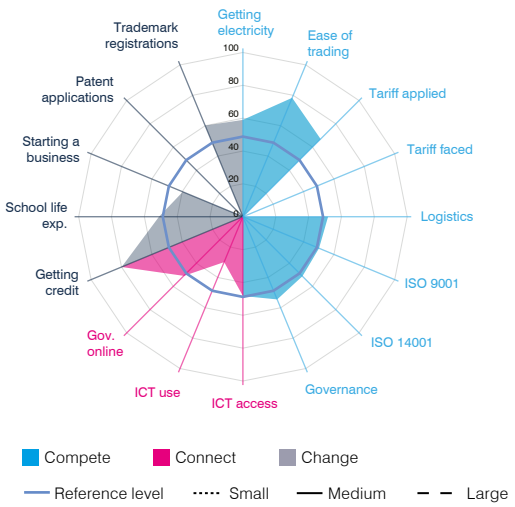
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	65.2	66.7	65.2	65.2
Domestic shipping reliability	27.0	41.2	66.6	34.2
Dealing with regulations	44.3	31.5	38.4	40.6
Customs clearance efficiency	**20.6**	56.2	56.4	41.3
Connect				
State of cluster development				**23.3**
Extent of marketing				59.2
Local supplier quality				48.9
University-industry collaboration in R&D				31.0
Change				
Access to finance	40.2	**80.2**	68.1	48.6
Access to educated workforce	39.2	47.9	56.4	42.0
Business licensing and permits	28.4	32.8	34.7	29.8



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	59.0
Ease of trading across borders	**78.4**
Applied tariff, trade-weighted average	66.9
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**0.0**
Logistics performance index	51.8
ISO 9001 quality certificates	50.2
ISO 14001 environmental certificates	51.2
Governance index	54.5
Connect	
ICT access	48.2
ICT use	29.9
Government's online service	50.9
Change	
Ease of getting credit	**79.9**
Interest rate spread	-
School life expectancy	51.1
Ease of starting a business	39.6
Patent applications	**0.0**
Trademark registrations	60.1



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

El Salvador

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Strategic snapshot

El Salvador is a lower-middle income country with a population of 6.4 million and GDP of $27.4 billion. Goods and services account for 70.1% and 29.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Apparel and clothing accessories, electrical capacitors and plastic articles for the conveyance or packaging of goods are top exports. The country could export an additional $273 million in *t-shirts, singlets and other vests of cotton* to its home region, with further export opportunities in Asia and Europe. These products score well on the price stability indicator compared with the country's other goods. There are also opportunities to export *sugar confectionary* and *carboys, bottles, flasks of plastic* to the Americas.

El Salvador has export diversification opportunities in miscellaneous manufactured products, textile products and machinery and electronic equipment, through *tricycles, scooters, pedal cars and similar wheeled toys* and *articles of yarn, strip or the like*. Another product identified for diversification is *combined refrigerator-freezers, with separate external doors*. This product scores well on the price stability indicator in relation to the country's other goods.

While there remains a gap in the capacity to change between small and large firms, small firms perform well compared with those in countries with a similar development level. Capacity to connect is the area with the greatest scope for improvement for small firms. Such firms report a number of challenges to their capacity to compete, particularly difficulty in obtaining international quality certifications and in opening a bank account. At the business ecosystem level, there is room for improvement in cluster development, business licences and permits, and customs clearance efficiency, which is a concern for small firms. Firms, especially medium-sized ones, are generally satisfied with their access to finance.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 300	0 300	0 300	0 300	0 300				
T-shirts, singlets and other vests of cotton, knitted or crocheted	610910	599.4									
Toilet paper in rolls of a width of <= 36 cm	481810	115.4									
Carboys, bottles, flasks and similar articles for the conveyance or packaging of goods, of plastics	392330	92.1									
Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion...	190590	68.8									
Coffee (excluding roasted and decaffeinated)	090111	186.1									
Non-alcoholic beverages (excluding water, fruit or vegetable juices and milk)	220290	88.9									
Prepared foods obtained by swelling or roasting cereals or cereal products, e.g. corn flakes	190410	36.3									
Sacks and bags, incl. cones, of polymers of ethylene	392321	60.4									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	130.6									
Sugar confectionery not containing cocoa, incl. white chocolate (excluding chewing gum)	170490	32.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Ethiopia

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Key indicators

Population (millions)	92.7
GDP ($ billions)	79.7
GDP per capita ($)	860.6
Share of world GDP (PPP$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-8.3
Tariff preference margin (percentage points)	5.8
Imports and exports (goods and services), share of GDP (%)	38.8
Services exports, share of total exports (%)	52.2
Geographic region	Africa
Country group	LDC, LLDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	21.4	25.5	24.6
	Medium	37.0	38.0	43.9
	Large	50.7	**62.3**	**53.6**
	All	29.8	31.5	35.9
BUSINESS ECOSYSTEM		37.0	45.4	**65.0**
NATIONAL ENVIRONMENT		40.3	24.0	26.0
Reference level (a function of GDP per capita): 35.6				
Weaknesses are scores below: 17.8			**Strengths are scores above: 53.4**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

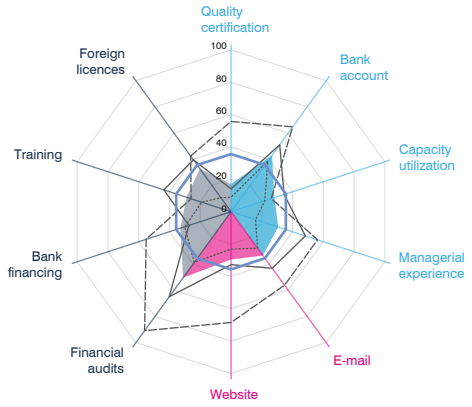
Compete	Small	Medium	Large	All
International quality certificate	**8.9**	**14.1**	**55.8**	**17.1**
Bank account	38.7	51.1	**64.8**	43.0
Capacity utilization	22.0	34.5	26.1	28.2
Managerial experience	**16.0**	48.3	**56.3**	30.7
Connect				
E-mail	27.9	43.3	**56.2**	33.6
Firm website	23.2	32.8	**68.5**	29.5
Change				
Audited financial statement	38.7	**65.0**	**90.9**	50.4
Investment financed by banks	30.1	27.4	**55.1**	32.9
Formal training programme	19.1	43.6	25.9	27.5
Foreign technology licences	**10.7**	39.6	42.5	32.8

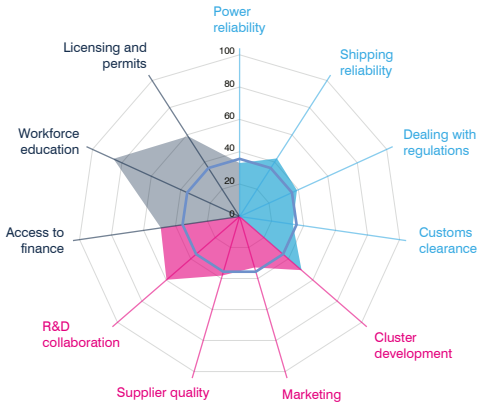
BUSINESS ECOSYSTEM (Normalized scores)

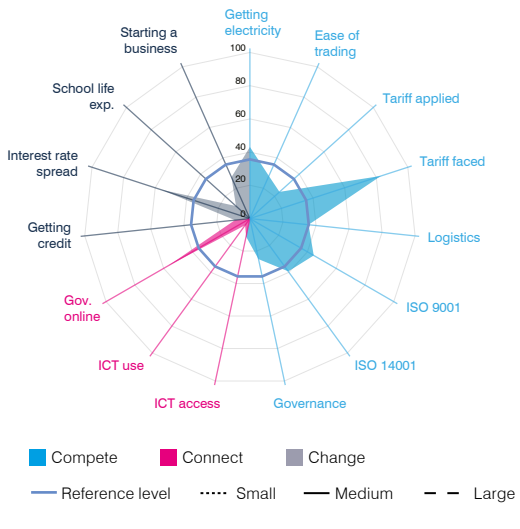
Compete	Small	Medium	Large	All
Power reliability	31.5	38.9	29.4	33.1
Domestic shipping reliability	34.2	46.0	47.9	42.7
Dealing with regulations	37.6	38.6	**54.1**	39.1
Customs clearance efficiency	-	35.9	32.2	33.3
Connect				
State of cluster development				50.8
Extent of marketing				32.9
Local supplier quality				38.1
University-industry collaboration in R&D				**59.8**
Change				
Access to finance	51.6	44.8	49.8	49.2
Access to educated workforce	**90.3**	**83.7**	**69.4**	**85.8**
Business licensing and permits	50.5	**88.8**	**83.7**	**59.9**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	43.1
Ease of trading across borders	28.1
Applied tariff, trade-weighted average	24.0
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**82.9**
Logistics performance index	35.5
ISO 9001 quality certificates	44.4
ISO 14001 environmental certificates	39.3
Governance index	25.0
Connect	
ICT access	**11.1**
ICT use	**4.9**
Government's online service	**56.0**
Change	
Ease of getting credit	**9.1**
Interest rate spread	**56.1**
School life expectancy	**11.3**
Ease of starting a business	27.3
Patent applications	-
Trademark registrations	-







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2015) for firm level data; for other sources and methodology, see the Technical Annex.

Ethiopia

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Strategic snapshot

Ethiopia is a low income country with a population of 92.7 million and GDP of $79.7 billion. Goods and services account for 47.8% and 52.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Coffee, sesamum seeds and vegetables are top exports. The country could export an additional $648 million in *sesamum seeds* to Asia. There are also export opportunities for *coffee* and *dried, shelled kidney beans,* with both products scoring well on the price stability indicator.

Ethiopia has export diversification opportunities in cotton and apparel, through *single cotton yarn*. Compared with the country's other sectors, SMEs and women are strongly represented in the production of another group of products identified for diversification – *women's or girls' trousers, bibs and braces, breeches and shorts of cotton*.

Compared with other countries with a similar level of development, large firms in Ethiopia perform well in their capacity to connect and capacity to change, but SMEs lag behind. Few SMEs in Ethiopia obtain international quality certifications, and few small firms own foreign technology licences. Acquiring substantive managerial experience is another area with scope for improvement. The business ecosystem is supportive in terms of an adequate access to skilled workers, efficient business licensing and permits processes, as well as university-industry collaboration in R&D.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Sesamum seeds, whether or not broken	120740	463.5									
Coffee (excluding roasted and decaffeinated)	090111	733.6									
Fresh or chilled globe artichokes, olives, pumpkins, squash, gourds "Cucurbita spp." and other...	0709Xb	260.1									
Live bovine animals	0102	83.1									
Fresh cut flowers and buds, of a kind suitable for bouquets or for ornamental purposes	0603XX	204.6									
Dried, shelled kidney beans "Phaseolus vulgaris", whether or not skinned or split	071333	112.1									
Dried, shelled chickpeas "garbanzos", whether or not skinned or split	071320	30.7									
Fresh, chilled or frozen meat of goats	020450	69.9									
Dried, shelled broad beans "Vicia faba var. major" and horse beans "Vicia faba var. equina and Vicia...	071350	1.6									
Live animals (excluding horses, asses, mules, hinnies, bovine animals, swine, sheep, goats,...	0106	27.3									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Gabon

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Key indicators

Population (millions)	1.9
GDP ($ billions)	14.5
GDP per capita ($)	7583.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-9.3
Tariff preference margin (percentage points)	0.0
Imports and exports (goods and services), share of GDP (%)	82.2
Services exports, share of total exports (%)	6.4
Geographic region	Africa
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.1	**10.2**	**12.0**
	Medium	51.1	**24.7**	33.4
	Large	53.2	60.5	78.4
	All	42.8	**16.6**	26.9
BUSINESS ECOSYSTEM		64.2	27.8	30.8
NATIONAL ENVIRONMENT		30.9	36.1	41.6
Reference level (a function of GDP per capita): 53.4				
Weaknesses are scores below: 26.7		**Strengths are scores above: 80.1**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

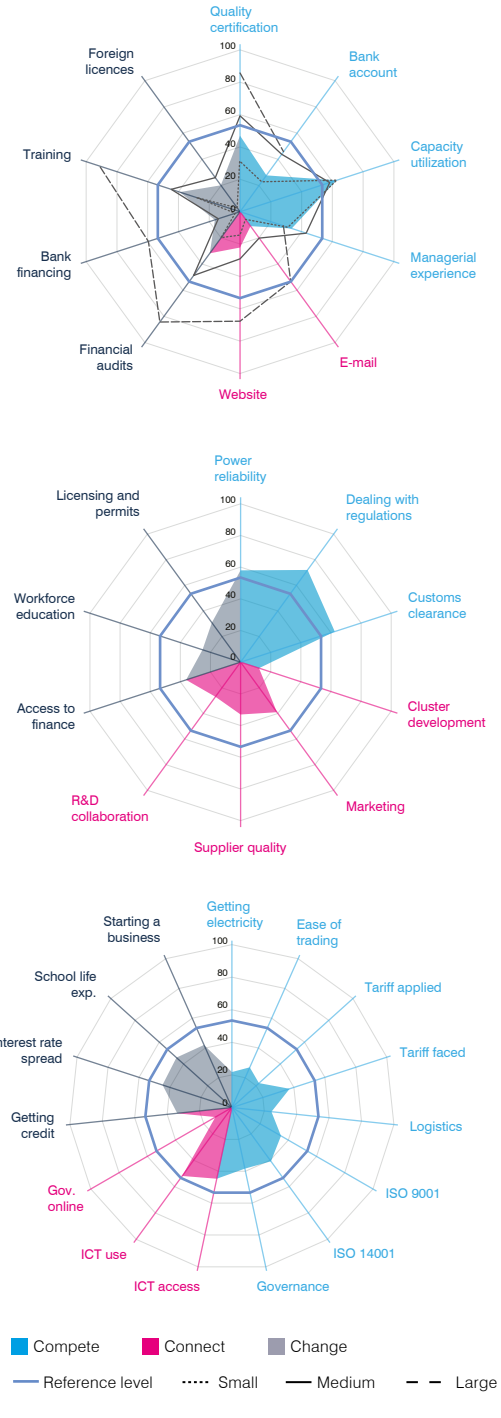
Compete	Small	Medium	Large	All
International quality certificate	31.3	59.2	**85.7**	47.0
Bank account	**22.9**	43.8	45.8	27.7
Capacity utilization	62.9	58.3	-	62.7
Managerial experience	31.2	43.0	28.2	33.6
Connect				
E-mail	**5.9**	**20.1**	53.3	**11.1**
Firm website	**14.5**	29.2	67.7	**22.2**
Change				
Audited financial statement	**19.8**	48.7	**84.3**	31.8
Investment financed by banks	**0.0**	**14.1**	59.5	**16.3**
Formal training programme	28.1	44.7	**91.3**	39.2
Foreign technology licences	**0.0**	**26.0**	-	**20.2**

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	56.1	56.1	**87.2**	58.0
Domestic shipping reliability	-	-	-	-
Dealing with regulations	76.3	64.4	66.0	72.0
Customs clearance efficiency	-	-	-	62.5
Connect				
State of cluster development				**12.2**
Extent of marketing				39.1
Local supplier quality				33.0
University-industry collaboration in R&D				27.0
Change				
Access to finance	28.9	50.8	71.4	36.2
Access to educated workforce	**26.0**	**23.2**	**26.4**	**25.3**
Business licensing and permits	27.0	42.9	37.2	30.9

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**21.8**
Ease of trading across borders	27.0
Applied tariff, trade-weighted average	**22.4**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	37.3
Logistics performance index	**24.4**
ISO 9001 quality certificates	34.8
ISO 14001 environmental certificates	40.8
Governance index	38.4
Connect	
ICT access	44.7
ICT use	51.9
Government's online service	**11.7**
Change	
Ease of getting credit	33.8
Interest rate spread	44.8
School life expectancy	45.8
Ease of starting a business	42.0
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2009) for firm level data; for other sources and methodology, see the Technical Annex.

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Strategic snapshot

Gabon is an upper-middle income country with a population of 1.9 million and GDP of $14.5 billion. Goods and services account for 93.6% and 6.4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils, manganese ores and concentrates, and wood chips thicker than 6mm are top exports. The country could export an additional $230 million in *wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed* to Asia and Europe. This product scores high on the price stability indicator compared with the country's other products. There are also export opportunities for *sheets for veneering* to Asia and Europe, and for *bran, sharps and other residues of wheat* to Asia.

Gabon has export diversification opportunities in chemicals, machinery and electronic equipment, and metal products, through *vegetable waxes* and *parts for boring or sinking machinery*. Another product identified for diversification is *wire of non-alloy aluminium*. This product scores well on the price stability indicator compared with other products in the country.

SMEs in Gabon could become more competitive by reinforcing their capacity to connect and capacity to change. Few small firms make use of the internet, have a bank account, or own foreign technology licences. The widest performance gap between small and large firms, and hence an opportunity to improve, involves the capacity to change, especially having audited financial statements, investments financed by banks and formal training for employees. Dealing with regulations efficiently is a strong feature of the business ecosystem compared with scores in countries with a similar development level. The state of cluster development and access to educated workforce, meanwhile, require improvement.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of...	4407Xb	289.8									
Sheets for veneering of a thickness of <= 6 mm & plywood, veneered panel and similar laminated...	44XXXX	146.5									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	12.0									
Technically specified natural rubber "TSNR"	400122	27.8									
Natural rubber in primary forms or in plates, sheets or strip (excluding smoked sheets, technically...	400129	9.7									
Bran, sharps and other residues of wheat, whether or not in the form of pellets, derived from sifting,...	230230	2.8									
Ferro-silico-manganese	720230	5.2									
Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-...	440710	2.6									
Virola, mahogany "Swietenia spp.", imbuia and balsa, sawn or chipped lengthwise, sliced or...	4407Xa	1.6									
Dark red meranti, light red meranti and meranti bakau, sawn or chipped lengthwise, sliced or...	440725	1.7									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Gambia

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Key indicators

Population (millions)	2.1
GDP ($ billions)	1.0
GDP per capita ($)	488.5
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-9.4
Tariff preference margin (percentage points)	11.5
Imports and exports (goods and services), share of GDP (%)	89.0
Services exports, share of total exports (%)	63.9
Geographic region	Africa
Country group	LDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	23.1	6.9	16.5
	Medium	38.0	20.9	31.3
	Large	57.4	70.3	100.0
	All	28.5	11.5	29.2
BUSINESS ECOSYSTEM		46.4	47.4	41.7
NATIONAL ENVIRONMENT		34.2	22.0	25.0
Reference level (a function of GDP per capita): 31.0				
Weaknesses are scores below: 15.5			Strengths are scores above: 46.5	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

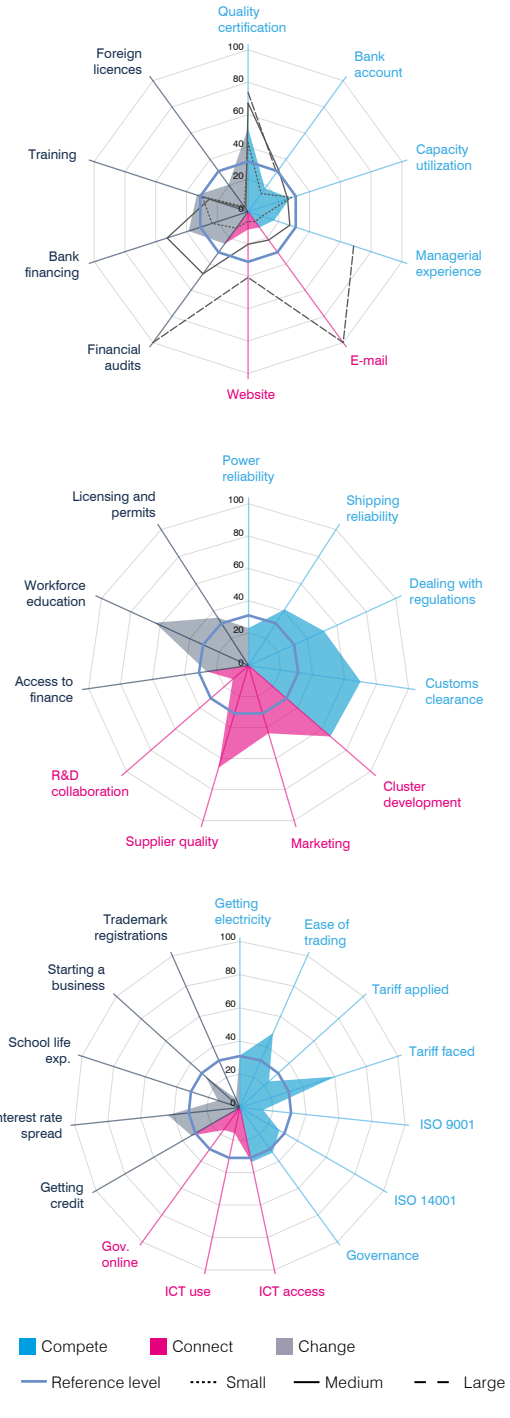
Compete	Small	Medium	Large	All
International quality certificate	41.4	67.1	73.7	51.8
Bank account	13.7	32.1	30.0	17.8
Capacity utilization	28.2	25.7	-	27.4
Managerial experience	9.1	27.2	68.7	17.1
Connect				
E-mail	7.6	21.7	100.0	12.0
Firm website	6.1	20.2	40.6	11.0
Change				
Audited financial statement	12.7	47.4	100.0	24.5
Investment financed by banks	23.5	52.6	-	38.6
Formal training programme	29.7	25.1	-	33.2
Foreign technology licences	0.0	0.0	-	20.6

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	23.3	21.6	-	23.1
Domestic shipping reliability	36.3	58.2	-	41.2
Dealing with regulations	51.0	53.0	44.5	51.3
Customs clearance efficiency	-	-	-	70.0
Connect				
State of cluster development				67.0
Extent of marketing				43.7
Local supplier quality				65.9
University-industry collaboration in R&D				12.9
Change				
Access to finance	25.9	25.6	37.5	26.3
Access to educated workforce	77.8	50.0	12.6	63.7
Business licensing and permits	34.5	36.3	40.5	35.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	31.5
Ease of trading across borders	49.1
Applied tariff, trade-weighted average	23.5
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	60.1
Logistics performance index	-
ISO 9001 quality certificates	14.1
ISO 14001 environmental certificates	27.4
Governance index	33.6
Connect	
ICT access	33.6
ICT use	15.6
Government's online service	16.8
Change	
Ease of getting credit	33.8
Interest rate spread	43.6
School life expectancy	13.9
Ease of starting a business	27.8
Patent applications	-
Trademark registrations	5.8



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2006) for firm level data; for other sources and methodology, see the Technical Annex.

Gambia

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Strategic snapshot

The Gambia is a low income country with a population of 2.1 million and GDP of $1 billion. Goods and services account for 36.1% and 63.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

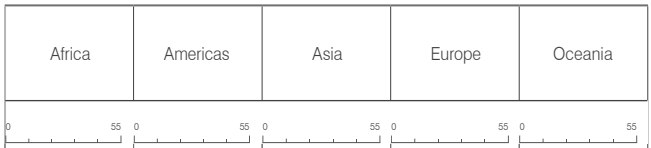
Groundnuts, textiles and worn clothing, and milk and cream are top exports. The country could export an additional $54 million in *wood in the rough* to Asia. This product scores well on the price stability indicator compared with the country's other goods. There are also opportunities to export *fresh or dried cashew nuts* and *crude groundnut oil* to Asia, and *fresh or dried guavas, mangoes and mangosteens* to Europe.

The Gambia has export diversification opportunities in fish and shellfish, vegetal residues and animal feed, and wood products, through *fish and fish offal, dried, salted* and *oilcake and other solid residues, resulting from the extraction of coconut or copra*. Another product identified for diversification is *statuettes and other ornaments of wood*. Compared with other goods in the country, SMEs are strongly represented in the production of this item, which scores well on the price stability indicator.

Large firms in the Gambia perform well compared with those in countries with a similar development level. Small firms, however, have difficulties catching up with larger ones. The widest gap between small and large firms lies in their capacity to connect and capacity to change. Managers of small firms have limited experience. Few small firms use the internet, and have their financial statements audited; the SMEs surveyed do not own foreign technology licences. Efficient customs procedures and regulatory environment, and local supplier quality are among stronger aspects of the business ecosystem, while there is scope for improvement in power reliability and university-industry collaboration.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million): Africa	Americas	Asia	Europe	Oceania	Development indicators: Price stability	SME presence	Women employed	Technology
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	65.2									
Fresh or dried cashew nuts, in shell	080131	38.8									
Crude groundnut oil	150810	5.3									
Fresh or dried guavas, mangoes and mangosteens	080450	3.4									
Fresh or chilled beans "Vigna spp., Phaseolus spp.", shelled or unshelled	070820	0.8									
Frozen fish fillets	0304Xb	1.2									
Frozen turbot "Psetta maxima" and flatfish "Pleuronectidae, Bothidae, Cynoglossidae,...	0303Xb	0.5									
Other frozen fish	0303Xa	0.7									
Cuttle fish "Sepia officinalis, Rossia macrosoma, Sepiola spp." and squid "Ommastrephes spp...	030749	1.5									
Flours, meals and pellets of fish or crustaceans, molluscs or other aquatic invertebrates, unfit for...	230120	0.2									



Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Georgia

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Key indicators

Population (millions)	3.7
GDP ($ billions)	15.2
GDP per capita ($)	4123.3
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-11.9
Tariff preference margin (percentage points)	5.0
Imports and exports (goods and services), share of GDP (%)	105.7
Services exports, share of total exports (%)	58.9
Geographic region	Asia
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	25.3	34.0	31.7
	Medium	34.5	52.8	36.3
	Large	34.0	45.1	45.5
	All	29.4	39.4	34.2
BUSINESS ECOSYSTEM		71.6	35.8	**73.3**
NATIONAL ENVIRONMENT		60.7	66.1	72.4
Reference level (a function of GDP per capita): 48.4				
Weaknesses are scores below: 24.2			**Strengths are scores above: 72.7**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

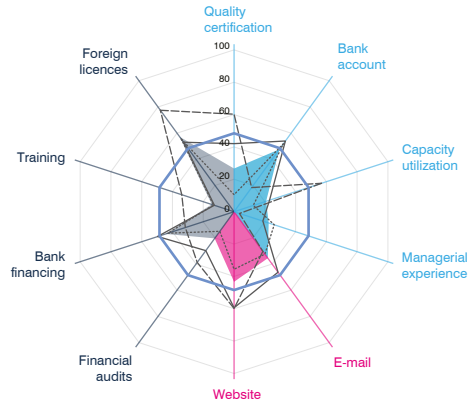
Compete	Small	Medium	Large	All
International quality certificate	**10.5**	42.1	60.3	26.7
Bank account	51.9	54.0	**19.1**	47.6
Capacity utilization	**12.5**	**23.1**	56.8	**20.9**
Managerial experience	26.1	**18.7**	**0.0**	**22.5**
Connect				
E-mail	32.5	46.3	30.3	35.5
Firm website	35.6	59.4	59.8	43.3
Change				
Audited financial statement	**15.0**	29.7	38.7	**20.4**
Investment financed by banks	43.0	49.7	31.7	44.5
Formal training programme	**13.3**	**12.8**	34.0	**14.5**
Foreign technology licences	55.3	53.0	**77.5**	57.2

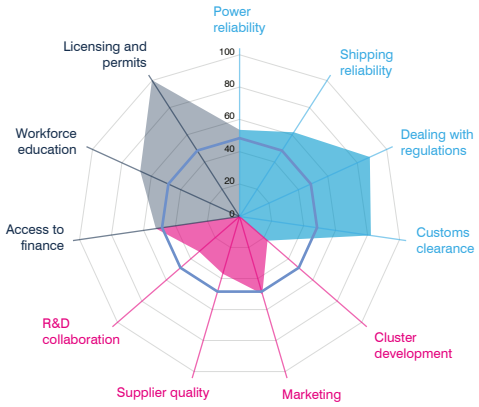
BUSINESS ECOSYSTEM (Normalized scores)

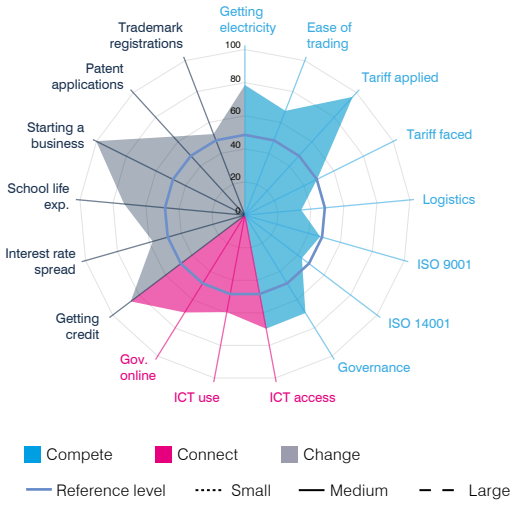
Compete	Small	Medium	Large	All
Power reliability	52.8	**83.1**	**15.7**	53.6
Domestic shipping reliability	66.6	61.9	47.9	61.9
Dealing with regulations	**89.8**	**87.5**	**91.1**	**88.6**
Customs clearance efficiency	-	-	-	**82.1**
Connect				
State of cluster development				**22.9**
Extent of marketing				50.0
Local supplier quality				37.0
University-industry collaboration in R&D				33.2
Change				
Access to finance	49.1	58.6	65.6	52.4
Access to educated workforce	64.5	**73.1**	**79.3**	67.6
Business licensing and permits	**100.0**	**98.7**	**100.0**	**100.0**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**78.6**
Ease of trading across borders	67.5
Applied tariff, trade-weighted average	**96.6**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	48.7
Logistics performance index	34.1
ISO 9001 quality certificates	47.2
ISO 14001 environmental certificates	43.1
Governance index	69.5
Connect	
ICT access	69.7
ICT use	59.6
Government's online service	69.1
Change	
Ease of getting credit	**86.4**
Interest rate spread	57.8
School life expectancy	**73.2**
Ease of starting a business	**100.0**
Patent applications	64.2
Trademark registrations	52.5







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Strategic snapshot

Georgia is a lower-middle income country with a population of 3.7 million and GDP of $15.2 billion. Goods and services account for 41.1% and 58.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Copper ores and concentrates, hazelnuts, and ferro-alloys are top exports. The country could export an additional $150 million in *ferro-silico-manganese* to Asia and Europe. There are also export opportunities for *wine of fresh grapes and grape must* and *motor cars and other motor vehicles*. These products score well on the price stability indicator compared with other products in the country.

Georgia has export diversification opportunities in apparel, beverages, and miscellaneous manufactured products, through *women's or girls' jackets and blazers of cotton* and *non-alcoholic beverages*. Also identified for diversification are *articles of bedding and similar furnishing,* which score well on the price stability indicator compared with other goods in the country.

There is a gap between a business ecosystem that functions well compared with those in countries with a similar development level, and firm capabilities. Georgian firms, both small and large, are behind firms in countries with a similar level of development on a number of indicators. Few small firms own international quality certificates or fully use their productive capacity. Medium-sized and large firms struggle to attract experienced managers. Firms' capacity to change could be strengthened by increasing formal training for employees and having audited financial statements. Efficient customs procedures and regulations, and a smooth functioning of business licensing and permits are strong features of the business ecosystem. There is room for improvement, however, in R&D collaboration between university and industry, local supplier quality, and cluster development.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Ferro-silico-manganese	720230	226.3									
Ammonium nitrate, whether or not in aqueous solution (excluding that in pellet or similar forms, or...	310230	123.4									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870323	202.3									
Wine of fresh grapes, incl. fortified wines, and grape must whose fermentation has been arrested by the...	220421	129.9									
Spirits obtained by distilling grape wine or grape marc	220820	61.6									
Fresh or dried hazelnuts or filberts "Corylus spp.", shelled	080222	152.5									
Mineral waters and aerated waters, not containing added sugar, other sweetening matter or flavoured	220110	93.5									
Live bovine animals	0102	34.5									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	95.8									
Fresh or dried mandarins incl. tangerines and satsumas, clementines, wilkings and similar citrus...	080520	18.7									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Ghana

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Key indicators

Population (millions)	28.3
GDP ($ billions)	45.5
GDP per capita ($)	1607.7
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-5.8
Tariff preference margin (percentage points)	1.0
Imports and exports (goods and services), share of GDP (%)	68.6
Services exports, share of total exports (%)	16.3
Geographic region	Africa
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	33.0	**17.8**	37.2
	Medium	50.0	45.0	**61.4**
	Large	**62.1**	**67.3**	**75.5**
	All	39.6	26.8	48.5
BUSINESS ECOSYSTEM		39.7	59.7	34.8
NATIONAL ENVIRONMENT		44.7	45.7	41.3
Reference level (a function of GDP per capita): 40.7				
Weaknesses are scores below: 20.4			**Strengths are scores above: 61.1**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

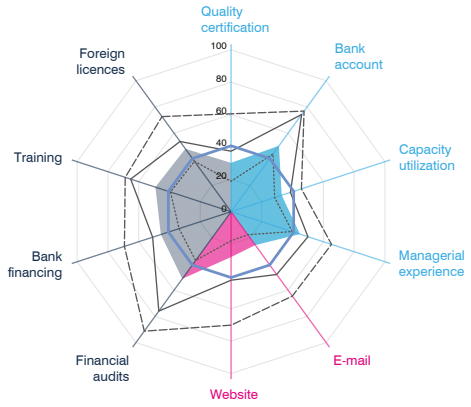
Compete	Small	Medium	Large	All
International quality certificate	**19.6**	37.3	60.5	30.2
Bank account	44.1	**74.3**	**76.8**	50.4
Capacity utilization	28.4	38.6	45.7	32.9
Managerial experience	39.8	50.0	**65.3**	44.8
Connect				
E-mail	**17.6**	48.0	**64.5**	25.5
Firm website	**18.0**	41.9	**70.2**	28.1
Change				
Audited financial statement	37.3	**75.9**	**91.3**	51.3
Investment financed by banks	33.8	50.9	**69.3**	45.7
Formal training programme	39.3	**65.2**	**68.7**	49.2
Foreign technology licences	38.4	53.6	**72.6**	48.0

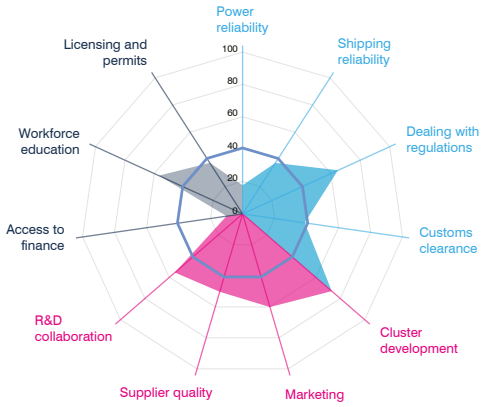
BUSINESS ECOSYSTEM (Normalized scores)

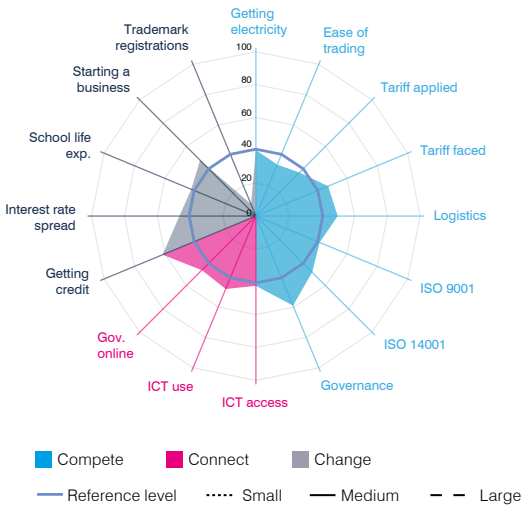
Compete	Small	Medium	Large	All
Power reliability	**16.8**	**18.9**	**19.4**	**17.7**
Domestic shipping reliability	31.5	47.9	50.0	37.4
Dealing with regulations	**68.8**	61.0	52.3	**64.9**
Customs clearance efficiency	-	43.6	37.2	38.8
Connect				
State of cluster development				**73.1**
Extent of marketing				60.1
Local supplier quality				50.3
University-industry collaboration in R&D				55.4
Change				
Access to finance	**4.5**	**16.8**	45.4	**10.0**
Access to educated workforce	58.3	58.3	44.1	56.9
Business licensing and permits	39.4	32.9	39.4	37.5

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	40.1
Ease of trading across borders	33.9
Applied tariff, trade-weighted average	37.5
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	47.6
Logistics performance index	49.8
ISO 9001 quality certificates	41.2
ISO 14001 environmental certificates	48.4
Governance index	59.0
Connect	
ICT access	42.5
ICT use	48.1
Government's online service	46.6
Change	
Ease of getting credit	**61.5**
Interest rate spread	46.6
School life expectancy	42.6
Ease of starting a business	48.1
Patent applications	-
Trademark registrations	**7.9**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

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Strategic snapshot

Ghana is a lower-middle income country with a population of 28.3 million and GDP of $45.5 billion. Goods and services account for 83.7% and 16.3% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Gold, cocoa beans and petroleum oils are top exports. The country could export an additional $1.8 billion in *cocoa beans* to the Americas, Asia and Europe. This product scores well on the price stability indicator compared with the country's other goods. There are also export opportunities in Asia for *fresh or dried cashew nuts* and globally for *prepared or preserved tunas*. Compared with other sectors in Ghana, SMEs and women are strongly represented in the production of *prepared or preserved tunas*, and this good scores well on the price stability indicator.

Ghana has export diversification opportunities in metal products, chemicals and textile products, through *unwrought tin* and *fatty acids, industrial, monocarboxylic,* and *sacks and bags*. Compared with the country's other goods, SMEs are strongly represented in the production of *sacks and bags*.

Firms in Ghana score higher than expected in their capacity to change compared with those in countries with a similar development level. Medium-sized and large firms perform well in having audited financial statements and in offering formal training to employees. Small firms lag behind in their capacity to connect, which could be improved with better use of the internet. At the business ecosystem level, dealing with regulations is perceived as easy compared with scores in other countries with similar development levels, while a significant improvement in access to financial resources and power reliability is necessary to boost the competitiveness of firms of all sizes.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Cocoa beans, whole or broken, raw or roasted	180100	2167.4									
Cocoa paste (excluding defatted)	180310	363.9									
Fresh or dried cashew nuts, in shell	080131	160.0									
Cocoa butter, fat and oil	180400	196.1									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	151.4									
Prepared or preserved tunas, skipjack and Atlantic bonito, whole or in pieces (excluding minced)	160414	160.4									
Gold, incl. gold plated with platinum, in semi-manufactured forms, for non-monetary purposes	710813	44.3									
Fresh or dried nuts (excluding coconuts, Brazil nuts, cashew nuts, almonds, hazelnuts, filberts, walnuts,...	0802Xc	48.9									
Cocoa powder, not containing added sugar or other sweetening matter	180500	104.9									
Cocoa paste, wholly or partly defatted	180320	28.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Guatemala

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Key indicators

Population (millions)	16.9
GDP ($ billions)	70.8
GDP per capita ($)	4184.9
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	0.5
Tariff preference margin (percentage points)	6.2
Imports and exports (goods and services), share of GDP (%)	53.8
Services exports, share of total exports (%)	20.9
Geographic region	Americas
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	26.0	27.1	37.7
	Medium	41.9	64.8	64.8
	Large	54.2	**94.8**	**86.3**
	All	36.9	43.4	57.0
BUSINESS ECOSYSTEM		45.2	64.3	43.8
NATIONAL ENVIRONMENT		54.5	46.7	39.8

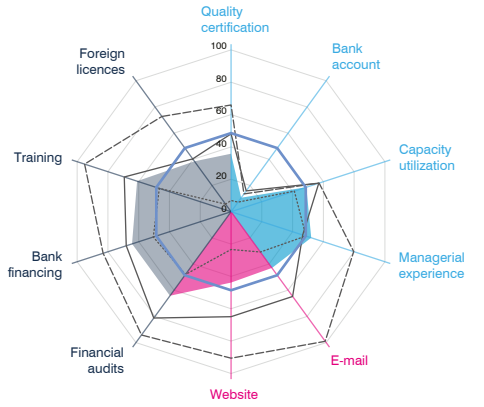
Reference level (a function of GDP per capita): 48.6

Weaknesses are scores below: 24.3 | **Strengths are scores above: 72.8**

SME Competitiveness Grid

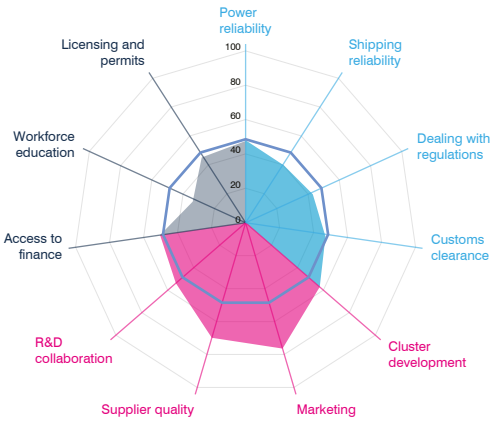
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**6.9**	48.1	65.9	35.8
Bank account	**7.3**	**15.9**	**13.5**	**10.6**
Capacity utilization	41.1	57.0	57.2	49.0
Managerial experience	48.7	46.5	**80.0**	52.1
Connect				
E-mail	30.8	64.8	**99.0**	43.0
Firm website	**23.3**	64.9	**90.5**	43.8
Change				
Audited financial statement	48.0	**81.2**	**94.2**	64.2
Investment financed by banks	50.5	68.1	**83.1**	64.3
Formal training programme	46.6	69.4	**95.2**	61.0
Foreign technology licences	**5.7**	40.3	72.7	38.4



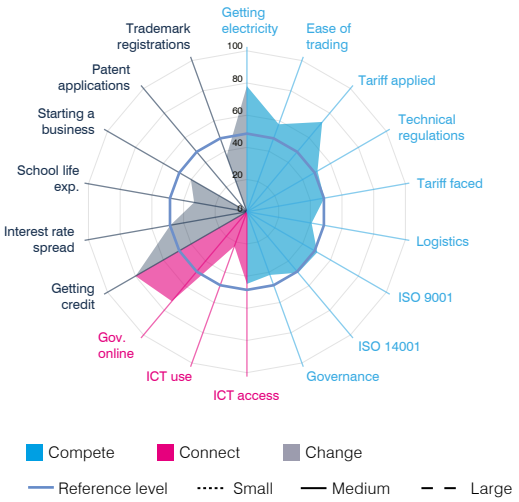
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	43.4	56.1	62.5	49.4
Domestic shipping reliability	41.2	50.0	32.4	41.2
Dealing with regulations	55.9	31.5	36.6	43.0
Customs clearance efficiency	58.1	42.5	49.4	47.0
Connect				
State of cluster development				57.2
Extent of marketing				**76.4**
Local supplier quality				69.9
University-industry collaboration in R&D				53.7
Change				
Access to finance	51.9	43.2	67.4	50.3
Access to educated workforce	40.8	32.8	**14.0**	33.8
Business licensing and permits	47.1	44.8	56.4	47.3



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**78.1**
Ease of trading across borders	57.9
Applied tariff, trade-weighted average	72.8
Prevalence of technical regulations	50.6
Faced tariff, trade-weighted average	48.8
Logistics performance index	40.8
ISO 9001 quality certificates	50.5
ISO 14001 environmental certificates	49.5
Governance index	41.8
Connect	
ICT access	44.9
ICT use	**22.7**
Government's online service	72.6
Change	
Ease of getting credit	**79.9**
Interest rate spread	48.4
School life expectancy	33.3
Ease of starting a business	40.3
Patent applications	**0.0**
Trademark registrations	36.9



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Guatemala

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Strategic snapshot

Guatemala is a lower-middle income country with a population of 16.9 million and GDP of $70.8 billion. Goods and services account for 79.1% and 20.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Bananas, sugar and coffee are top exports. The country could export an additional $222 million in *bread, pastry, cakes, biscuits and other bakers' wares* globally, with the home region representing the largest market. SMEs and women are strongly represented in the production of these items, which score well on the price stability indicator compared with the country's other products. There are worldwide export opportunities for *bananas* and *coffee*, which also score well on the price stability indicator in relation to other Guatemalan goods.

Guatemala has export diversification opportunities in jewellery, beverages and metal products, through *articles of jewellery* and *frozen orange juice*. SMEs and women are strongly represented in the production of these goods compared with other sectors in the country. Another group of products identified for diversification – *table, kitchen or other household articles and parts of aluminium* – scores well on the price stability indicator compared with other Guatemalan products.

Small firms in Guatemala face a number of challenges that limit their competitiveness, particularly compared with larger firms, which perform higher than expected given the country's development level. The widest gap between small and large firms, and hence an opportunity for improvement, lies in the capacity to connect. For example, very few small firms have a website and small firms rarely have international quality certificates or foreign technology licences. Few firms, whether small or large, have a bank account. The extent of marketing is a strong feature of the business ecosystem, while the access to an educated workforce is limited, especially as reported by large firms.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	730.5									
Bananas, incl. plantains, fresh or dried	0803	904.9									
Coffee (excluding roasted and decaffeinated)	090111	804.1									
Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion...	190590	69.1									
Fresh melons (excluding watermelons)	080719	185.9									
Soups and broths and preparations therefor	210410	70.0									
Waters, incl. mineral and aerated, with added sugar, sweetener or flavour, for direct consumption as a...	220210	72.7									
Undenatured ethyl alcohol, of actual alcoholic strength of >= 80%	220710	135.4									
Sugar confectionery not containing cocoa, incl. white chocolate (excluding chewing gum)	170490	62.1									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	238.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Honduras

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Key indicators

Population (millions)	8.3
GDP ($ billions)	22.7
GDP per capita ($)	2729.8
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.0
Tariff preference margin (percentage points)	8.9
Imports and exports (goods and services), share of GDP (%)	82.6
Services exports, share of total exports (%)	38.6
Geographic region	Americas
Country group	
Income group	Lower-middle income

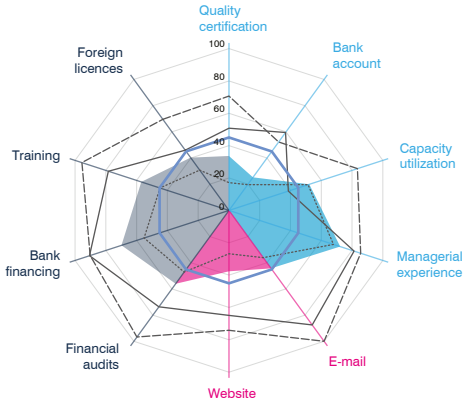
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	39.0	31.5	44.5
	Medium	57.6	**76.2**	**72.2**
	Large	**73.0**	**87.0**	**88.0**
	All	45.9	41.0	55.8
BUSINESS ECOSYSTEM		42.6	52.3	**22.1**
NATIONAL ENVIRONMENT		47.1	31.0	40.3
Reference level (a function of GDP per capita): 45.1				
Weaknesses are scores below: 22.5			**Strengths are scores above: 67.6**	

SME Competitiveness Grid

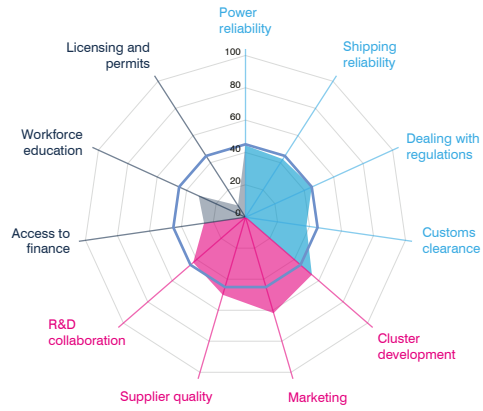
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**17.1**	50.8	**70.7**	33.6
Bank account	**19.7**	59.5	52.3	25.3
Capacity utilization	51.4	38.6	**83.5**	52.3
Managerial experience	**67.9**	**81.3**	**85.6**	**72.3**
Connect				
E-mail	36.1	**87.5**	**100.0**	44.3
Firm website	26.8	64.9	**74.1**	37.7
Change				
Audited financial statement	47.1	**73.7**	**96.8**	56.1
Investment financed by banks	55.1	**90.6**	**90.2**	**69.8**
Formal training programme	44.8	**78.3**	**95.5**	56.9
Foreign technology licences	30.7	46.0	**69.5**	40.3



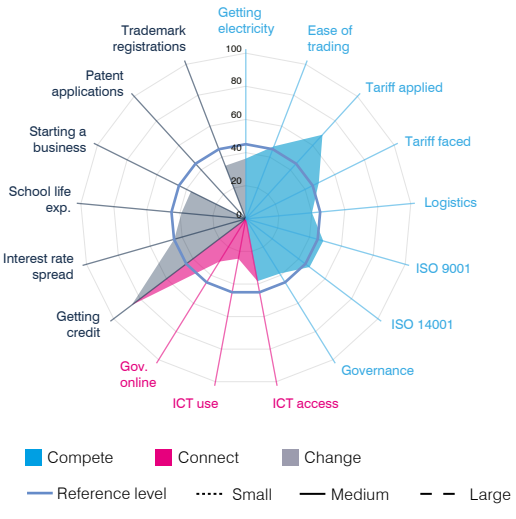
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	43.9	47.0	42.5	44.4
Domestic shipping reliability	42.7	36.3	**81.9**	42.7
Dealing with regulations	45.6	43.8	45.1	45.1
Customs clearance efficiency	-	38.3	56.2	38.1
Connect				
State of cluster development				54.4
Extent of marketing				61.9
Local supplier quality				50.0
University-industry collaboration in R&D				42.8
Change				
Access to finance	**19.7**	39.8	**75.8**	25.9
Access to educated workforce	30.1	40.4	28.2	31.9
Business licensing and permits	**7.8**	**10.3**	**12.5**	**8.6**



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	36.4
Ease of trading across borders	47.0
Applied tariff, trade-weighted average	**68.7**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	49.2
Logistics performance index	40.1
ISO 9001 quality certificates	48.6
ISO 14001 environmental certificates	48.2
Governance index	38.8
Connect	
ICT access	38.3
ICT use	24.4
Government's online service	30.3
Change	
Ease of getting credit	**86.4**
Interest rate spread	44.9
School life expectancy	39.0
Ease of starting a business	37.0
Patent applications	**0.0**
Trademark registrations	34.4



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Honduras

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Strategic snapshot

Honduras is a lower-middle income country with a population of 8.3 million and GDP of $22.7 billion. Goods and services account for 61.4% and 38.6% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Coffee, insulated electric wire and conductors, and crustaceans are top exports. The country could export an additional $677 million in *coffee* to the Americas, Asia, and Europe. This product scores well on the price stability indicator compared with the country's other products. There are also export opportunities to Europe for *bananas* and to Americas for *ignition wiring sets and other wiring sets for vehicles, aircraft or ships*.

Honduras has export diversification opportunities in paper products, alcoholic beverages and processed foods, through *sacks and bags, of paper,* and *beer made from malt*. Another product identified for diversification is *uncooked pasta*. Compared with the country's other products and sectors, women are strongly represented in the production of this product and it scores well on the price stability indicator.

Large and medium-sized firms in Honduras perform well in their capacity to connect and capacity to change. The capacity to compete of small firms is limited due to difficulties in obtaining international quality certifications, and opening a bank account, while large firms perform well on these indicators. At the business ecosystem level, there is room for improvement in dealing with business licensing and permits. Compared with other countries at a similar level of development, Honduras scores high on the ease of getting credit. However, only large companies rate access to finance as easy. Closing the gap between large and small firms is key to enhanced competitiveness in Honduras.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Coffee (excluding roasted and decaffeinated)	090111	982.3									
Bananas, incl. plantains, fresh or dried	0803	297.7									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	510.8									
Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded...	340119	81.5									
Fresh melons (excluding watermelons)	080719	102.6									
Cartons, boxes and cases, of corrugated paper or paperboard	481910	53.4									
Shrimps and prawns, frozen	0306Xb	187.1									
Crude palm oil	151110	195.3									
Frozen rock lobster and other sea crawfish "Palinurus spp.", "Panulirus spp." and "Jasus spp.",...	030611	53.0									
Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa;...	190590	35.7									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Hungary

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Key indicators

Population (millions)	9.8
GDP ($ billions)	132.0
GDP per capita ($)	13459.7
Share of world GDP (PPP$, %)	0.2
Current account surplus/deficit, share of GDP (%)	4.8
Tariff preference margin (percentage points)	1.6
Imports and exports (goods and services), share of GDP (%)	188.5
Services exports, share of total exports (%)	18.1
Geographic region	Europe
Country group	
Income group	High income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	56.9	44.3	32.2
	Medium	62.0	60.9	45.6
	Large	69.2	59.7	51.1
	All	59.2	48.5	37.3
BUSINESS ECOSYSTEM		47.7	46.0	69.5
NATIONAL ENVIRONMENT		71.8	77.3	67.4
Reference level (a function of GDP per capita): 58.1				
Weaknesses are scores below: 29.1			Strengths are scores above: 87.2	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

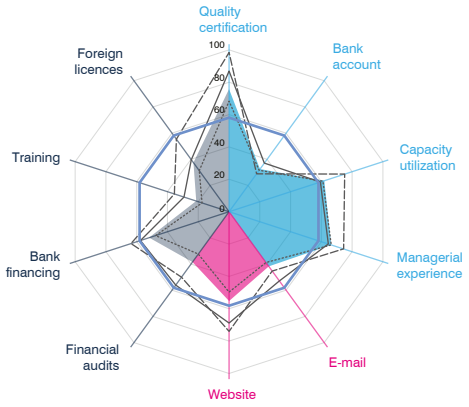
Compete	Small	Medium	Large	All
International quality certificate	68.3	86.9	**98.4**	75.8
Bank account	31.7	37.1	**29.0**	32.5
Capacity utilization	61.0	59.3	75.2	61.9
Managerial experience	66.4	64.5	74.4	66.4
Connect				
E-mail	38.9	52.9	45.3	41.8
Firm website	49.7	68.8	74.0	55.2
Change				
Audited financial statement	32.4	56.1	50.0	38.5
Investment financed by banks	47.7	57.6	63.7	52.0
Formal training programme	**17.5**	29.3	35.5	**21.3**
Foreign technology licences	31.3	39.6	55.3	37.5

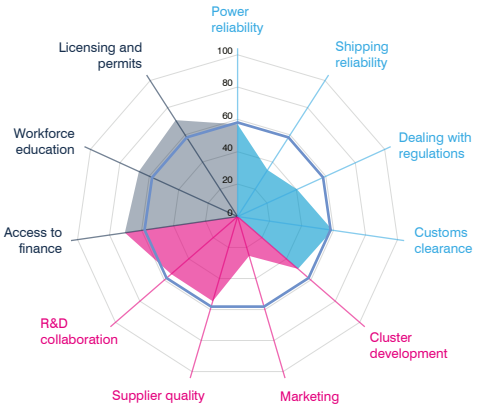
BUSINESS ECOSYSTEM (Normalized scores)

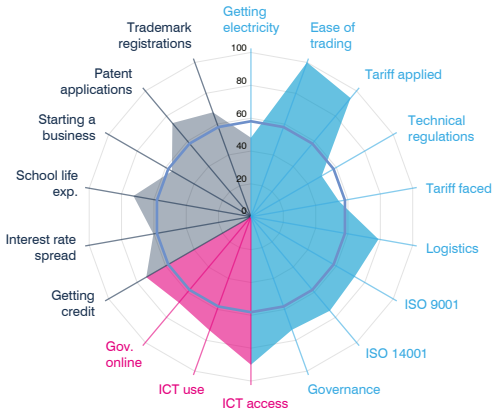
Compete	Small	Medium	Large	All
Power reliability	59.0	79.7	34.4	57.0
Domestic shipping reliability	47.9	**25.7**	-	34.2
Dealing with regulations	40.0	39.1	51.6	40.4
Customs clearance efficiency	-	-	67.4	59.3
Connect				
State of cluster development				49.5
Extent of marketing				**25.4**
Local supplier quality				54.6
University-industry collaboration in R&D				54.4
Change				
Access to finance	67.2	86.0	64.1	70.4
Access to educated workforce	63.3	**89.5**	54.0	67.1
Business licensing and permits	73.4	60.9	**100.0**	70.8

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	48.1
Ease of trading across borders	**100.0**
Applied tariff, trade-weighted average	**94.3**
Prevalence of technical regulations	49.8
Faced tariff, trade-weighted average	54.4
Logistics performance index	78.8
ISO 9001 quality certificates	72.9
ISO 14001 environmental certificates	74.7
Governance index	73.3
Connect	
ICT access	**90.1**
ICT use	73.7
Government's online service	68.2
Change	
Ease of getting credit	73.6
Interest rate spread	60.3
School life expectancy	72.6
Ease of starting a business	55.6
Patent applications	74.4
Trademark registrations	67.7







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Hungary

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Strategic snapshot

Hungary is a high income country with a population of 9.8 million and GDP of $132 billion. Goods and services account for 81.9% and 18.1% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Top export goods are motor cars, parts for motor vehicles, spark ignition piston engines, and medicines. The country could export an additional $5.9 billion in *pharmaceutical products* to its home region. Women are strongly represented in the production of these products compared with the country's other sectors. There are also opportunities to export *motor cars and other motor vehicles,* and *reception apparatus for television*.

Hungary has export diversification opportunities in ferrous metals, and machinery and electronic equipment, through *wind-powered generating sets* and *heat pumps*. Compared with the country's other sectors and products, SMEs are strongly represented in the production of another group of products identified for diversification, *flat-rolled products of iron or non-alloy steel,* which score well on the price stability indicator.

Firms in Hungary perform better than expected in their capacity to compete, given the country's level of development. Most firms hold international quality certifications, and managers have substantive experience. There is scope for improvement in the capacity to change of small firms, notably in offering formal training to employees. At the business ecosystem level, there is room for progress in the use of marketing tools and techniques. Access to finance, an educated workforce, and business licensing and permits are strong aspects of the business ecosystem, helping firms to adapt in a rapidly changing environment.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	4296.4									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870323	4998.2									
Compression-ignition internal combustion piston engine "diesel or semi-diesel engine", for the...	840820	2408.2									
Reception apparatus for television	8528Xb	2860.5									
Spark-ignition reciprocating piston engine, of a kind used for vehicles of chapter 87, of a cylinder...	840734	3655.3									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870332	2066.1									
Apparatus for the transmission or reception of voice, images or other data, incl. apparatus for...	85XXXb	3277.7									
Miscellaneous parts and accessories, for tractors, motor vehicles for the transport of ten or more...	8708XX	2351.4									
New pneumatic tyres, of rubber, of a kind used for motor cars, incl. station wagons and racing cars	401110	1236.6									
Regulating or controlling instruments and apparatus (excluding hydraulic or pneumatic, manostats,...	903289	1507.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Indonesia

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Key indicators

Population (millions)	262.0
GDP ($ billions)	1010.9
GDP per capita ($)	3858.7
Share of world GDP (PPP$, %)	2.6
Current account surplus/deficit, share of GDP (%)	-1.7
Tariff preference margin (percentage points)	3.3
Imports and exports (goods and services), share of GDP (%)	40.2
Services exports, share of total exports (%)	12.9
Geographic region	Asia
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	25.4	**7.5**	25.5
	Medium	42.4	28.5	40.4
	Large	63.2	54.6	51.3
	All	31.7	**11.8**	30.7
BUSINESS ECOSYSTEM		56.8	**74.2**	60.0
NATIONAL ENVIRONMENT		64.1	43.1	45.0
Reference level (a function of GDP per capita): 47.9				
Weaknesses are scores below: 23.9			**Strengths are scores above: 71.8**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

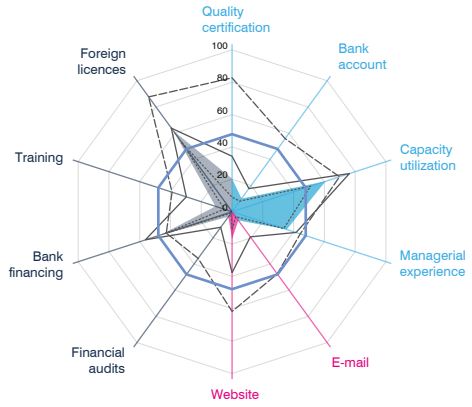
Compete	Small	Medium	Large	All
International quality certificate	**8.9**	34.2	**82.7**	**20.5**
Bank account	**8.1**	**17.6**	55.8	**10.0**
Capacity utilization	51.0	**76.3**	69.9	60.8
Managerial experience	33.6	41.6	44.3	35.5
Connect				
E-mail	**3.8**	**19.3**	47.5	**6.7**
Firm website	**11.1**	37.7	61.6	**16.9**
Change				
Audited financial statement	**1.1**	**11.9**	35.6	**3.9**
Investment financed by banks	43.3	56.3	42.8	46.1
Formal training programme	**5.0**	29.7	39.0	**10.8**
Foreign technology licences	52.5	63.8	**87.7**	61.9

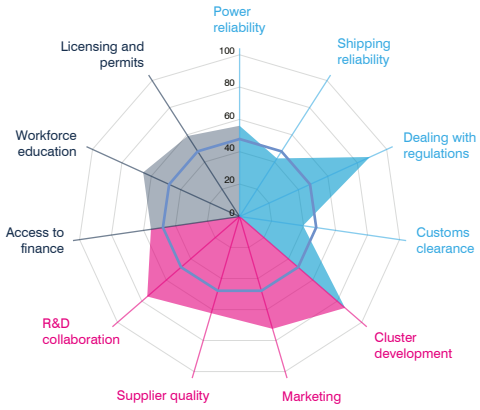
BUSINESS ECOSYSTEM (Normalized scores)

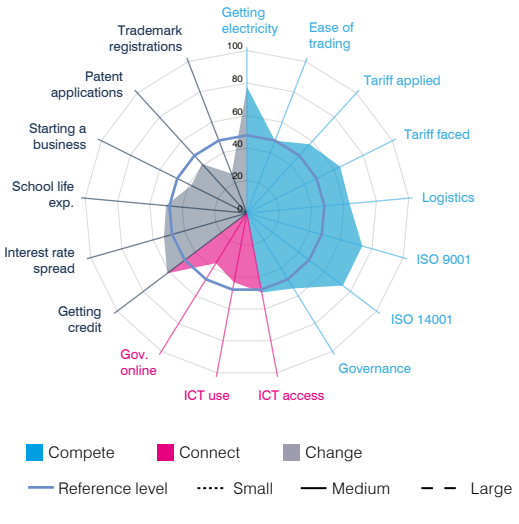
Compete	Small	Medium	Large	All
Power reliability	56.1	55.2	**72.1**	56.1
Domestic shipping reliability	38.6	46.0	66.6	42.7
Dealing with regulations	**88.6**	**93.8**	**83.2**	**88.6**
Customs clearance efficiency	-	47.4	37.1	39.7
Connect				
State of cluster development				**86.4**
Extent of marketing				**72.4**
Local supplier quality				62.4
University-industry collaboration in R&D				**75.6**
Change				
Access to finance	58.2	44.7	52.7	55.4
Access to educated workforce	68.0	57.0	60.1	65.6
Business licensing and permits	61.2	52.8	48.2	59.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**77.8**
Ease of trading across borders	47.7
Applied tariff, trade-weighted average	57.4
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	64.1
Logistics performance index	63.4
ISO 9001 quality certificates	**73.9**
ISO 14001 environmental certificates	**74.0**
Governance index	54.5
Connect	
ICT access	49.7
ICT use	43.3
Government's online service	36.3
Change	
Ease of getting credit	61.5
Interest rate spread	53.1
School life expectancy	50.0
Ease of starting a business	38.3
Patent applications	40.9
Trademark registrations	26.0







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2015) for firm level data; for other sources and methodology, see the Technical Annex.

Indonesia

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Strategic snapshot

Indonesia is a lower-middle income country with a population of 262 million and GDP of $1.01 trillion. Goods and services account for 87.1% and 12.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Palm oil and its fractions, coal, and petroleum gas and oils are top exports. The country could export an additional $2.5 billion in *technically specified natural rubber*. There are also opportunities to export *unwrought tin* and *miscellaneous chemical products* to Asia.

Indonesia has export diversification opportunities in machinery and electronic equipment, apparel, and miscellaneous manufactured products, through *microwave ovens* and *vacuum flasks and other vacuum vessels*. Compared with other sectors and products in Indonesia, SMEs and women are strongly involved in the production of another group of products identified for diversification – *men's or boys' ensembles of synthetic fibres.*

There is a gap between a business ecosystem that functions better than expected for a country at Indonesia's development level, and firm capabilities. Indonesian SMEs are behind SMEs in countries with a similar level of development on a number of indicators. Few small firms have international quality certificates and a bank account, use the internet, audit their financial statements, or offer formal training to employees. The business ecosystem is supportive, with a high score on business clusters, extent of marketing, and university-industry collaboration in R&D, compared with countries at a similar development level. The focus on firms' capabilities is necessary for enhancing the competitiveness in Indonesia.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Palm oil and its fractions, whether or not refined (excluding chemically modified and crude)	151190	11124.6									
Crude palm oil	151110	5246.4									
Technically specified natural rubber "TSNR"	400122	5150.1									
Paper and paperboard (excluding handmade; filter paper and paperboard; copying or transfer...	48XXXa	2933.9									
Coffee (excluding roasted and decaffeinated)	090111	1164.2									
Unwrought tin, not alloyed	800110	1783.0									
Sheets for veneering of a thickness of <= 6 mm & plywood, veneered panel and similar laminated...	44XXXX	1988.9									
Shrimps and prawns, frozen	0306Xb	1318.0									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870323	886.4									
Miscellaneous chemical products	38XXXX	931.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Kenya

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Key indicators

Population (millions)	46.7
GDP ($ billions)	78.4
GDP per capita ($)	1677.7
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-6.1
Tariff preference margin (percentage points)	8.0
Imports and exports (goods and services), share of GDP (%)	49.9
Services exports, share of total exports (%)	43.7
Geographic region	Africa
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	40.4	24.9	54.5
	Medium	48.7	54.7	**67.3**
	Large	60.1	**63.7**	**77.4**
	All	46.3	36.3	**62.9**
BUSINESS ECOSYSTEM		36.9	**71.6**	41.9
NATIONAL ENVIRONMENT		53.2	37.8	43.3
Reference level (a function of GDP per capita): 41.1				
Weaknesses are scores below: 20.5		**Strengths are scores above: 61.6**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

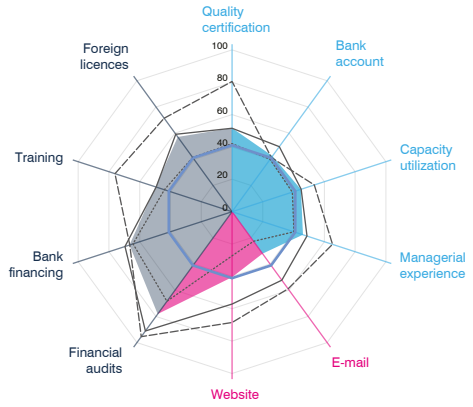
Compete	Small	Medium	Large	All
International quality certificate	42.1	51.6	**80.5**	51.7
Bank account	40.0	49.6	41.3	42.5
Capacity utilization	39.2	44.9	53.5	44.7
Managerial experience	40.2	48.7	**65.3**	46.1
Connect				
E-mail	22.6	52.3	58.9	32.1
Firm website	27.3	57.1	**68.5**	40.4
Change				
Audited financial statement	**68.5**	**91.1**	**95.5**	**78.2**
Investment financed by banks	**64.3**	**69.6**	**66.5**	**66.6**
Formal training programme	44.0	49.3	**76.1**	49.7
Foreign technology licences	41.4	59.2	**71.4**	57.1

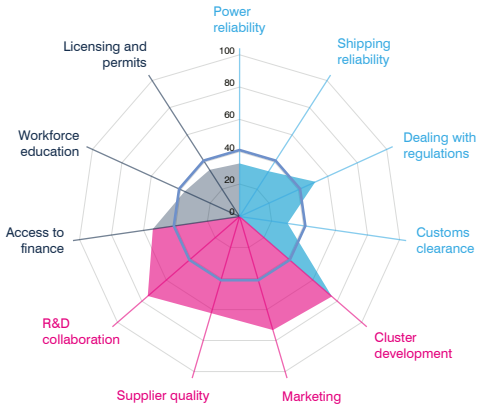
BUSINESS ECOSYSTEM (Normalized scores)

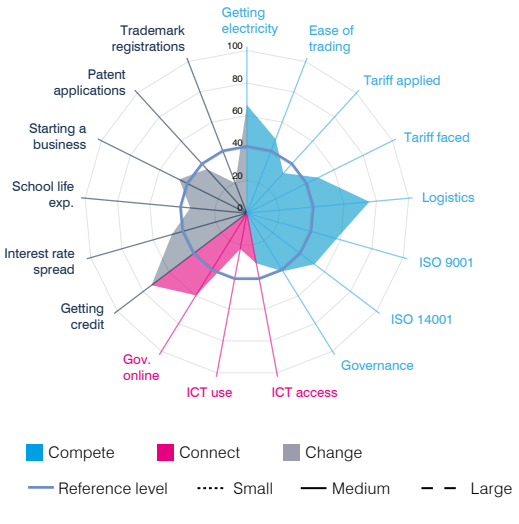
Compete	Small	Medium	Large	All
Power reliability	33.1	33.9	28.6	32.8
Domestic shipping reliability	26.3	47.9	34.2	33.3
Dealing with regulations	53.3	49.4	49.1	51.6
Customs clearance efficiency	-	31.1	32.9	30.0
Connect				
State of cluster development				**75.6**
Extent of marketing				**73.2**
Local supplier quality				**62.4**
University-industry collaboration in R&D				**75.2**
Change				
Access to finance	57.9	50.3	46.8	54.2
Access to educated workforce	33.3	48.0	34.2	37.3
Business licensing and permits	34.3	36.0	30.2	34.3

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**66.6**
Ease of trading across borders	48.9
Applied tariff, trade-weighted average	33.4
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	49.1
Logistics performance index	**75.7**
ISO 9001 quality certificates	57.5
ISO 14001 environmental certificates	52.2
Governance index	42.1
Connect	
ICT access	31.4
ICT use	22.4
Government's online service	59.5
Change	
Ease of getting credit	**73.6**
Interest rate spread	48.1
School life expectancy	35.1
Ease of starting a business	46.6
Patent applications	36.7
Trademark registrations	**19.9**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Kenya

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Strategic snapshot

Kenya is a lower-middle income country with a population of 46.7 million and GDP of $78.4 billion. Goods and services account for 56.3% and 43.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Tea, cut flowers and coffee are top exports. The country could export an additional $930 million in *black fermented tea* globally. This product scores well on the price stability indicator compared to the country's other goods. There are also export opportunities to the Americas, Asia and Europe for *fresh cut flowers and buds* and *coffee*.

Kenya has export diversification opportunities in textile products, processed foods and ferrous metals, through *bars and rods, of iron or non-alloy steel,* and *made-up articles of textile materials*. Compared with Kenya's other sectors and products, SMEs and women are strongly represented in the production of another product identified for diversification, *uncooked pasta,* which scores well on the price stability indicator.

Firms in Kenya perform well in their capacity to change, with most firms, including SMEs, reporting audited financial statements and bank financing. Small firms could improve their capacity to connect by using the internet better. At the business ecosystem level, there is room for improvement in customs clearance efficiency. State of cluster development, extent of marketing, local supplier quality and university-industry collaboration in R&D are the strong features of the business ecosystem.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090240	1212.5									
Fresh cut flowers and buds, of a kind suitable for bouquets or for ornamental purposes	0603XX	602.2									
Coffee (excluding roasted and decaffeinated)	090111	232.9									
Fresh or dried avocados	080440	59.0									
Fresh or dried nuts (excluding coconuts, Brazil nuts, cashew nuts, almonds, hazelnuts, filberts, walnuts...	0802Xc	49.7									
Portland cement (excluding white, whether or not artificially coloured)	252329	73.2									
Fresh or chilled beans "Vigna spp., Phaseolus spp.", shelled or unshelled	070820	120.7									
Pineapples, prepared or preserved, whether or not containing added sugar or other sweetening matter...	200820	72.2									
Fresh or chilled globe artichokes, olives, pumpkins, squash, gourds "Cucurbita spp." and other...	0709Xb	30.3									
Fresh or dried guavas, mangoes and mangosteens	080450	18.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Lao People's Democratic Republic

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Key indicators

Population (millions)	6.7
GDP ($ billions)	17.2
GDP per capita ($)	2567.5
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-9.6
Tariff preference margin (percentage points)	6.4
Imports and exports (goods and services), share of GDP (%)	56.7
Services exports, share of total exports (%)	17.7
Geographic region	Asia
Country group	LDC, LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	33.8	**5.6**	22.8
	Medium	49.5	**21.4**	27.4
	Large	59.7	53.4	51.8
	All	35.1	**7.3**	26.2
BUSINESS ECOSYSTEM		**68.5**	52.5	**68.6**
NATIONAL ENVIRONMENT		44.2	26.8	38.3
Reference level (a function of GDP per capita): 44.6				
Weaknesses are scores below: 22.3			**Strengths are scores above: 66.8**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

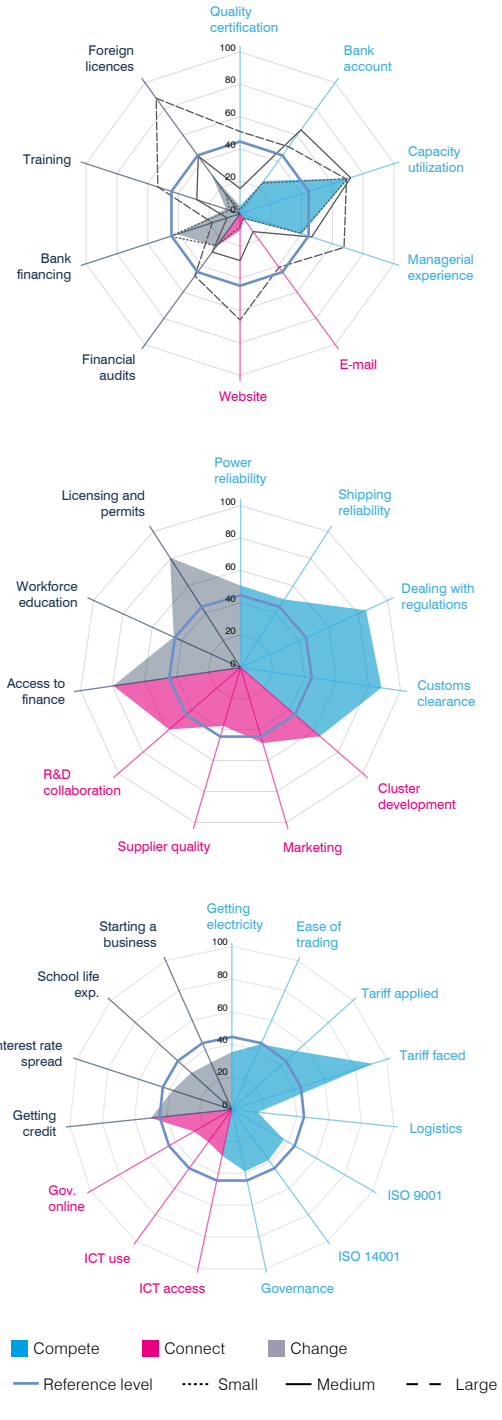
Compete	Small	Medium	Large	All
International quality certificate	**2.4**	**15.5**	50.8	**4.7**
Bank account	23.5	64.1	51.1	25.1
Capacity utilization	**69.9**	**71.8**	**69.2**	**70.3**
Managerial experience	39.3	46.5	**67.5**	40.2
Connect				
E-mail	**3.2**	**13.8**	41.0	**4.3**
Firm website	**8.1**	29.0	65.7	**10.4**
Change				
Audited financial statement	24.4	29.2	47.5	25.1
Investment financed by banks	45.4	**8.3**	**18.0**	40.7
Formal training programme	**6.7**	28.1	53.4	**9.1**
Foreign technology licences	**14.6**	44.0	**88.2**	29.8

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	50.0	59.0	48.7	50.7
Domestic shipping reliability	46.0	61.9	58.2	50.0
Dealing with regulations	**86.3**	**78.7**	**67.1**	**85.3**
Customs clearance efficiency	-	**94.6**	-	**88.0**
Connect				
State of cluster development				65.0
Extent of marketing				48.7
Local supplier quality				37.7
University-industry collaboration in R&D				58.5
Change				
Access to finance	**79.0**	**83.0**	**96.8**	**79.6**
Access to educated workforce	45.4	48.7	33.4	45.4
Business licensing and permits	**80.8**	**80.1**	**100.0**	**80.8**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	35.3
Ease of trading across borders	44.0
Applied tariff, trade-weighted average	53.5
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**90.9**
Logistics performance index	**16.0**
ISO 9001 quality certificates	36.9
ISO 14001 environmental certificates	38.4
Governance index	38.8
Connect	
ICT access	28.9
ICT use	24.6
Government's online service	26.9
Change	
Ease of getting credit	50.0
Interest rate spread	38.1
School life expectancy	33.6
Ease of starting a business	31.6
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Lao People's Democratic Republic

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Strategic snapshot

Lao is a lower-middle income country with a population of 6.7 million and GDP of $17.2 billion. Goods and services account for 82.3% and 17.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Copper ores and refined copper, bananas, and cameras are top exports. The country could export to its home region an additional $334 million in *refined copper*. This product scores well on the price stability indicator compared with the country's other products. There are also opportunities to export *telephone parts* and *technically specified natural rubber* to Asia.

Lao has export diversification opportunities in wood products, apparel and miscellaneous manufactured products, through *mats, matting and screens* and *women's or girls' jackets and blazers of cotton, knitted or crocheted*. In comparison with the country's other products, SMEs are strongly represented in the production of another group of products identified for diversification, *articles of bedding and similar furnishing,* which scores well on the price stability indicator.

In comparison with other countries with a similar development level, firms in Lao perform well in their capacity to compete. While few SMEs obtain international quality certifications, firms of all sizes use their resources to full capacity. There is scope for improvement in the capacity to connect of SMEs, particularly in using the internet. Large firms use e-mails and websites, and the country has an adequate score on ICT access at the national level. This suggests that problems with internet are specific to SMEs. At the business ecosystem level, firms report efficient customs clearance procedures, ease dealing with regulations and business licensing and permits, as well as adequate access to finance.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 700	0 700	0 700	0 700	0 700				
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of...	4407Xb	469.2									
Copper, refined, in the form of cathodes and sections of cathodes	740311	585.9									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	483.6									
Parts of telephone sets, telephones for cellular networks or for other wireless networks and of...	85XXXc	132.3									
Fresh, chilled, frozen or dried roots and tubers of manioc "cassava", whether or not sliced or in the...	071410	28.0									
Coffee (excluding roasted and decaffeinated)	090111	85.1									
Potassium chloride for use as fertiliser (excluding that in tablets or similar forms, or in packages with...	310420	72.0									
Technically specified natural rubber "TSNR"	400122	45.7									
Fresh or chilled cabbages, kohlrabi, kale and similar edible brassicas (excluding cauliflowers, headed...	070490	13.4									
Husked or brown rice	100620	10.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Lesotho

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Key indicators

Population (millions)	1.9
GDP ($ billions)	2.7
GDP per capita ($)	1413.6
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-8.5
Tariff preference margin (percentage points)	18.1
Imports and exports (goods and services), share of GDP (%)	108.2
Services exports, share of total exports (%)	4.7
Geographic region	Africa
Country group	LDC, LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	24.5	**9.6**	48.0
	Medium	27.0	28.2	**64.8**
	Large	**60.4**	**11.6**	**61.6**
	All	28.0	**12.6**	54.7
BUSINESS ECOSYSTEM		56.2	43.9	37.3
NATIONAL ENVIRONMENT		46.7	23.7	43.4
Reference level (a function of GDP per capita): 39.7				
Weaknesses are scores below: 19.8			**Strengths are scores above: 59.5**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

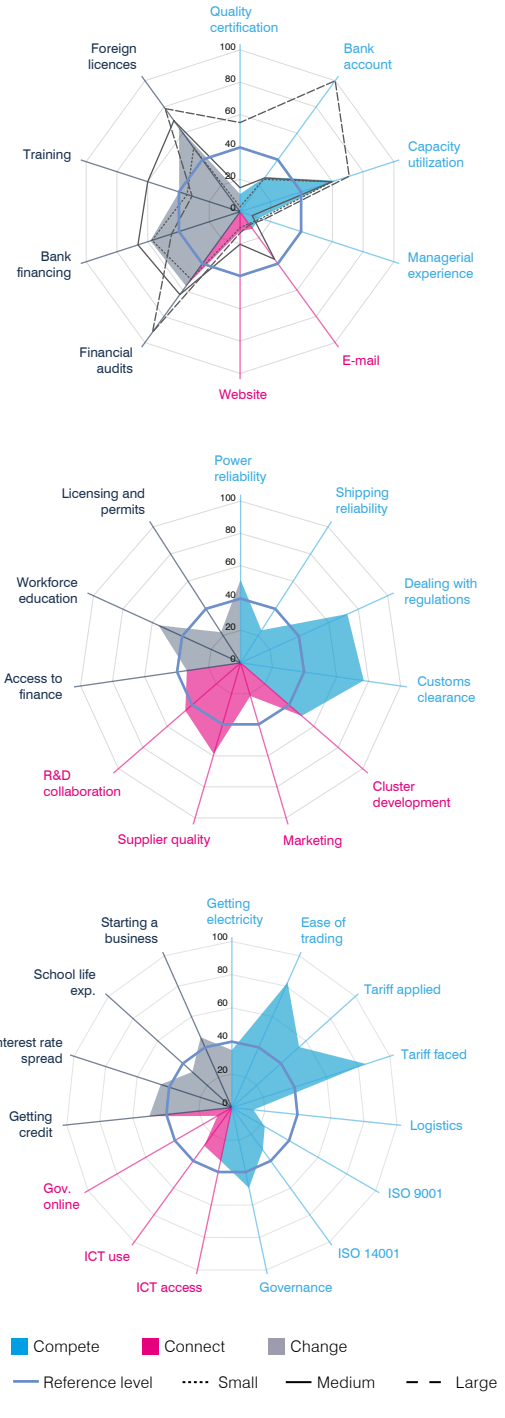
Compete	Small	Medium	Large	All
International quality certificate	**0.0**	**14.8**	55.1	**10.9**
Bank account	24.6	25.7	**100.0**	26.5
Capacity utilization	**59.5**	**59.8**	**71.0**	**62.1**
Managerial experience	**13.7**	**7.9**	**15.4**	**12.6**
Connect				
E-mail	**9.2**	36.3	**10.0**	**13.0**
Firm website	**10.0**	20.2	**13.1**	**12.1**
Change				
Audited financial statement	51.6	**63.3**	**92.0**	56.8
Investment financed by banks	57.2	**66.3**	44.5	58.3
Formal training programme	34.3	**60.0**	31.2	39.6
Foreign technology licences	48.8	**69.5**	**78.7**	**64.1**

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	54.4	47.0	47.0	51.4
Domestic shipping reliability	27.7	20.7	**12.6**	23.9
Dealing with regulations	**72.7**	**70.0**	**81.3**	**72.7**
Customs clearance efficiency	-	-	**74.5**	**77.0**
Connect				
State of cluster development				50.1
Extent of marketing				21.4
Local supplier quality				58.8
University-industry collaboration in R&D				45.2
Change				
Access to finance	28.0	50.5	59.3	33.6
Access to educated workforce	58.1	48.6	56.2	55.8
Business licensing and permits	**18.5**	27.0	**69.4**	22.5

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	34.6
Ease of trading across borders	**82.5**
Applied tariff, trade-weighted average	54.5
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**84.9**
Logistics performance index	**13.0**
ISO 9001 quality certificates	22.8
ISO 14001 environmental certificates	31.6
Governance index	49.5
Connect	
ICT access	32.8
ICT use	28.4
Government's online service	**10.0**
Change	
Ease of getting credit	50.0
Interest rate spread	45.1
School life expectancy	32.1
Ease of starting a business	46.3
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Lesotho

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Strategic snapshot

Lesotho is a lower-middle income country with a population of 1.9 million and GDP of $2.7 billion. Goods and services account for 95.3% and 4.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Diamonds, articles of apparel and clothing accessories, and automatic circuit breakers are top exports. The country could export to its home region an additional $45 million in *men's or boys' trousers*. Compared with other sectors in Lesotho, women are strongly represented in the production of these products, which score well on the price stability indicator. There are also export opportunities to Africa and the Americas for articles of apparel and clothing accessories, and *articles of leather or composition leather*.

Lesotho has export diversification opportunities in textiles and apparel, through *sacks and bags, for the packing of goods* and *hats and other headgear*. Another product identified for diversification – *single yarn of jute or of other fibres* – scores well on the price stability indicator compared with Lesotho's other goods.

Compared with other countries with a similar level of development, firms in Lesotho perform well in their capacity to change, but lag behind in their capacity to connect. Both large and small firms could increase their competitiveness by using the internet better. Despite limited managerial experience, and lack of international quality certifications, firms use their resources to full capacity. At the business ecosystem level, most firms find it easy to deal with regulations and customs procedures. Bottlenecks at the business ecosystem level relate to firm size. Small firms report a need for improvement in business licensing and permits, while large firms give a low rating to domestic shipping reliability. This modest score on the domestic shipping reliability links to a low logistics performance index at the country level. Similar to other landlocked countries, improvements in transport infrastructure and logistics in Lesotho could boost the competitiveness of firms of all sizes.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding knitted...	620342	100.8									
Men's or boys' shirts of man-made fibres, knitted or crocheted (excluding nightshirts, T-shirts, singlets...	610520	34.1									
Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or...	610463	63.4									
Men's or boys' trousers, bib and brace overalls, breeches and shorts of textile materials (excluding...	620349	4.2									
Bran, sharps and other residues of maize "corn", whether or not in the form of pellets, derived from...	230210	4.5									
Articles of leather or composition leather (excluding saddlery and harness bags; cases and similar...	420500	7.1									
Women's or girls' trousers, bib and brace overalls, breeches and shorts of cotton (excluding knitted...	620462	25.1									
Men's or boys' jackets and blazers of textile materials (excluding of wool, fine animal hair, cotton or...	620339	5.2									
Jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or...	611030	39.1									
Footwear with outer soles of rubber or plastics and uppers of textile materials (excluding sports...	640419	8.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Macedonia, the Former Yugoslav Republic of

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Key indicators

Population (millions)	2.1
GDP ($ billions)	11.4
GDP per capita ($)	5500.3
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-2.3
Tariff preference margin (percentage points)	5.4
Imports and exports (goods and services), share of GDP (%)	134.8
Services exports, share of total exports (%)	25.3
Geographic region	Europe
Country group	LLDC
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	50.4	49.8	32.5
	Medium	65.6	67.1	41.2
	Large	62.3	**88.0**	75.9
	All	53.7	52.7	35.8
BUSINESS ECOSYSTEM		49.8	57.5	58.2
NATIONAL ENVIRONMENT		59.8	70.2	65.0
Reference level (a function of GDP per capita): 50.8				
Weaknesses are scores below: 25.4			**Strengths are scores above: 76.2**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

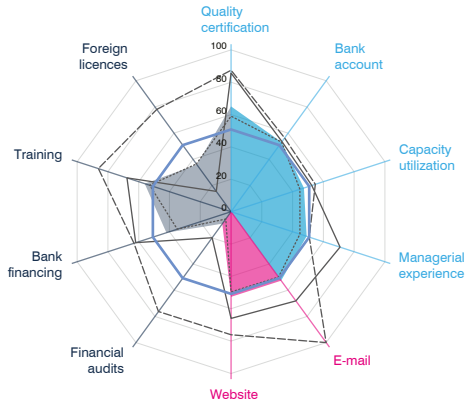
Compete	Small	Medium	Large	All
International quality certificate	59.0	**85.7**	**87.4**	65.1
Bank account	53.1	53.5	56.3	53.1
Capacity utilization	44.7	52.5	54.7	47.4
Managerial experience	44.8	70.9	50.9	49.1
Connect				
E-mail	49.9	68.2	**100.0**	52.7
Firm website	49.6	66.0	76.0	52.6
Change				
Audited financial statement	**5.6**	**19.9**	**76.3**	**9.2**
Investment financed by banks	35.0	61.9	63.1	42.0
Formal training programme	52.9	67.6	**86.2**	56.1
Foreign technology licences	36.5	**15.5**	**78.1**	36.0

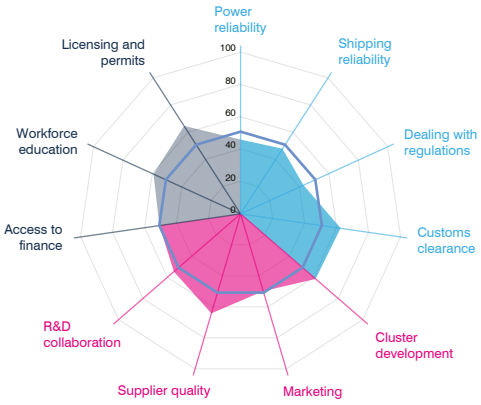
BUSINESS ECOSYSTEM (Normalized scores)

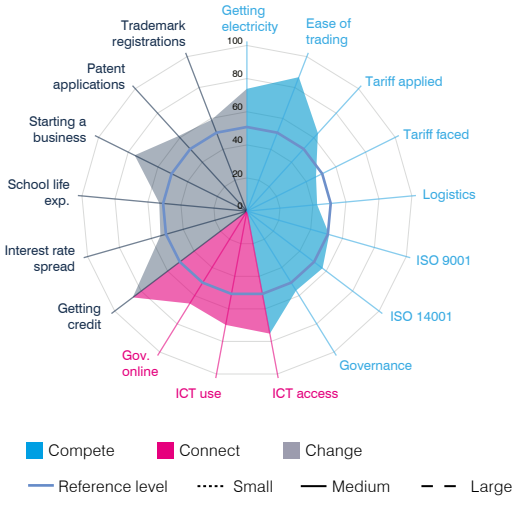
Compete	Small	Medium	Large	All
Power reliability	45.4	56.1	38.9	45.9
Domestic shipping reliability	42.7	61.9	**81.9**	47.9
Dealing with regulations	42.0	46.2	44.5	42.8
Customs clearance efficiency	59.3	**83.1**	61.2	62.5
Connect				
State of cluster development				61.5
Extent of marketing				49.8
Local supplier quality				64.2
University-industry collaboration in R&D				54.6
Change				
Access to finance	50.5	50.8	72.2	50.8
Access to educated workforce	65.1	37.3	59.0	59.2
Business licensing and permits	67.6	52.2	62.7	64.6

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	73.9
Ease of trading across borders	**86.8**
Applied tariff, trade-weighted average	63.6
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	46.6
Logistics performance index	42.5
ISO 9001 quality certificates	51.6
ISO 14001 environmental certificates	57.2
Governance index	56.4
Connect	
ICT access	75.2
ICT use	69.8
Government's online service	65.6
Change	
Ease of getting credit	**86.4**
Interest rate spread	54.3
School life expectancy	53.2
Ease of starting a business	75.7
Patent applications	61.3
Trademark registrations	59.1







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Macedonia, the Former Yugoslav Republic of

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Strategic snapshot

Macedonia is an upper-middle income country with a population of 2.1 million and GDP of $11.4 billion. Goods and services account for 74.7% and 25.3% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Top exports are reaction initiators, accelerators and catalytic preparations; centrifuges and centrifugal dryers; and insulated wire and electrical conductors. The country could export an additional $433 million in *catalysts* to its home region and Asia. This product scores well on the technology indicator compared with the country's other products. There are also export opportunities to Europe and Asia for *machinery and apparatus for filtering or purifying gases* and *motor vehicles*.

Macedonia has export diversification opportunities in footwear, and machinery and electronic equipment, through household *refrigerators* and *fully-automatic household or laundry-type washing machines*. Compared with other sectors, SMEs are strongly represented in the production of another group of products identified for diversification, *parts of footwear,* which scores well on the price stability indicator.

Firms in Macedonia perform well in their capacity to compete and connect compared with other firms in countries at a similar level of development. SMEs could enhance their capacity to change by acquiring foreign technology licences and auditing their financial statements. Large firms score well on these two indicators, suggesting that it would be feasible for SMEs to catch up. At the business ecosystem level, firms report performance that is better than expected for countries at Macedonia's level of development regarding efficient customs clearance procedures and business licensing and permits, and good local supplier quality.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Supported catalysts with precious metal or a precious-metal compound as the active substance...	381512	770.5									
Machinery and apparatus for filtering or purifying gases (excluding isotope separators and intake air...	842139	378.9									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	151.8									
Motor vehicles for the transport of >= 10 persons, incl. driver, with compression-ignition internal...	870210	113.1									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	78.8									
Boards, cabinets and similar combinations of apparatus for electric control or the distribution of...	853710	69.3									
Ferro-nickel	720260	252.1									
Reaction initiators, reaction accelerators and catalytic preparations, n.e.s. (excluding rubber accelerators...	381590	94.8									
Ferro-silicon, containing by weight > 55% of silicon	720221	62.3									
Wine of fresh grapes, incl. fortified wines, and grape must whose fermentation has been arrested by the...	220429	38.5									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Mali

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Key indicators

Population (millions)	18.9
GDP ($ billions)	15.0
GDP per capita ($)	793.8
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-7.0
Tariff preference margin (percentage points)	2.2
Imports and exports (goods and services), share of GDP (%)	69.3
Services exports, share of total exports (%)	10.7
Geographic region	Africa
Country group	LDC, LLDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.1	26.3	38.5
	Medium	**57.9**	37.8	52.2
	Large	**70.8**	**64.1**	**64.5**
	All	46.8	32.9	51.5
BUSINESS ECOSYSTEM		23.6	47.1	**15.8**
NATIONAL ENVIRONMENT		43.5	**14.1**	44.3
Reference level (a function of GDP per capita): 35.0				
Weaknesses are scores below: 17.5			**Strengths are scores above: 52.4**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

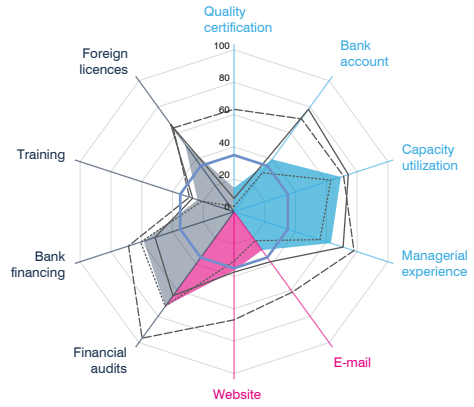
Compete	Small	Medium	Large	All
International quality certificate	**0.0**	**8.1**	**63.3**	**14.8**
Bank account	29.7	**78.3**	**70.9**	40.0
Capacity utilization	**62.9**	**74.3**	**71.2**	**69.4**
Managerial experience	**55.8**	**70.9**	**77.9**	**63.0**
Connect				
E-mail	22.1	38.3	**61.4**	29.4
Firm website	30.6	37.4	**66.8**	36.4
Change				
Audited financial statement	**72.3**	**64.2**	**96.6**	**72.1**
Investment financed by banks	**60.7**	51.4	**68.6**	**58.6**
Formal training programme	20.8	26.9	28.9	23.7
Foreign technology licences	**0.0**	**66.3**	**63.9**	51.5

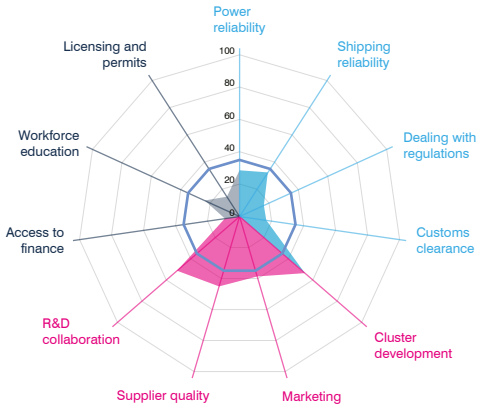
BUSINESS ECOSYSTEM (Normalized scores)

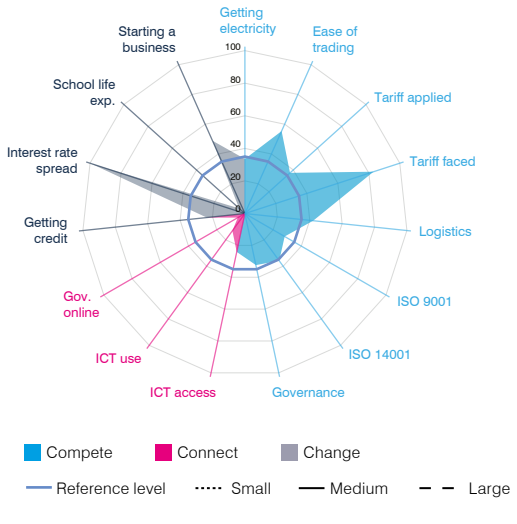
Compete	Small	Medium	Large	All
Power reliability	28.8	25.1	40.9	28.6
Domestic shipping reliability	28.4	34.2	35.2	32.4
Dealing with regulations	**14.7**	21.0	**14.1**	**16.6**
Customs clearance efficiency	-	**16.5**	**13.2**	**16.7**
Connect				
State of cluster development				**53.5**
Extent of marketing				38.7
Local supplier quality				45.1
University-industry collaboration in R&D				51.2
Change				
Access to finance	**6.5**	**13.1**	**12.5**	**9.2**
Access to educated workforce	26.5	22.4	**14.7**	23.7
Business licensing and permits	**10.9**	20.1	19.1	**14.5**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	33.5
Ease of trading across borders	**55.4**
Applied tariff, trade-weighted average	37.3
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**83.0**
Logistics performance index	42.2
ISO 9001 quality certificates	28.2
ISO 14001 environmental certificates	35.9
Governance index	32.4
Connect	
ICT access	24.1
ICT use	**13.1**
Government's online service	**5.0**
Change	
Ease of getting credit	23.6
Interest rate spread	**100.0**
School life expectancy	**4.7**
Ease of starting a business	48.9
Patent applications	-
Trademark registrations	-







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Mali

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Strategic snapshot

Mali is a low income country with a population of 18.9 million and GDP of $15 billion. Goods and services account for 89.3% and 10.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Gold, cotton, and live sheep and goats are top exports. The country could export an additional $73 million in *cotton* to Asia. This product scores well on the price stability indicator compared with the country's other goods. There are also export opportunities to Asia and Europe for *sesamum seeds* and for *fresh or dried guavas, mangoes and mangosteens*.

Mali has export diversification opportunities in cotton and wood, through *wood statuettes and other ornaments*. Another product identified for diversification – *single cotton yarn* – scores well on the price stability indicator compared with other products in Mali.

There is a gap between firm capabilities, which are strong, and the business ecosystem, which functions less well than the business ecosystems in countries with a similar level of development as Mali. Compared with firms in such countries, firms in Mali show a strong capacity to compete, with most firms performing to their full capacity, using bank accounts and led by experienced managers. SMEs could boost their competitiveness through international quality certificates. The widest gap between large and small firms is in ownership of foreign technology licences. At the business ecosystem level, there is scope for improvement in dealing with regulations and business licensing and permits, customs clearance efficiency and access to finance. Large firms report lack of access to an educated workforce, which links to the low score for school life expectancy at the national level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Cotton, neither carded nor combed	520100	341.7									
Sesamum seeds, whether or not broken	120740	59.6									
Fresh or dried guavas, mangoes and mangosteens	080450	10.6									
Fresh or dried cashew nuts, in shell	080131	1.8									
Gold, incl. gold plated with platinum, in semi-manufactured forms, for non-monetary purposes	710813	3.9									
Skins of sheep or lambs, without wool on, raw or tanned in the wet state "incl. wet-blue" (excluding...	41XXXb	8.6									
Wood in the rough (excluding rough-cut wood for...	4403XX	2.5									
Hides, skins and leather of animals other than bovine "incl. buffalo" and equine animals, sheep, lambs and...	41XXXd	6.5									
Lac; natural gums, resins, gum-resins, balsams and other natural oleoresins (excluding gum Arabic)	130190	3.5									
Articles of jewellery and parts thereof, of precious metal other than silver, whether or not plated or...	711319	3.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Mauritania

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Key indicators

Population (millions)	3.9
GDP ($ billions)	5.0
GDP per capita ($)	1284.4
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-14.2
Tariff preference margin (percentage points)	0.9
Imports and exports (goods and services), share of GDP (%)	129.1
Services exports, share of total exports (%)	11.8
Geographic region	Africa
Country group	LDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	26.9	24.6	29.4
	Medium	45.8	52.6	50.6
	Large	57.9	**83.9**	58.0
	All	38.7	39.2	43.3
BUSINESS ECOSYSTEM		35.2	23.6	21.6
NATIONAL ENVIRONMENT		40.4	**14.3**	36.3
Reference level (a function of GDP per capita): 38.9				
Weaknesses are scores below: 19.4			**Strengths are scores above: 58.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

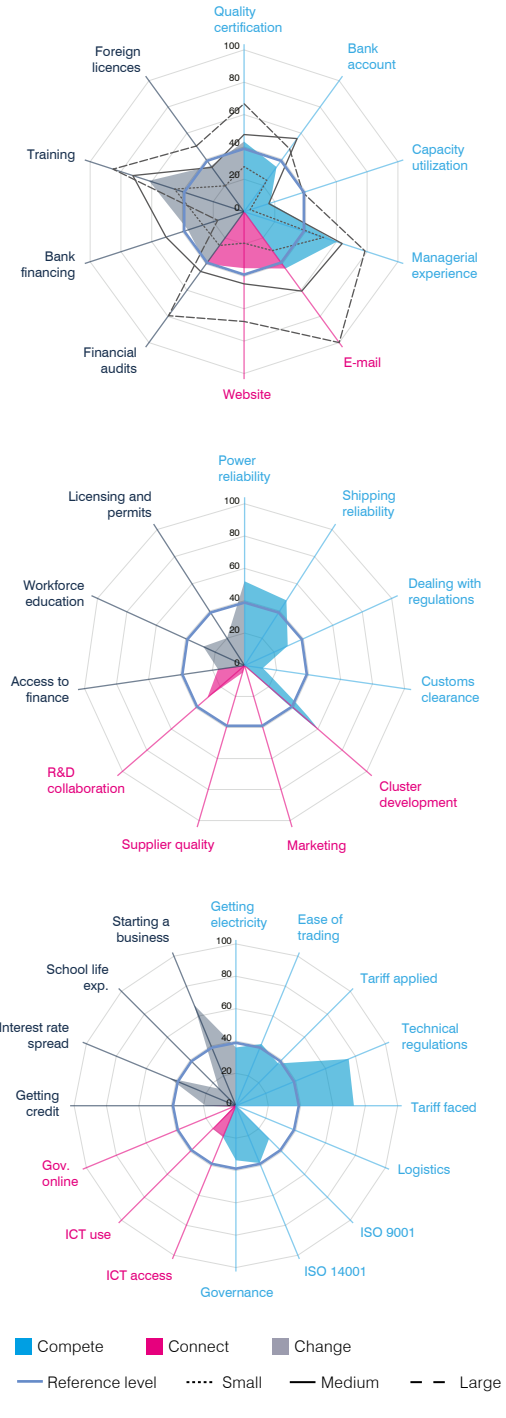
Compete	Small	Medium	Large	All
International quality certificate	27.9	47.7	**66.7**	43.3
Bank account	23.9	55.8	47.9	34.1
Capacity utilization	**4.0**	**16.1**	38.2	**17.0**
Managerial experience	51.7	**63.8**	**78.6**	**60.3**
Connect				
E-mail	29.8	**60.7**	**100.0**	43.4
Firm website	19.5	44.6	**67.8**	34.9
Change				
Audited financial statement	25.8	45.6	**79.4**	40.0
Investment financed by banks	26.7	50.7	**17.2**	36.4
Formal training programme	45.1	**72.3**	**85.1**	**61.8**
Foreign technology licences	19.8	33.9	50.2	34.9

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	49.4	50.7	**92.6**	52.1
Domestic shipping reliability	41.2	58.2	58.2	47.9
Dealing with regulations	24.8	30.1	57.1	29.4
Customs clearance efficiency	-	**15.6**	**7.1**	**11.4**
Connect				
State of cluster development				**59.4**
Extent of marketing				**0.0**
Local supplier quality				**4.8**
University-industry collaboration in R&D				30.4
Change				
Access to finance	**10.0**	21.3	31.3	**16.5**
Access to educated workforce	32.6	27.3	**17.1**	28.1
Business licensing and permits	24.8	**14.7**	21.3	20.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	36.0
Ease of trading across borders	41.3
Applied tariff, trade-weighted average	36.9
Prevalence of technical regulations	**75.5**
Faced tariff, trade-weighted average	**72.9**
Logistics performance index	**0.0**
ISO 9001 quality certificates	28.9
ISO 14001 environmental certificates	38.4
Governance index	33.7
Connect	
ICT access	20.9
ICT use	20.2
Government's online service	**1.7**
Change	
Ease of getting credit	**18.7**
Interest rate spread	44.4
School life expectancy	**14.9**
Ease of starting a business	**67.4**
Patent applications	-
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2014) for firm level data; for other sources and methodology, see the Technical Annex.

Mauritania

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Strategic snapshot

Mauritania is a lower-middle income country with a population of 3.9 million and GDP of $5 billion. Goods and services account for 88.2% and 11.8% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Iron ores and concentrates, frozen fish and molluscs, and gold are top exports. The country could export an additional $250 million in *frozen fish* to its home region, Asia and Europe. This product scores well on the price stability and female employment indicators compared with the country's other products and sectors. Within Africa, there are also export opportunities for *frozen mackerel, frozen sardines* and *flours, meals and pellets of fish or crustaceans unfit for human consumption*.

Mauritania has export diversification opportunities in dairy products, meat and fish and shellfish, through *frozen boneless cuts of sheep* and *fish fillets*. Compared with the country's other products and sectors, women are strongly represented in the production of another group of products identified for diversification, *milk and cream in solid forms,* which score well on the price stability indicator.

Large firms in Mauritania have a strong capacity to connect, through good use of the internet. They also perform well in their capacity to compete, driven by international quality certificates and substantive managerial experience. Large firms report limited access to an educated workforce, which links to a low score on the school life expectancy at the national level. The challenges faced by SMEs differ from those reported by large firms. Most SMEs do not manage to use their capacity fully. At the business ecosystem level, there is scope for improvement in customs clearance efficiency, extent of marketing and local supplier quality. Furthermore, small firms report difficulties with access to finance, which is also reflected in a low score on the ease of getting credit at the national level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Other frozen fish	0303Xa	190.7									
Frozen mackerel "Scomber scombrus, Scomber australasicus, Scomber japonicus"	030354	65.1									
Flours, meals and pellets of fish or crustaceans, molluscs or other aquatic invertebrates, unfit for...	230120	68.1									
Frozen sardines "Sardina pilchardus, Sardinops spp.", sardinella "Sardinella spp.", brisling or sprats...	030353	78.3									
Octopus "Octopus spp.", smoked, frozen, dried, salted or in brine	030759	248.2									
Fats and oils of fish and their fractions, whether or not refined (excluding liver oils and chemically...	150420	24.5									
Cuttle fish "Sepia officinalis, Rossia macrosoma, Sepiola spp." and squid "Ommastrephes spp.,...	030749	25.7									
Frozen rock lobster and other sea crawfish "Palinurus spp.", "Panulirus spp." and "Jasus spp.", even...	030611	5.7									
Aquatic invertebrates (excluding crustaceans), prepared or preserved (excluding smoked)	1605Xb	2.6									
Fish (excluding fillets) and fish offal, dried, salted or in brine; fish, fish fillets and offal, smoked	0305Xb	2.0									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Mongolia

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Key indicators

Population (millions)	3.1
GDP ($ billions)	10.9
GDP per capita ($)	3552.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.9
Tariff preference margin (percentage points)	0.0
Imports and exports (goods and services), share of GDP (%)	90.1
Services exports, share of total exports (%)	12.9
Geographic region	Asia
Country group	LLDC
Income group	Lower-middle income

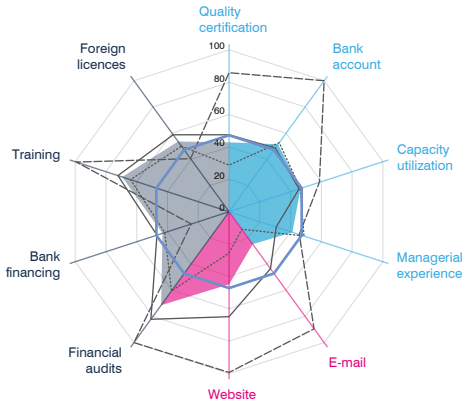
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	44.1	**19.5**	54.1
	Medium	43.1	54.2	65.0
	Large	**72.6**	**94.4**	66.1
	All	45.5	34.9	59.5
BUSINESS ECOSYSTEM		36.6	28.9	37.8
NATIONAL ENVIRONMENT		46.4	51.7	70.3
Reference level (a function of GDP per capita): 47.2				
Weaknesses are scores below: 23.6			**Strengths are scores above: 70.8**	

SME Competitiveness Grid

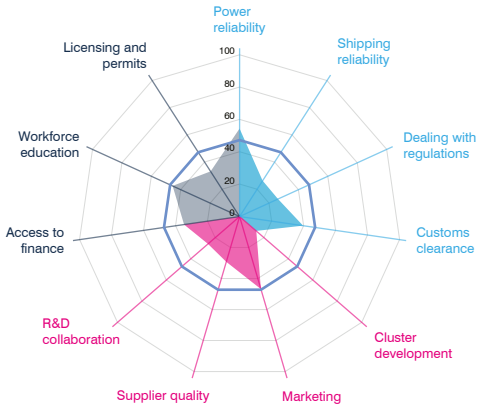
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	28.8	47.5	**85.9**	42.9
Bank account	52.7	48.6	**100.0**	51.5
Capacity utilization	46.3	45.5	58.7	46.5
Managerial experience	48.7	30.7	45.7	41.2
Connect				
E-mail	**13.4**	43.6	**89.5**	24.9
Firm website	25.6	64.9	**99.4**	44.9
Change				
Audited financial statement	60.5	**82.2**	**100.0**	**71.5**
Investment financed by banks	41.8	46.8	24.6	43.3
Formal training programme	64.0	**72.2**	**99.2**	69.5
Foreign technology licences	50.0	58.7	40.5	53.6



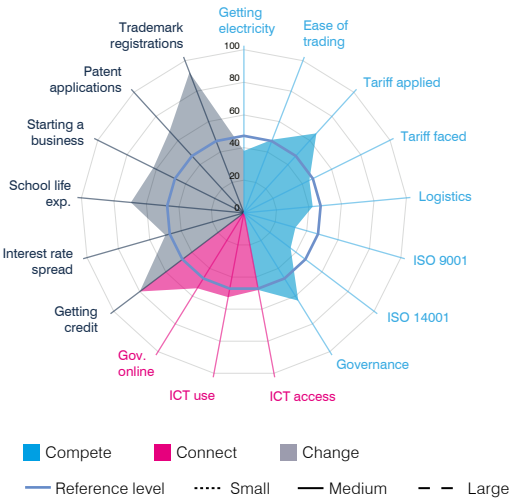
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	47.0	59.0	**83.1**	54.4
Domestic shipping reliability	24.5	28.4	-	26.3
Dealing with regulations	28.7	24.1	**19.5**	26.1
Customs clearance efficiency	-	-	-	39.7
Connect				
State of cluster development				**13.6**
Extent of marketing				46.8
Local supplier quality				29.3
University-industry collaboration in R&D				25.9
Change				
Access to finance	41.9	24.7	**88.1**	34.7
Access to educated workforce	69.2	27.5	58.1	45.5
Business licensing and permits	39.9	25.1	53.5	33.2



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	38.0
Ease of trading across borders	48.1
Applied tariff, trade-weighted average	65.9
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	44.8
Logistics performance index	42.3
ISO 9001 quality certificates	32.8
ISO 14001 environmental certificates	35.9
Governance index	63.3
Connect	
ICT access	48.1
ICT use	52.5
Government's online service	54.3
Change	
Ease of getting credit	**79.9**
Interest rate spread	50.1
School life expectancy	69.6
Ease of starting a business	62.0
Patent applications	67.7
Trademark registrations	**92.3**



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Mongolia

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Strategic snapshot

Mongolia is a lower-middle income country with a population of 3.1 million and GDP of $10.9 billion. Goods and services account for 87.1% and 12.9% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Copper ores and concentrates, coal and gold are top exports. The country could export an additional $28 million in *fine animal hair* to its home region and Europe. There are also export opportunities in Asia and Europe for *meat of horses, asses, mules or hinnies, fresh, chilled or frozen,* which scores well on all development indicators compared with the country's other products, as well as for *refined copper*.

Mongolia has export diversification opportunities in meat products, processed food and animal feed, horticulture, apparel and textile products, and metals, through products including *bismuth* and *refined unwrought lead*. Compared with the country's other sectors and products, SMEs and women are strongly represented in the production of other products identified for diversification – *articles for interior furnishing, of synthetic fibres; dried vegetables and mixtures of vegetables; dried mushrooms;* and *cuts of sheep frozen and boneless*.

Large firms in Mongolia perform better than large firms in countries with a similar level of development, while the competitiveness score of SMEs is average. Small firms make limited use of the internet, impairing their capacity to connect. Most large firms use e-mails and websites, suggesting that SMEs could catch up on the use of internet as a business tool. At the business ecosystem level, there is room for improvement in cluster development, dealing with regulations and university-industry collaboration in R&D. Mongolia faces challenges typical to landlocked countries, with firms reporting that domestic shipping reliability requires improvement. Large firms are satisfied with power reliability and access to finance.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million): Africa	Americas	Asia	Europe	Oceania	Development indicators: Price stability	SME presence	Women employed	Technology
Fine animal hair, neither carded nor combed	5102XX	147.3									
Fresh or dried nuts (excluding coconuts, Brazil nuts, cashew nuts, almonds, hazelnuts, filberts, walnuts...	0802Xc	24.0									
Meat of horses, asses, mules or hinnies, fresh, chilled or frozen	020500	7.7									
Copper, refined, in the form of cathodes and sections of cathodes	740311	47.9									
Jerseys, pullovers, cardigans, waistcoats and similar articles, of wool or fine animal hair, knitted...	6110XX	18.2									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather"...	41XXXa	10.8									
Hides, skins and leather of animals other than bovine "incl. buffalo" and equine animals, sheep,...	41XXXd	5.1									
Rape or colza seeds, whether or not broken	1205	12.8									
Guts, bladders and stomachs of animals (other than fish), whole and pieces thereof, fresh, chilled, frozen...	050400	14.2									
Bran, sharps and other residues of wheat, whether or not in the form of pellets, derived from sifting, milling...	230230	2.7									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Montenegro

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Key indicators

Population (millions)	0.6
GDP ($ billions)	4.4
GDP per capita ($)	7071.4
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-20.2
Tariff preference margin (percentage points)	6.1
Imports and exports (goods and services), share of GDP (%)	104.9
Services exports, share of total exports (%)	79.2
Geographic region	Europe
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	32.6	28.4	34.2
	Medium	48.7	53.7	47.9
	Large	**79.8**	**91.7**	**84.0**
	All	37.3	33.8	39.9
BUSINESS ECOSYSTEM		57.8	44.1	**89.6**
NATIONAL ENVIRONMENT		55.1	74.9	67.2
Reference level (a function of GDP per capita): 52.9				
Weaknesses are scores below: 26.4			**Strengths are scores above: 79.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

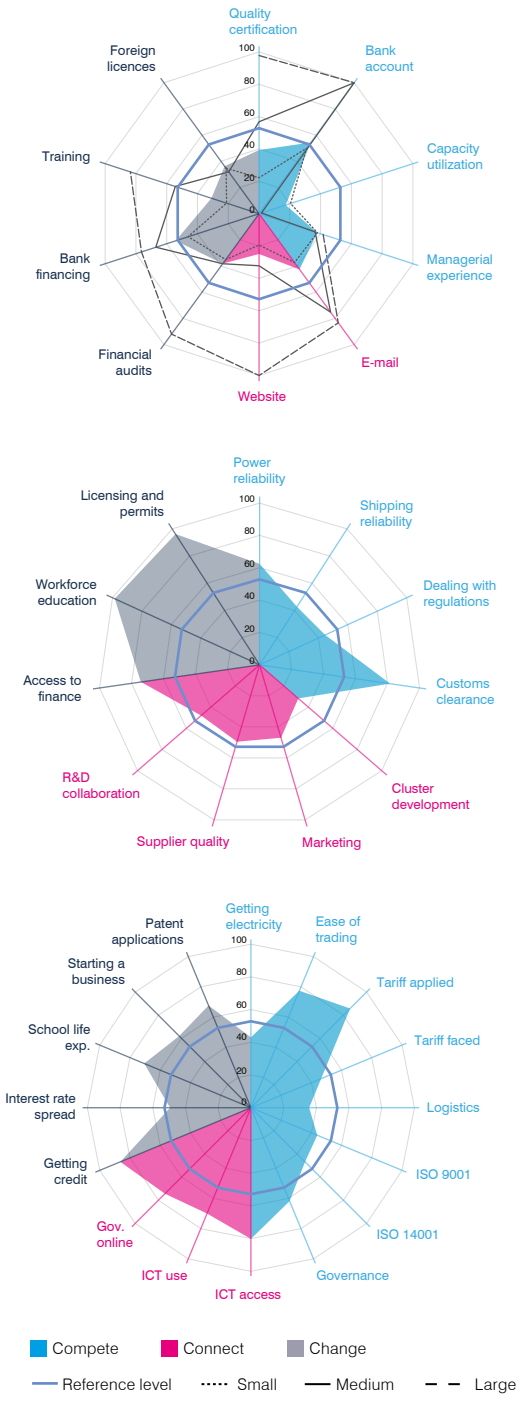
Compete	Small	Medium	Large	All
International quality certificate	**22.2**	56.8	**97.7**	39.3
Bank account	50.0	**100.0**	**100.0**	54.4
Capacity utilization	**20.5**	**1.6**	-	**17.4**
Managerial experience	37.9	36.5	41.6	37.9
Connect				
E-mail	37.3	75.2	**83.4**	42.6
Firm website	**19.4**	32.2	**100.0**	**24.9**
Change				
Audited financial statement	35.0	38.3	**92.0**	38.2
Investment financed by banks	46.1	67.1	76.4	54.2
Formal training programme	**21.1**	54.4	**83.6**	31.0
Foreign technology licences	34.7	31.9	-	36.2

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	58.0	**87.2**	72.1	62.5
Domestic shipping reliability	39.9	58.2	-	42.7
Dealing with regulations	42.3	53.0	55.9	44.5
Customs clearance efficiency	-	-	-	**81.6**
Connect				
State of cluster development				31.7
Extent of marketing				47.0
Local supplier quality				49.6
University-industry collaboration in R&D				47.9
Change				
Access to finance	73.2	**83.6**	68.3	74.2
Access to educated workforce	**99.5**	**95.7**	**92.3**	**98.5**
Business licensing and permits	**100.0**	**84.5**	**100.0**	**96.2**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	43.0
Ease of trading across borders	77.4
Applied tariff, trade-weighted average	**85.8**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	46.4
Logistics performance index	35.7
ISO 9001 quality certificates	43.9
ISO 14001 environmental certificates	46.9
Governance index	61.8
Connect	
ICT access	**80.2**
ICT use	70.1
Government's online service	74.3
Change	
Ease of getting credit	**86.4**
Interest rate spread	49.4
School life expectancy	70.6
Ease of starting a business	62.0
Patent applications	67.7
Trademark registrations	-



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Montenegro

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Strategic snapshot

Montenegro is an upper-middle income country with a population of 0.6 million and GDP of $4.4 billion. Goods and services account for 20.8% and 79.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Unwrought aluminium, electrical energy and wood chips thicker than 6mm are top exports. The country could export an additional $55 million in *aluminium, not alloyed, unwrought* to its home region and Asia. This product scores well on the price stability indicator compared with the country's other goods. Within Europe, there are also opportunities to export *wine of fresh grapes*, which involve a high share of female employment compared with other Montenegrin products, as well as *bearing housings for machinery*.

Montenegro has export diversification opportunities in meat products, metals, and plastics and rubber, through *reservoirs, tanks, vats and similar containers of iron or steel* and *monofilament, rods, sticks and profile shapes of polymers of vinyl chloride*. Compared with other sectors, there is a large share of female employment in another group of products identified for diversification, *fresh or chilled boneless cuts of sheep*, which scores well on the price stability indicator.

Large firms in Montenegro perform well across all three pillars of competitiveness – capacities to connect, compete and change. Most large firms have international quality certificates, use the internet, and provide formal training to employees. Small firms are underperforming on the same indicators, even when compared to small firms in countries with a similar level of development. Strong performance of large firms suggests that it is feasible for small firms to catch up. Furthermore, SMEs could improve their competitiveness by using their production capacities fully. The business ecosystem features efficient business licensing and permits and customs clearance procedures, and an educated workforce.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Aluminium, not alloyed, unwrought	760110	122.4									
Bearing housings for machinery, not incorporating ball or roller bearings; plain shaft bearings for...	848330	10.1									
Wine of fresh grapes, incl. fortified wines, and grape must whose fermentation has been arrested...	220421	16.3									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870332	21.1									
Safety fuses; detonating fuses; percussion or detonating caps; igniters; electric detonators...	360300	1.9									
Motor boats and motor yachts, for pleasure or sports (other than outboard motor boats)	890392	15.6									
Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or...	440710	6.9									
Fuel wood, in logs, billets, twigs, faggots or similar forms	440110	2.5									
Bars and rods, of iron or non-alloy steel, only hot-rolled, only hot-drawn or only hot-extruded...	721499	3.0									
Bars and rods of alloy steel other than stainless, not further worked than forged (excluding products of...	722840	5.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Morocco

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Key indicators

Population (millions)	34.9
GDP ($ billions)	110.7
GDP per capita ($)	3176.5
Share of world GDP (PPP$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-4.0
Tariff preference margin (percentage points)	4.8
Imports and exports (goods and services), share of GDP (%)	81.2
Services exports, share of total exports (%)	40.0
Geographic region	Africa
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	50.9	**69.9**	42.7
	Medium	51.2	**75.6**	50.9
	Large	56.2	69.1	61.8
	All	51.9	**71.8**	48.8
BUSINESS ECOSYSTEM		59.7	54.2	38.7
NATIONAL ENVIRONMENT		55.1	66.0	48.8
Reference level (a function of GDP per capita): 46.3				
Weaknesses are scores below: 23.2			**Strengths are scores above: 69.5**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

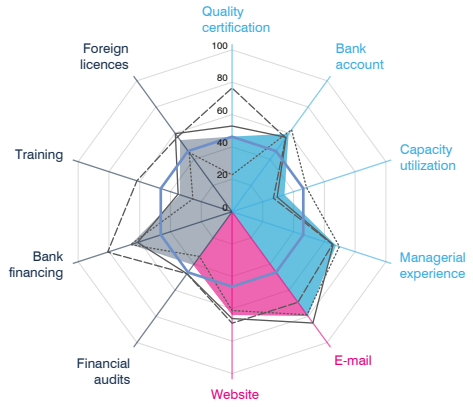
Compete	Small	Medium	Large	All
International quality certificate	**22.7**	52.9	**76.4**	46.4
Bank account	62.7	56.8	56.3	59.5
Capacity utilization	48.4	29.3	26.8	34.1
Managerial experience	**69.8**	65.7	65.3	67.5
Connect				
E-mail	**78.8**	**85.1**	69.2	**79.7**
Firm website	61.1	66.1	68.9	63.9
Change				
Audited financial statement	34.2	47.4	47.4	40.7
Investment financed by banks	65.9	61.4	**80.8**	65.9
Formal training programme	25.4	35.0	61.8	34.0
Foreign technology licences	45.2	59.6	57.2	54.7

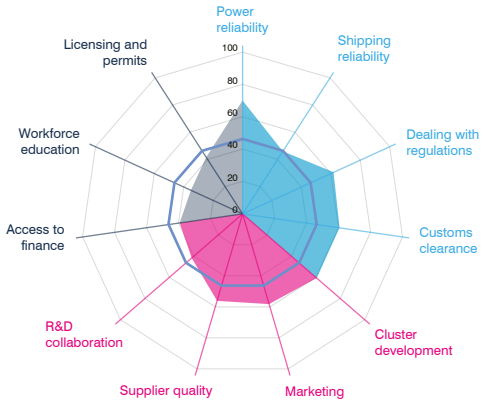
BUSINESS ECOSYSTEM (Normalized scores)

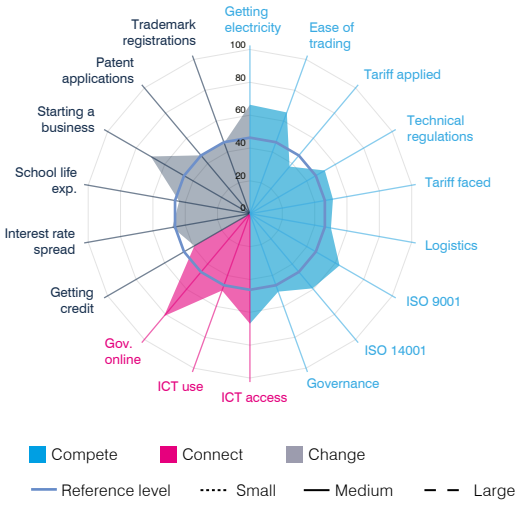
Compete	Small	Medium	Large	All
Power reliability	**70.1**	68.3	**72.1**	**70.1**
Domestic shipping reliability	38.6	52.4	58.2	46.0
Dealing with regulations	64.9	57.9	63.4	61.9
Customs clearance efficiency	-	59.6	60.9	60.6
Connect				
State of cluster development				60.7
Extent of marketing				58.2
Local supplier quality				56.1
University-industry collaboration in R&D				41.7
Change				
Access to finance	36.5	42.3	42.4	39.3
Access to educated workforce	29.4	41.3	43.2	35.1
Business licensing and permits	35.4	49.3	50.0	41.6

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	66.4
Ease of trading across borders	65.6
Applied tariff, trade-weighted average	37.5
Prevalence of technical regulations	52.6
Faced tariff, trade-weighted average	51.3
Logistics performance index	50.0
ISO 9001 quality certificates	63.0
ISO 14001 environmental certificates	59.3
Governance index	50.5
Connect	
ICT access	67.0
ICT use	49.7
Government's online service	**81.4**
Change	
Ease of getting credit	39.1
Interest rate spread	47.9
School life expectancy	43.8
Ease of starting a business	**69.7**
Patent applications	46.4
Trademark registrations	45.9







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Morocco

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Strategic snapshot

Morocco is a lower-middle income country with a population of 34.9 million and GDP of $110.7 billion. Goods and services account for 60% and 40% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Motor cars, insulated electric wire and conductors, and mineral or chemical fertilizers are top exports. The country could export an additional $456 million in *superphosphates* globally. Production of this good involves a strong presence of SMEs compared with the country's other products. There are also export opportunities for *diammonium hydrogenorthophosphate* and *parts of airplanes or helicopters*.

Morocco has export diversification opportunities in electronic equipment, skins and leather products, and miscellaneous manufactured products, through *reception apparatus for television* and *articles of leather or composition leather*. Another product identified for diversification is *furniture of plastics*. This product scores well on the price stability indicator compared with the country's other goods.

Firms in Morocco perform well in their capacity to connect, as shown by their use of the internet, supported by adequate ICT access and the availability of government online services at the national level. Small firms in Morocco have more managerial experience than large ones. The widest performance gap between small and large firms, and hence an opportunity for improvement, lies in obtaining international quality certificates. Power reliability is a strong feature of the business ecosystem. Most firms report that it is easy to start a business, with this indicator scoring higher than expected for a country at Morocco's development level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Diammonium hydrogenorthophosphate "diammonium phosphate" (excluding that in tablets...	310530	720.4									
Parts of aeroplanes or helicopters, n.e.s. (excluding those for gliders)	880330	275.5									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	1567.9									
Ammonium dihydrogenorthophosphate "monoammonium phosphate", whether or not...	310540	730.4									
Superphosphates (excluding those in tablets or similar forms, or in packages with a gross weight...	310310	357.3									
Electric conductors for a voltage <= 1.000 V, insulated, fitted with connectors, n.e.s.	854442	517.6									
Octopus "Octopus spp.", smoked, frozen, dried, salted or in brine	030759	380.3									
Fresh or dried mandarins incl. tangerines and satsumas, clementines, wilkings and similar citrus...	080520	374.0									
Tomatoes, fresh or chilled	070200	569.0									
Prepared or preserved sardines, sardinella and brisling or sprats, whole or in pieces (excluding...	160413	406.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Mozambique

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Key indicators

Population (millions)	29.5
GDP ($ billions)	12.3
GDP per capita ($)	417.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-25.6
Tariff preference margin (percentage points)	4.2
Imports and exports (goods and services), share of GDP (%)	100.3
Services exports, share of total exports (%)	18.4
Geographic region	Africa
Country group	LDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.5	2.9	27.4
	Medium	42.5	13.7	50.3
	Large	57.8	45.7	73.0
	All	40.4	8.3	39.7
BUSINESS ECOSYSTEM		51.4	34.9	37.2
NATIONAL ENVIRONMENT		48.7	20.5	22.7
Reference level (a function of GDP per capita): 29.7				
Weaknesses are scores below: 14.9			Strengths are scores above: 44.6	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

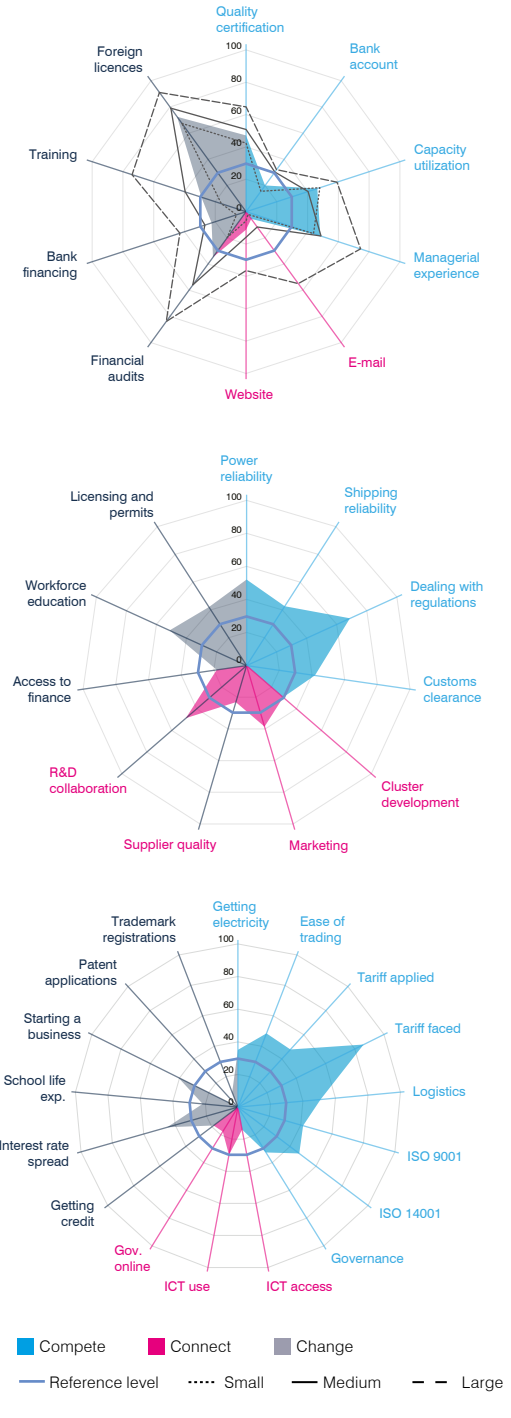
Compete	Small	Medium	Large	All
International quality certificate	42.4	50.8	64.8	47.1
Bank account	15.6	30.3	32.1	20.0
Capacity utilization	48.0	40.4	59.8	46.3
Managerial experience	43.9	48.7	74.4	48.3
Connect				
E-mail	0.1	11.7	54.9	5.5
Firm website	5.7	15.8	36.4	11.1
Change				
Audited financial statement	19.7	56.0	83.9	34.8
Investment financed by banks	6.2	26.7	43.0	22.4
Formal training programme	16.1	39.6	74.1	29.1
Foreign technology licences	67.4	79.1	91.1	72.5

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	50.7	53.6	55.2	52.1
Domestic shipping reliability	44.3	39.9	61.9	42.7
Dealing with regulations	72.7	62.4	63.4	68.8
Customs clearance efficiency	-	34.5	50.0	41.9
Connect				
State of cluster development				29.4
Extent of marketing				38.6
Local supplier quality				23.1
University-industry collaboration in R&D				48.7
Change				
Access to finance	17.6	21.1	14.1	18.2
Access to educated workforce	57.2	50.1	25.3	51.2
Business licensing and permits	39.7	42.5	64.6	42.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	35.1
Ease of trading across borders	48.5
Applied tariff, trade-weighted average	47.8
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	86.1
Logistics performance index	50.9
ISO 9001 quality certificates	41.5
ISO 14001 environmental certificates	47.1
Governance index	32.7
Connect	
ICT access	14.0
ICT use	29.8
Government's online service	17.6
Change	
Ease of getting credit	18.7
Interest rate spread	45.1
School life expectancy	21.8
Ease of starting a business	41.1
Patent applications	0.0
Trademark registrations	9.8



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2007) for firm level data; for other sources and methodology, see the Technical Annex.

Mozambique

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Strategic snapshot

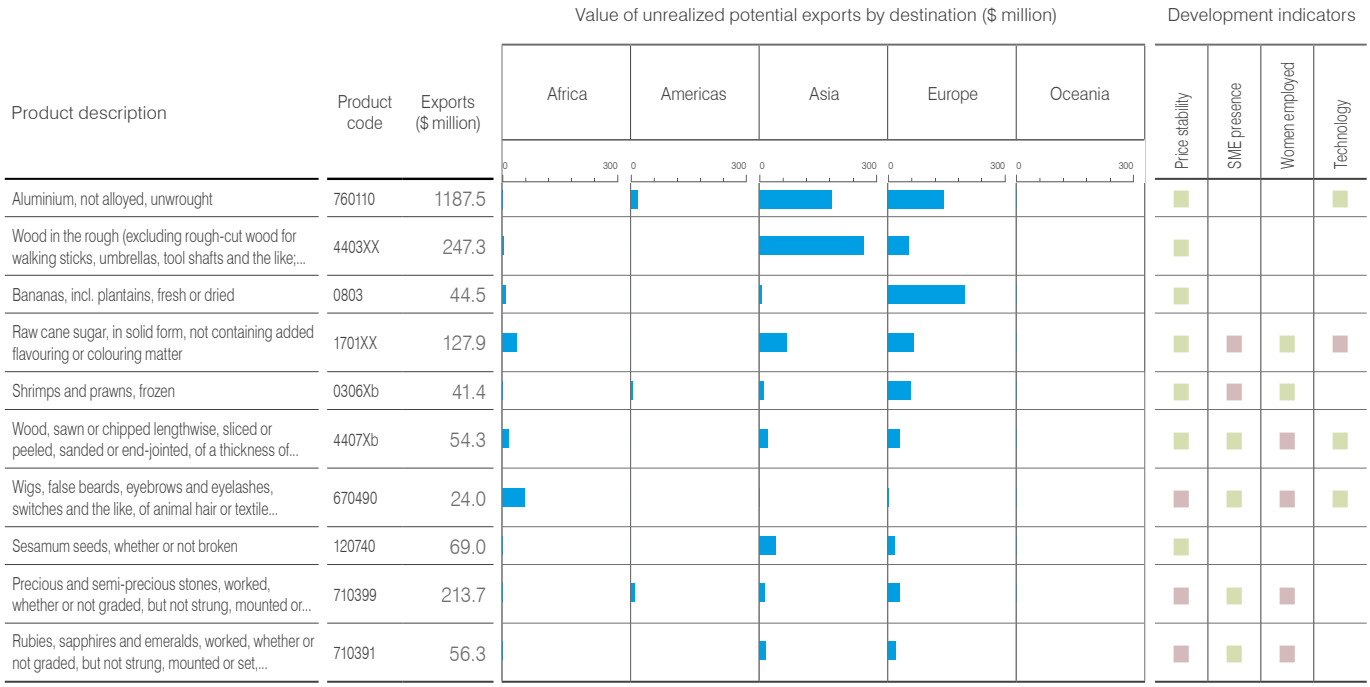
Mozambique is a low income country with a population of 29.5 million and GDP of $12.3 billion. Goods and services account for 81.6% and 18.4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Unwrought aluminium, activated kieselguhr and other activated natural mineral products, and electrical energy are top exports. The country could export an additional $456 million in *aluminium* to the Americas, Asia and Europe. This product scores well on the price stability indicator compared with the country's other goods. It also scores well on the technology indicator, with exports going to countries that are more technologically advanced than Mozambique. In addition, there are export opportunities in Asia and Europe for *wood in the rough* and in Europe for *bananas*.

Mozambique has export diversification opportunities in processed food and animal feed, metals and wood products, through *flours, meals and pellets of fish or crustaceans unfit for human consumption* and *nickel oxide sinters and other intermediate products of nickel metallurgy*. Compared with the country's other goods, SMEs are strongly represented in the production of another group of products identified for diversification, *statuettes and other ornaments of wood,* which scores well on the price stability indicator.

There is a wide gap in the competitiveness of large and small firms in Mozambique. Large firms perform well in all three pillars of competitiveness – capacities to compete, connect and change. The only bottleneck reported by large firms is access to finance, reflected in a low score on the ease of getting credit at the national level. Small firms lag behind larger domestic firms. Small firms in Mozambique are also less competitive than small firms in other least developed countries. Their capacity to connect could be improved by greater use of the internet, and their capacity to change requires access to investments financed by banks. At the same time, small firms report having foreign technology licences and utilizing their capacity to a full extent. At the business ecosystem level, firms report that it is easy to deal with regulations and find educated workers, with scores on these indicators higher than expected for countries at similar development levels. University-industry collaboration in R&D is also a strong feature of the business environment, again scoring higher than expected for the country's level of development.

Unrealized potential: Existing export products



Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Myanmar

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Key indicators

Population (millions)	52.6
GDP ($ billions)	67.0
GDP per capita ($)	1272.0
GDP per capita ($)	0.3
Current account surplus/deficit, share of GDP (%)	-6.6
Tariff preference margin (percentage points)	6.7
Imports and exports (goods and services), share of GDP (%)	26.1
Services exports, share of total exports (%)	4.6
Geographic region	Asia
Country group	LDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.2	**5.5**	**4.7**
	Medium	34.3	**9.5**	21.7
	Large	51.9	40.3	50.0
	All	33.2	**7.3**	**12.7**
BUSINESS ECOSYSTEM		55.1	21.1	**71.8**
NATIONAL ENVIRONMENT		49.0	24.7	23.8
Reference level (a function of GDP per capita): 38.8				
Weaknesses are scores below: 19.4			**Strengths are scores above: 58.2**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

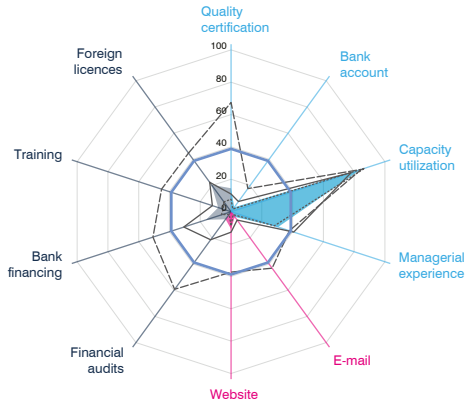
Compete	Small	Medium	Large	All
International quality certificate	**7.7**	**10.9**	**67.5**	**14.5**
Bank account	**1.9**	**7.8**	**17.6**	**3.3**
Capacity utilization	**87.0**	**78.1**	**84.7**	**84.2**
Managerial experience	28.2	40.7	37.9	30.7
Connect				
E-mail	**2.2**	**6.4**	43.2	**4.0**
Firm website	**8.8**	**12.6**	37.4	**10.7**
Change				
Audited financial statement	**0.0**	21.5	**59.3**	**5.8**
Investment financed by banks	**6.2**	30.7	50.7	**16.3**
Formal training programme	**5.0**	**12.1**	45.1	**8.3**
Foreign technology licences	**7.5**	22.5	44.8	20.6

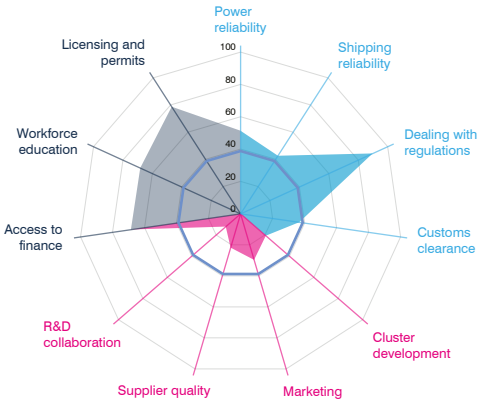
BUSINESS ECOSYSTEM (Normalized scores)

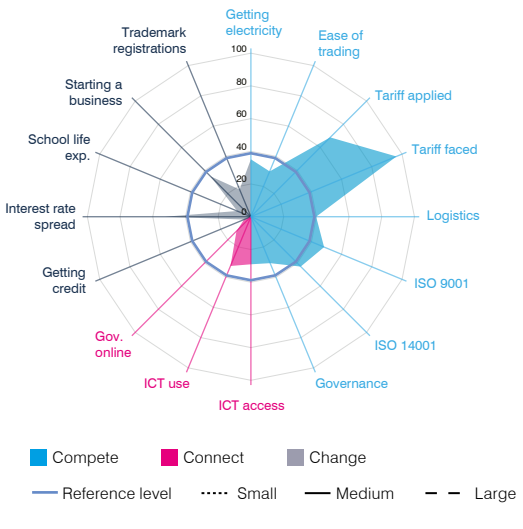
Compete	Small	Medium	Large	All
Power reliability	54.4	43.0	41.3	51.4
Domestic shipping reliability	42.7	42.7	55.1	42.7
Dealing with regulations	**92.4**	**83.2**	**72.7**	**89.8**
Customs clearance efficiency	-	28.8	42.1	36.7
Connect				
State of cluster development				20.7
Extent of marketing				29.7
Local supplier quality				21.8
University-industry collaboration in R&D				**12.1**
Change				
Access to finance	**68.8**	**66.5**	**71.2**	**68.5**
Access to educated workforce	**73.4**	50.7	**59.9**	**68.2**
Business licensing and permits	**80.8**	**75.1**	**62.3**	**78.7**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	35.1
Ease of trading across borders	30.0
Applied tariff, trade-weighted average	**68.6**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**96.3**
Logistics performance index	39.9
ISO 9001 quality certificates	48.5
ISO 14001 environmental certificates	43.1
Governance index	30.7
Connect	
ICT access	29.1
ICT use	32.6
Government's online service	**12.5**
Change	
Ease of getting credit	**4.5**
Interest rate spread	52.5
School life expectancy	**9.1**
Ease of starting a business	35.0
Patent applications	-
Trademark registrations	**18.1**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Myanmar

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Strategic snapshot

Myanmar is a lower-middle income country with a population of 52.6 million and GDP of $67 billion. Goods and services account for 95.4% and 4.6% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum gas, leguminous vegetables, sugar, and articles of apparel and clothing accessories are top exports. The country could export an additional $2,439 million in *precious and semi-precious stones* to the Americas, Asia and Europe. There are also opportunities to export to Asia *wood in the rough and wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed*. SMEs are strongly represented in the production of this good compared with the country's other products.

Myanmar has export diversification opportunities in textile products, miscellaneous manufactured articles, vegetal residues and animal feed, and vegetable oils and fats, through *oilcake and other solid residues resulting from the extraction of coconut or copra,* and *coconut oil and its fractions*. Compared with other products in Myanmar, SMEs are strongly represented in the production of other goods identified for diversification – *tricycles, scooters, pedal cars and similar wheeled toys*; *line fishing tackles, fish landing nets, butterfly nets and similar nets, decoys and similar hunting or shooting requisites*; and *single cotton yarn of combed fibres*. These also score well on the price stability indicator compared with Myanmar's other goods.

SMEs in Myanmar are less competitive than firms in other least developed countries. Although most firms use their resources to full capacity, only few firms have a bank account or international quality certificates, affecting their capacity to compete. Very few SMEs have foreign technology licences, investments financed by banks, audited financial statements, or offer formal training to employees. These are all critical for enhancing the firms' capacity to change. Better use of the internet could boost the capacity of SMEs to connect. The business ecosystem is supportive in terms of regulations and business licensing and permits, and firms report an adequate access to finance and an educated workforce.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 2500	0 2500	0 2500	0 2500	0 2500				
Precious and semi-precious stones, worked, whether or not graded, but not strung, mounted or...	710399	2611.7									
Dried, shelled beans of species "Vigna mungo [L.] Hepper or Vigna radiata [L.] Wilczek", whether or...	071331	626.6									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	895.4									
Dried, shelled leguminous vegetables (excluding peas, chickpeas, beans, lentils, broad beans and...	0713Xb	282.3									
Other frozen fish	0303Xa	103.7									
Ferro-nickel	720260	137.0									
Articles of precious or semi-precious stones "natural, synthetic or reconstructed", n.e.s.	711620	212.5									
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of > 6 mm...	4407Xb	119.1									
Copper, refined, in the form of cathodes and sections of cathodes	740311	154.1									
Smoked sheets of natural rubber	400121	95.5									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Nicaragua

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Key indicators

Population (millions)	6.2
GDP ($ billions)	13.7
GDP per capita ($)	2201.1
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-8.4
Tariff preference margin (percentage points)	8.4
Imports and exports (goods and services), share of GDP (%)	101.3
Services exports, share of total exports (%)	23.5
Geographic region	Americas
Country group	
Income group	Lower-middle income

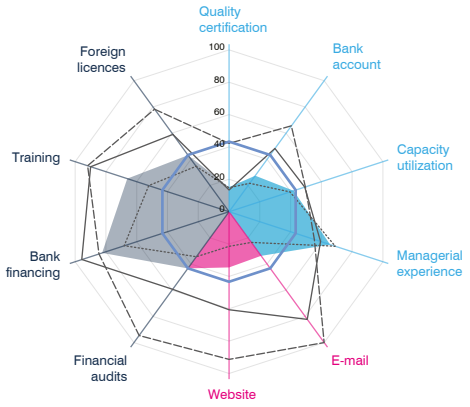
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	36.3	22.4	47.3
	Medium	42.6	**71.4**	**76.0**
	Large	53.2	**95.6**	**87.3**
	All	37.6	34.1	58.8
BUSINESS ECOSYSTEM		43.7	31.8	56.5
NATIONAL ENVIRONMENT		51.0	33.6	31.8
Reference level (a function of GDP per capita): 43.3				
Weaknesses are scores below: 21.7			**Strengths are scores above: 65.0**	

SME Competitiveness Grid

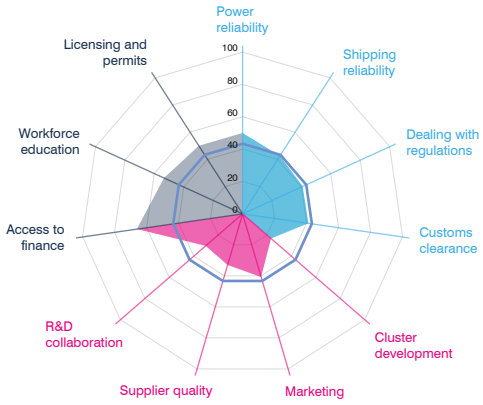
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**14.8**	**13.4**	42.2	**15.1**
Bank account	21.7	48.3	**65.6**	27.5
Capacity utilization	39.6	49.2	49.6	41.9
Managerial experience	**69.0**	59.5	55.4	**65.7**
Connect				
E-mail	23.5	**82.3**	**100.0**	33.8
Firm website	**21.4**	60.6	**91.3**	34.4
Change				
Audited financial statement	34.4	59.3	**94.6**	43.3
Investment financed by banks	**68.1**	**95.7**	**84.5**	**82.5**
Formal training programme	52.2	**89.9**	**91.9**	**66.1**
Foreign technology licences	34.7	59.0	**78.3**	43.1



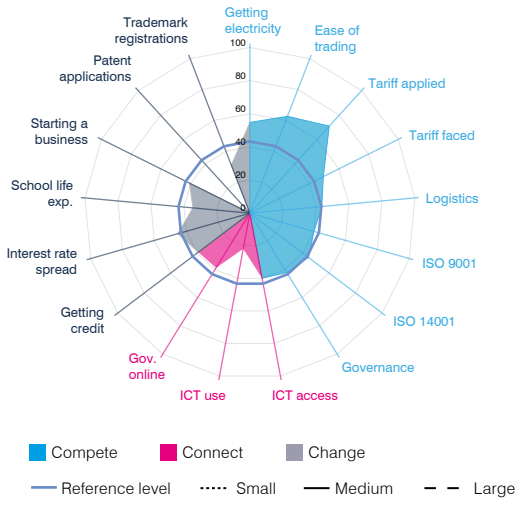
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	49.4	50.0	60.1	50.0
Domestic shipping reliability	46.0	32.4	**66.6**	42.7
Dealing with regulations	39.5	43.0	51.6	40.9
Customs clearance efficiency	-	41.5	49.2	41.2
Connect				
State of cluster development				23.3
Extent of marketing				40.8
Local supplier quality				33.0
University-industry collaboration in R&D				30.3
Change				
Access to finance	59.7	**82.3**	**76.7**	**66.1**
Access to educated workforce	51.3	60.3	29.1	53.4
Business licensing and permits	51.0	48.8	33.9	50.0



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	54.8
Ease of trading across borders	62.7
Applied tariff, trade-weighted average	**71.1**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	49.5
Logistics performance index	43.6
ISO 9001 quality certificates	40.2
ISO 14001 environmental certificates	44.4
Governance index	42.2
Connect	
ICT access	39.9
ICT use	21.9
Government's online service	38.8
Change	
Ease of getting credit	39.1
Interest rate spread	45.2
School life expectancy	34.5
Ease of starting a business	40.7
Patent applications	**0.0**
Trademark registrations	31.1



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Nicaragua

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Strategic snapshot

Nicaragua is a lower-middle income country with a population of 6.2 million and GDP of $13.7 billion. Goods and services account for 76.5% and 23.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Insulated electric wire and conductors, articles of apparel and clothing accessories, and coffee are top exports. The country could export an additional $192 million in *boneless fresh or chilled bovine meat* to its home region. This product scores well on all development indicators compared with other goods in the country. There are also opportunities to export *ignition wiring sets* and *coffee* to the Americas and Europe.

Nicaragua has export diversification opportunities in food products, plastics and rubber, and textiles, through *sacks and bags,* and *made-up articles of textile materials*. Another product identified for diversification is *palm hearts*. Compared with other Nicaraguan goods, SMEs and women are strongly represented in the production of this item, which scores well on the price stability indicator.

Compared with countries with a similar level of development, medium-sized and large firms in Nicaragua perform well in their capacity to connect and capacity to change, particularly in having investments financed by banks, and offering formal training to employees. The competitiveness of small firms has scope for improvement. Few small firms have international quality certificates or use the internet. Managers of small firms have substantive experience, however. The business ecosystem is supportive, scoring better than expected for countries at Nicaragua's level of development, especially regarding access to financial resources. Even small firms in Nicaragua report that their investment is mostly financed by banks.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 700	0 700	0 700	0 700	0 700				
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	681.0									
Coffee (excluding roasted and decaffeinated)	090111	452.3									
T-shirts, singlets and other vests of cotton, knitted or crocheted	610910	247.9									
Fresh or chilled bovine meat, boneless	020130	109.1									
Dried, shelled kidney beans "Phaseolus vulgaris", whether or not skinned or split	071333	60.7									
T-shirts, singlets and other vests of textile materials, knitted or crocheted (excluding cotton)	610990	158.4									
Shrimps and prawns, frozen	0306Xb	154.4									
Frozen rock lobster and other sea crawfish "Palinurus spp.", "Panulirus spp." and "Jasus spp.", even smoked...	030611	64.9									
Frozen, boneless meat of bovine animals	020230	320.1									
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	122.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Nigeria

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Key indicators

Population (millions)	188.7
GDP ($ billions)	394.8
GDP per capita ($)	2092.5
Share of world GDP (PPP$, %)	0.9
Current account surplus/deficit, share of GDP (%)	1.9
Tariff preference margin (percentage points)	0.2
Imports and exports (goods and services), share of GDP (%)	21.4
Services exports, share of total exports (%)	6.2
Geographic region	Africa
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	28.2	**7.2**	**21.2**
	Medium	30.2	25.5	31.9
	Large	47.5	51.5	51.8
	All	29.0	**11.2**	25.4
BUSINESS ECOSYSTEM		36.9	43.2	54.4
NATIONAL ENVIRONMENT		34.9	28.6	43.4
Reference level (a function of GDP per capita): 42.9				
Weaknesses are scores below: 21.4			**Strengths are scores above: 64.3**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

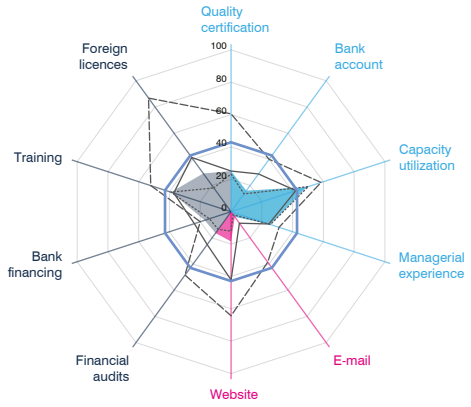
Compete	Small	Medium	Large	All
International quality certificate	23.3	25.1	60.5	25.1
Bank account	**13.6**	28.8	40.0	**16.1**
Capacity utilization	50.2	42.1	58.5	49.2
Managerial experience	25.6	24.6	31.2	25.6
Connect				
E-mail	**2.3**	**8.8**	38.6	**4.0**
Firm website	**12.0**	42.2	64.3	**18.4**
Change				
Audited financial statement	**13.4**	25.1	48.4	**16.3**
Investment financed by banks	**14.1**	23.9	**20.0**	**17.2**
Formal training programme	39.1	37.2	52.2	39.0
Foreign technology licences	**18.1**	41.4	**86.7**	29.2

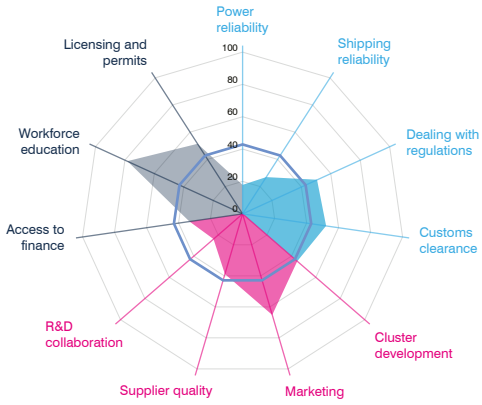
BUSINESS ECOSYSTEM (Normalized scores)

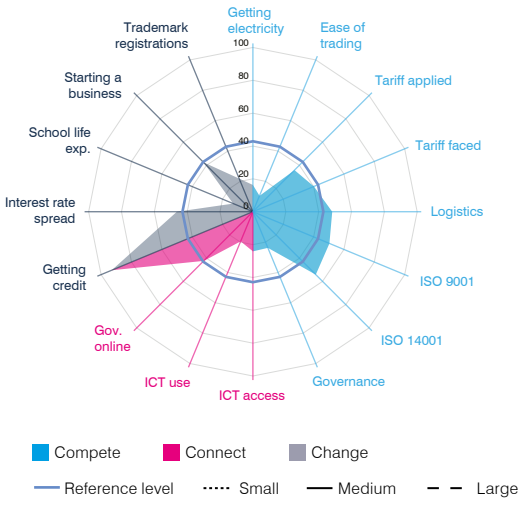
Compete	Small	Medium	Large	All
Power reliability	**17.1**	22.9	**10.0**	**17.9**
Domestic shipping reliability	29.1	**21.2**	31.5	27.0
Dealing with regulations	52.6	46.7	28.3	50.6
Customs clearance efficiency	52.8	59.1	41.5	52.2
Connect				
State of cluster development				44.8
Extent of marketing				**65.2**
Local supplier quality				38.9
University-industry collaboration in R&D				23.9
Change				
Access to finance	32.0	35.1	**76.1**	33.2
Access to educated workforce	**79.9**	**74.2**	**66.7**	**78.4**
Business licensing and permits	51.2	51.2	57.6	51.5

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**16.3**
Ease of trading across borders	**10.5**
Applied tariff, trade-weighted average	35.8
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	40.2
Logistics performance index	48.3
ISO 9001 quality certificates	50.4
ISO 14001 environmental certificates	54.2
Governance index	23.8
Connect	
ICT access	24.1
ICT use	**19.5**
Government's online service	42.3
Change	
Ease of getting credit	**93.1**
Interest rate spread	46.3
School life expectancy	**13.0**
Ease of starting a business	42.5
Patent applications	-
Trademark registrations	21.8







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2014) for firm level data; for other sources and methodology, see the Technical Annex.

Nigeria

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Strategic snapshot

Nigeria is a lower-middle income country with a population of 188.7 million and GDP of $394.8 billion. Goods and services account for 93.8% and 6.2% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils and gas, cocoa beans, and cigarettes are top exports. The country could export an additional $484 million in *cocoa beans* to Asia and Europe. This product scores well on the price stability indicator compared with other goods in Nigeria. There are also opportunities to export *sesamum seeds* and *fresh or dried cashew nuts*.

Nigeria has export diversification opportunities in wood products, ferrous metals, and vegetable oils and fats, through *palm oil and its fractions,* and *ferrous products obtained by direct reduction of iron ore*. Compared with the country's other sectors, SMEs are strongly represented in the production of another group of products identified for diversification, *statuettes and other ornaments of wood,* which scores well on the price stability indicator.

Small firms in Nigeria face a number of challenges affecting their capacity to connect and capacity to change. Few small firms have bank accounts, use the internet, have audited financial statements or have investments financed by banks. The widest performance gap between small and large firms, hence offering opportunity for progress, lies in owning foreign technology licences. Access to an educated workforce and the extent of marketing are strong features of the business ecosystem, while power reliability requires improvement.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Cocoa beans, whole or broken, raw or roasted	180100	637.6									
Sesamum seeds, whether or not broken	120740	333.5									
Fresh or dried cashew nuts, in shell	080131	94.2									
Cocoa butter, fat and oil	180400	104.3									
Shrimps and prawns, frozen	0306Xb	83.6									
Footwear with outer soles and uppers of rubber or plastics (excluding with upper straps or thongs...	6402XX	55.3									
Unwrought aluminium alloys	760120	84.7									
Sacks and bags, incl. cones, of polymers of ethylene	392321	26.3									
Hides and skins, in the dry state "crust", and leather further prepared after tanning or crusting "incl...	41XXXf	200.1									
Make-up or skin care powders, incl. baby powders, whether or not compressed (excluding medicaments)	330491	15.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Pakistan

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Key indicators

Population (millions)	197.3
GDP ($ billions)	278.9
GDP per capita ($)	1441.0
Share of world GDP (PPP$, %)	0.8
Current account surplus/deficit, share of GDP (%)	-4.0
Tariff preference margin (percentage points)	1.1
Imports and exports (goods and services), share of GDP (%)	29.6
Services exports, share of total exports (%)	20.7
Geographic region	Asia
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	30.8	17.4	20.4
	Medium	36.7	34.7	38.1
	Large	60.5	62.5	52.0
	All	39.8	29.7	35.1
BUSINESS ECOSYSTEM		33.9	51.5	44.1
NATIONAL ENVIRONMENT		45.7	24.3	22.2
Reference level (a function of GDP per capita): 39.8				
Weaknesses are scores below: 19.9			Strengths are scores above: 59.8	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

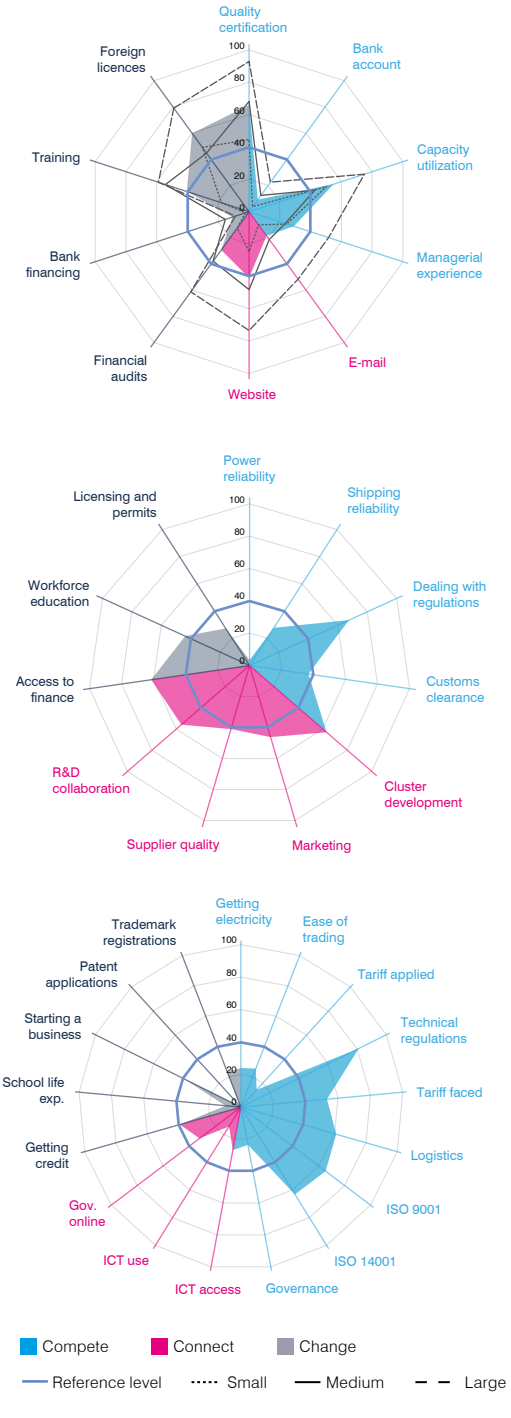
Compete	Small	Medium	Large	All
International quality certificate	44.6	68.1	92.8	65.9
Bank account	3.8	12.4	22.5	9.2
Capacity utilization	50.4	42.7	74.9	54.9
Managerial experience	24.6	23.5	51.7	29.2
Connect				
E-mail	10.1	21.3	51.5	18.4
Firm website	24.7	48.2	73.4	40.9
Change				
Audited financial statement	12.3	37.8	61.2	29.2
Investment financed by banks	2.4	15.4	8.8	10.8
Formal training programme	17.9	54.3	58.9	40.5
Foreign technology licences	49.1	44.8	79.1	59.8

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	0.0	5.2	12.6	3.4
Domestic shipping reliability	20.7	32.4	37.4	27.7
Dealing with regulations	72.7	67.1	56.7	67.6
Customs clearance efficiency	-	36.3	36.8	36.8
Connect				
State of cluster development				63.1
Extent of marketing				46.2
Local supplier quality				41.0
University-industry collaboration in R&D				55.9
Change				
Access to finance	53.8	64.8	77.8	61.5
Access to educated workforce	45.4	40.1	49.0	43.7
Business licensing and permits	35.5	23.0	20.4	27.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	24.0
Ease of trading across borders	25.5
Applied tariff, trade-weighted average	14.3
Prevalence of technical regulations	81.1
Faced tariff, trade-weighted average	53.2
Logistics performance index	61.0
ISO 9001 quality certificates	65.4
ISO 14001 environmental certificates	63.2
Governance index	23.6
Connect	
ICT access	26.9
ICT use	14.0
Government's online service	32.0
Change	
Ease of getting credit	39.1
Interest rate spread	-
School life expectancy	9.5
Ease of starting a business	39.3
Patent applications	0.0
Trademark registrations	23.3



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Pakistan

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Strategic snapshot

Pakistan is a lower-middle income country with a population of 197.3 million and GDP of $278.9 billion. Goods and services account for 79.3% and 20.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Textiles, such as bed linen and towels, articles of apparel and clothing accessories, and rice are top exports. The country could export an additional $807 million in *rice* to its home region and globally. Compared with other Pakistani goods, SMEs are strongly represented in the production of rice, which scores well on the price stability indicator. There are also opportunities to expand exports of textile and apparel, *Portland cement,* and *fresh or dried mandarins*.

Pakistan has export diversification opportunities in synthetic textile fabrics, carpets, plastics, and jewellery and precious metal articles, through *imitation jewellery,* and *furniture of plastics*. SMEs are strongly represented in the production of these products, compared with other sectors in Pakistan. Another group of products identified for diversification – *woven carpets and other floor coverings of man-made textile materials* – involves a high level of female employment and scores well on the price stability indicator, compared with the country's other goods and sectors.

Large firms in Pakistan perform well in their capacity to compete and connect, while small firms face a number of challenges. In addition to the gap in the performance by firm size, there are significant differences across provinces. Overall, few SMEs use bank accounts, have audited financial statements and investment financed by banks, or offer formal training to employees. The widest gap between large and small firms is in the usage of the internet. At the business ecosystem level, firms of all sizes face significant challenges with power reliability. Firms, however, report a state of cluster development that is better than expected for countries at Pakistan's development level. Large and medium-sized firms are generally satisfied with access to finance.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Semi-milled or wholly milled rice, whether or not polished or glazed	100630	1560.1									
Portland cement (excluding white, whether or not artificially coloured)	252329	456.9									
Bedlinen of cotton (excluding printed, knitted or crocheted)	630231	707.2									
T-shirts, singlets and other vests of cotton, knitted or crocheted	610910	239.9									
Toilet linen and kitchen linen, of terry towelling or similar terry fabrics of cotton (excluding floorcloths...	630260	820.5									
Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding knitted...	620342	906.2									
Articles of apparel, of leather or composition leather (excluding clothing accessories, footware and...	420310	363.9									
Fresh or dried mandarins incl. tangerines and satsumas, clementines, wilkings and similar citrus...	080520	193.4									
Men's or boys' shirts of cotton, knitted or crocheted (excluding nightshirts, T-shirts, singlets and other...	610510	237.4									
Wheat or meslin flour	110100	228.5									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Panama

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Key indicators

Population (millions)	4.1
GDP ($ billions)	59.1
GDP per capita ($)	14409.3
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-5.1
Tariff preference margin (percentage points)	2.0
Imports and exports (goods and services), share of GDP (%)	98.4
Services exports, share of total exports (%)	50.0
Geographic region	Americas
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	36.7	**27.2**	34.4
	Medium	34.2	33.7	32.5
	Large	41.6	65.7	48.5
	All	36.0	31.3	34.8
BUSINESS ECOSYSTEM		49.2	64.3	70.5
NATIONAL ENVIRONMENT		64.2	47.8	60.0
Reference level (a function of GDP per capita): 58.7				
Weaknesses are scores below: 29.3			**Strengths are scores above: 88.0**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

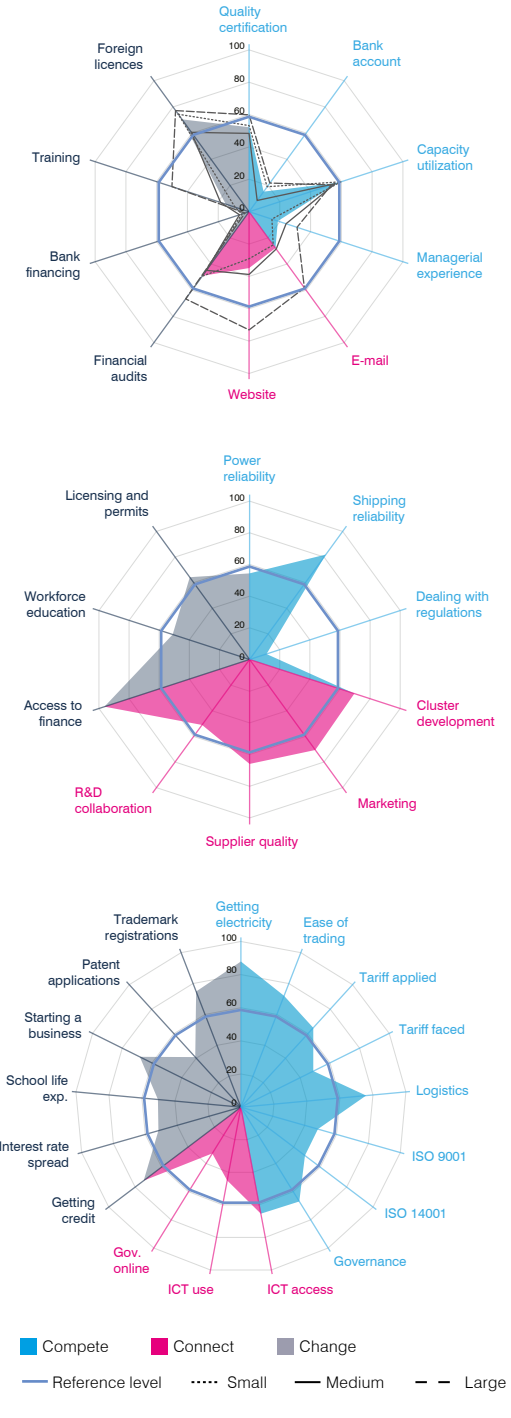
Compete	Small	Medium	Large	All
International quality certificate	53.2	48.4	59.8	52.2
Bank account	**19.1**	**8.6**	**21.9**	**15.3**
Capacity utilization	59.8	56.0	53.5	57.9
Managerial experience	**14.9**	**24.1**	31.2	**18.7**
Connect				
E-mail	**25.4**	**28.5**	58.2	**27.8**
Firm website	**29.1**	38.8	73.1	34.8
Change				
Audited financial statement	49.4	44.8	66.6	49.0
Investment financed by banks	**4.6**	**6.2**	**0.0**	**4.6**
Formal training programme	**9.1**	**18.5**	50.1	**15.2**
Foreign technology licences	74.4	60.6	77.2	70.5

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	52.1	61.2	-	54.4
Domestic shipping reliability	81.9	81.9	66.6	81.9
Dealing with regulations	**12.3**	**10.3**	**5.6**	**11.2**
Customs clearance efficiency	-	-	-	-
Connect				
State of cluster development				69.6
Extent of marketing				70.6
Local supplier quality				65.9
University-industry collaboration in R&D				51.0
Change				
Access to finance	**100.0**	**89.5**	**97.3**	**96.4**
Access to educated workforce	45.0	63.7	63.7	51.0
Business licensing and permits	68.0	57.3	70.8	64.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	87.9
Ease of trading across borders	72.1
Applied tariff, trade-weighted average	64.8
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	48.8
Logistics performance index	75.9
ISO 9001 quality certificates	48.4
ISO 14001 environmental certificates	48.4
Governance index	67.0
Connect	
ICT access	65.4
ICT use	45.0
Government's online service	32.9
Change	
Ease of getting credit	73.6
Interest rate spread	51.8
School life expectancy	50.3
Ease of starting a business	68.2
Patent applications	40.9
Trademark registrations	74.9



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Panama

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Strategic snapshot

Panama is an upper-middle income country with a population of 4.1 million and GDP of $59.1 billion. Goods represent half of all exports, with the other half being services. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Medicines, organic chemicals, and telephone sets and parts are top exports. The country could export an additional $275 million in *pharmaceutical products* to its home region, Asia and Europe. There are also export opportunities for *bananas,* and *shrimps and prawns,* both of which score well on the price stability indicator compared with the country's other goods.

Panama has export diversification opportunities in chemicals, glass articles and synthetic textile fabric, through *woven fabrics containing synthetic staple fibres,* and *amino-acids and their esters*. Compared with other goods in Panama, SMEs are strongly represented in the production of another group of products identified for diversification – *clock or watch glasses and similar glasses*.

Firms in Panama face a number of challenges. The capacity to connect of small firms is low in comparison with small firms in countries with the level of development similar to that of Panama. There is room for improvement in firms' use of the internet, the availability of formal training for employees, and managerial experience. At the business ecosystem level, despite access to finance that is good given the country's level of development, firms of all sizes find it difficult to have their investments financed by banks. Moreover, few firms have bank accounts. Firms also report that domestic shipping is reliable but that dealing with regulations is not easy.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Bananas, incl. plantains, fresh or dried	0803	217.7									
Pharmaceutical products, except lubricants and ostomy appliances	30XXXX	456.0									
Media for the recording of sound or of other phenomena, incl. matrices and masters for the...	8523XX	203.9									
Frozen, boneless meat of bovine animals	020230	43.0									
Vessels for the transport of goods and vessels for the transport of both persons and goods (excluding...	890190	740.5									
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	23.8									
Shrimps and prawns, frozen	0306Xb	62.1									
Frozen yellowfin tunas "Thunnus albacares"	030342	31.3									
Frozen skipjack or stripe-bellied bonito "Euthynnus -Katsuwonus- pelamis"	030343	18.2									
Fresh or dried pineapples	080430	41.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Philippines

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Key indicators

Population (millions)	106.3
GDP ($ billions)	321.2
GDP per capita ($)	3022.4
Share of world GDP (PPP$, %)	0.7
Current account surplus/deficit, share of GDP (%)	-0.1
Tariff preference margin (percentage points)	1.9
Imports and exports (goods and services), share of GDP (%)	62.0
Services exports, share of total exports (%)	33.1
Geographic region	Asia
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	38.3	38.6	46.9
	Medium	53.4	53.2	63.0
	Large	67.3	53.2	**71.0**
	All	46.4	43.6	57.8
BUSINESS ECOSYSTEM		49.6	60.4	59.3
NATIONAL ENVIRONMENT		62.6	57.5	38.2
Reference level (a function of GDP per capita): 45.9				
Weaknesses are scores below: 23.0			**Strengths are scores above: 68.9**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

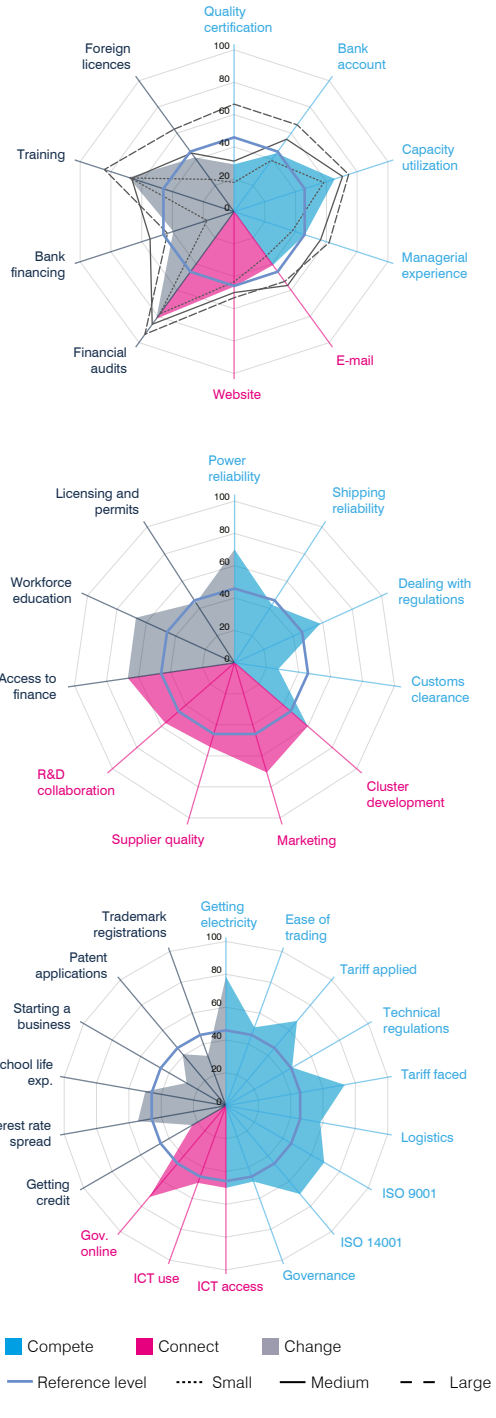
Compete	Small	Medium	Large	All
International quality certificate	**18.1**	31.3	66.5	29.3
Bank account	39.1	55.3	66.4	44.6
Capacity utilization	58.3	**70.5**	**74.5**	65.5
Managerial experience	37.9	56.3	61.8	46.1
Connect				
E-mail	33.9	56.4	53.3	40.9
Firm website	43.3	50.0	53.2	46.3
Change				
Audited financial statement	**78.1**	**86.0**	**93.7**	**81.8**
Investment financed by banks	**17.6**	54.6	43.3	39.4
Formal training programme	67.4	66.5	**84.2**	68.5
Foreign technology licences	24.6	44.8	63.0	41.4

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	**74.3**	66.7	65.2	**70.1**
Domestic shipping reliability	32.4	55.1	61.9	42.7
Dealing with regulations	58.8	56.7	66.5	58.3
Customs clearance efficiency	31.4	24.9	28.4	27.4
Connect				
State of cluster development				59.9
Extent of marketing				**70.7**
Local supplier quality				54.2
University-industry collaboration in R&D				56.9
Change				
Access to finance	**70.0**	59.1	**80.5**	66.7
Access to educated workforce	**72.3**	60.3	62.1	67.1
Business licensing and permits	46.6	41.4	36.9	44.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**78.6**
Ease of trading across borders	50.8
Applied tariff, trade-weighted average	67.4
Prevalence of technical regulations	46.6
Faced tariff, trade-weighted average	**73.5**
Logistics performance index	58.3
ISO 9001 quality certificates	**69.1**
ISO 14001 environmental certificates	**70.2**
Governance index	49.1
Connect	
ICT access	50.0
ICT use	50.0
Government's online service	**72.6**
Change	
Ease of getting credit	23.6
Interest rate spread	54.5
School life expectancy	49.9
Ease of starting a business	27.7
Patent applications	40.9
Trademark registrations	32.4



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2015) for firm level data; for other sources and methodology, see the Technical Annex.

Philippines

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Strategic snapshot

The Philippines is a lower-middle income country with a population of 106.3 million and GDP of $321.2 billion. Goods and services account for 66.9% and 33.1% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Electronic integrated circuits, automatic data-processing machines, and builders' joinery and carpentry are top exports. The country could export an additional $3.2 billion in *storage units for automatic data-processing* to the Americas, Asia and Europe. This product scores well on the price stability indicator, compared with the country's other goods, and is exported to countries that are more technologically advanced. There are also export opportunities for *cards incorporating one or more electronic integrated circuits* and *builders' joinery and carpentry of wood*.

The Philippines has export diversification opportunities in chemicals, ceramic articles, and electronic equipment, through *tableware and kitchenware of porcelain* and *cash registers incorporating calculating devices*. Compared with the country's other goods, SMEs are strongly represented in the production of another group of products identified for diversification, *glutamic acid and its salts,* which scores well on the price stability indicator.

Large firms in the Philippines perform well in their capacity to change, with most large firms having audited financial statements and offering formal training to employees. Few small firms, however, have their investments financed by banks, which impairs their capacity to change. Small firms could increase their capacity to compete by obtaining international quality certificates. At the business ecosystem level, firms of all sizes report using marketing tools and techniques, and find the power grid reliable. Small firms, in particular, report an easy access to finance and an educated workforce.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 16000	0 16000	0 16000	0 16000	0 16000				
Cards incorporating one or more electronic integrated circuits "smart cards"; electronic...	85XXXd	16354.0									
Storage units for automatic data-processing machines	847170	4177.4									
Bananas, incl. plantains, fresh or dried	0803	1321.6									
Parts and accessories of printers, copying machines, facsimile machines and other office...	84XXXd	2811.2									
Photosensitive semiconductor devices, incl. photovoltaic cells whether or not assembled in...	854140	1307.7									
Static converters	850440	1414.0									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	1819.3									
Miscellaneous parts and accessories, for tractors, motor vehicles for the transport of ten or more persons...	8708XX	880.7									
Builders' joinery and carpentry, of wood, incl. cellular wood panels (excluding windows, French...	4418XX	1539.6									
Printers, copying machines and facsimile machines, whether or not combined (excluding printing...	84XXXc	1174.2									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Romania

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Key indicators

Population (millions)	19.8
GDP ($ billions)	204.9
GDP per capita ($)	10372.1
Share of world GDP (PPP$, %)	0.4
Current account surplus/deficit, share of GDP (%)	-3.0
Tariff preference margin (percentage points)	2.5
Imports and exports (goods and services), share of GDP (%)	90.1
Services exports, share of total exports (%)	23.4
Geographic region	Europe
Country group	
Income group	Upper-middle income

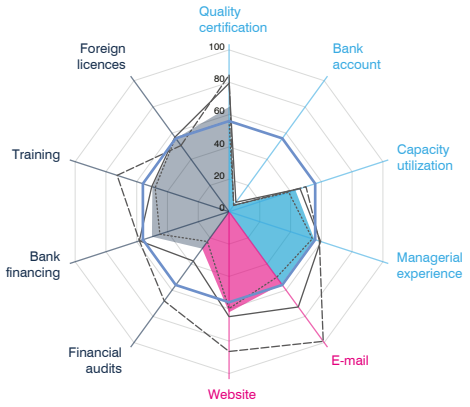
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	38.5	55.0	43.0
	Medium	48.0	68.8	50.8
	Large	49.5	**92.7**	62.4
	All	42.2	58.8	46.0
BUSINESS ECOSYSTEM		64.8	44.2	36.0
NATIONAL ENVIRONMENT		69.2	66.4	67.7
Reference level (a function of GDP per capita): 56.0				
Weaknesses are scores below: 28.0		**Strengths are scores above: 84.0**		

SME Competitiveness Grid

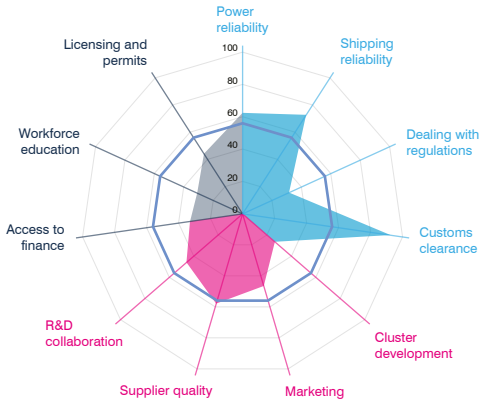
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	56.2	79.3	**84.4**	64.7
Bank account	**5.0**	**7.2**	**4.8**	**5.5**
Capacity utilization	38.8	46.1	50.0	43.1
Managerial experience	54.2	59.5	58.7	55.4
Connect				
E-mail	50.1	72.8	**99.0**	55.3
Firm website	59.8	64.9	**86.4**	62.2
Change				
Audited financial statement	**22.8**	37.7	68.1	28.2
Investment financed by banks	44.9	58.3	58.3	50.1
Formal training programme	48.0	50.2	72.7	49.8
Foreign technology licences	56.4	56.9	50.5	55.9



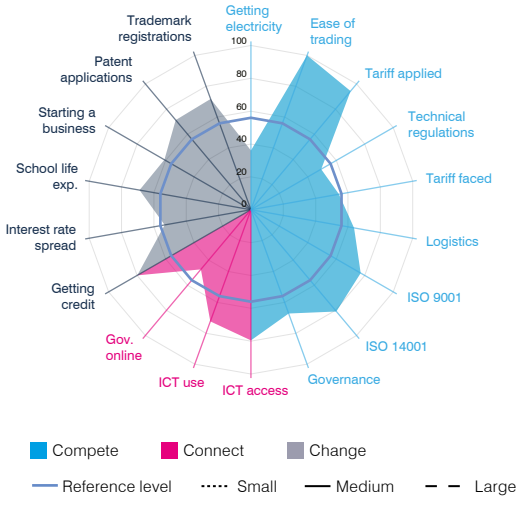
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	65.2	56.1	62.5	62.5
Domestic shipping reliability	66.6	**100.0**	52.4	72.8
Dealing with regulations	33.2	**27.7**	31.8	31.6
Customs clearance efficiency	**96.8**	**96.8**	81.6	**92.5**
Connect				
State of cluster development				**26.4**
Extent of marketing				46.6
Local supplier quality				57.9
University-industry collaboration in R&D				45.9
Change				
Access to finance	32.2	31.8	52.0	32.8
Access to educated workforce	30.0	34.7	**25.2**	30.9
Business licensing and permits	46.6	38.4	42.7	44.2



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	36.1
Ease of trading across borders	**100.0**
Applied tariff, trade-weighted average	**94.3**
Prevalence of technical regulations	49.4
Faced tariff, trade-weighted average	54.4
Logistics performance index	63.7
ISO 9001 quality certificates	77.2
ISO 14001 environmental certificates	80.9
Governance index	67.2
Connect	
ICT access	79.5
ICT use	72.4
Government's online service	47.4
Change	
Ease of getting credit	79.9
Interest rate spread	53.3
School life expectancy	68.9
Ease of starting a business	60.9
Patent applications	71.3
Trademark registrations	71.8



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Romania

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Strategic snapshot

Romania is an upper-middle income country with a population of 19.8 million and GDP of $204.9 billion. Goods and services account for 76.6% and 23.4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Parts for motor vehicles, insulated electric wire and conductors, and motor cars are top exports. The country could export an additional $1.2 billion in *ignition wiring sets and other wiring sets for vehicles, aircraft or ships*. SMEs are strongly represented in their production, compared with other sectors in Romania. There are also export opportunities for *new pneumatic tyres, of rubber* and *motor cars and other motor vehicles principally designed for the transport of persons*.

Romania has export diversification opportunities in machinery and electronic equipment, mineral products and textile fabric, through *fabrics knitted or crocheted* and *slag-wool, rock-wool and similar mineral wools*. Compared with other goods in Romania, SMEs are strongly represented in the production of another group of products identified for diversification – *distributors and ignition coils of a kind used for spark-ignition or compression-ignition internal combustion engines*.

Large firms in Romania perform better than expected for the country's development level in their capacity to connect, through good use of the internet. Many large firms also own internationally recognized quality certificates. Nevertheless, few firms use bank accounts. Small firms rarely have their financial statements audited. Customs clearance efficiency and domestic shipping reliability are strong features of the business ecosystem, especially given Romania's level of development, while dealing with regulations and access to educated workforce require improvement.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Miscellaneous parts and accessories, for tractors, motor vehicles for the transport of ten or more...	8708XX	2876.0									
Ignition wiring sets and other wiring sets for vehicles, aircraft or ships	854430	2600.4									
New pneumatic tyres, of rubber, of a kind used for motor cars, incl. station wagons and racing cars	401110	1217.2									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870331	1464.4									
Boards, cabinets and similar combinations of apparatus for electric control or the distribution of...	853710	1088.5									
Motor cars and other motor vehicles principally designed for the transport of persons, incl. station...	870322	692.4									
Sunflower seeds, whether or not broken	120600	545.8									
Footwear with outer soles of rubber, plastics or composition leather, with uppers of leather...	6403XX	770.0									
Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or...	440710	477.1									
Wheat and meslin (excluding durum wheat)	1001Xb	811.9									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Sierra Leone

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Key indicators

Population (millions)	6.6
GDP ($ billions)	3.9
GDP per capita ($)	593.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-21.1
Tariff preference margin (percentage points)	6.5
Imports and exports (goods and services), share of GDP (%)	74.9
Services exports, share of total exports (%)	42.3
Geographic region	Africa
Country group	LDC
Income group	Low income

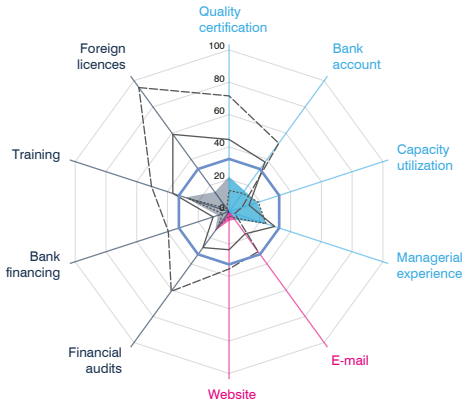
SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	17.6	**3.6**	**10.6**
	Medium	31.3	20.2	33.3
	Large	34.0	33.0	**61.4**
	All	20.0	**5.9**	16.4
BUSINESS ECOSYSTEM		24.7	28.8	33.1
NATIONAL ENVIRONMENT		24.1	**7.5**	25.2
Reference level (a function of GDP per capita): 32.6				
Weaknesses are scores below: 16.3			**Strengths are scores above: 48.9**	

SME Competitiveness Grid

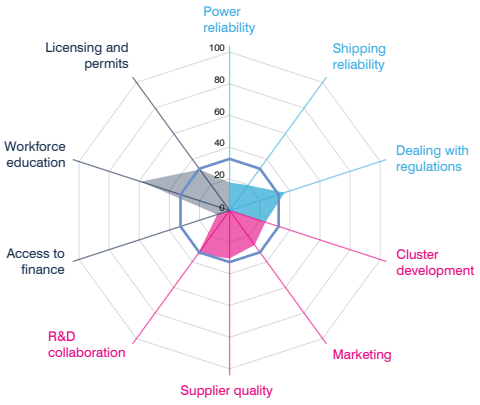
FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	**13.1**	44.6	**71.6**	21.6
Bank account	**14.1**	37.9	**52.3**	**16.1**
Capacity utilization	19.0	**13.0**	**8.4**	18.3
Managerial experience	24.1	29.7	**3.7**	24.1
Connect				
E-mail	**4.5**	16.9	30.6	**6.1**
Firm website	**2.7**	23.5	35.4	**5.6**
Change				
Audited financial statement	**11.8**	27.5	**60.8**	**14.7**
Investment financed by banks	**4.1**	**10.3**	39.4	**7.3**
Formal training programme	26.5	36.5	**50.4**	28.5
Foreign technology licences	**0.0**	**59.0**	**94.8**	**15.1**



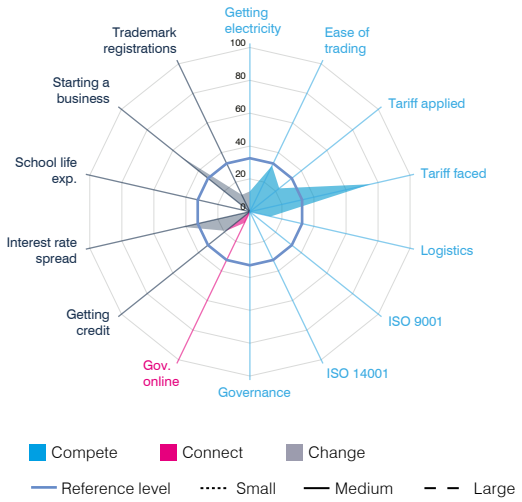
BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	16.7	23.7	26.9	17.7
Domestic shipping reliability	20.3	**14.6**	-	19.8
Dealing with regulations	38.2	26.0	38.6	36.6
Customs clearance efficiency	-	-	-	-
Connect				
State of cluster development				23.8
Extent of marketing				27.0
Local supplier quality				30.2
University-industry collaboration in R&D				34.1
Change				
Access to finance	**6.5**	**14.1**	**53.2**	**8.2**
Access to educated workforce	**58.1**	**61.1**	**85.1**	**59.0**
Business licensing and permits	32.4	29.8	29.1	32.0



NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**12.4**
Ease of trading across borders	31.1
Applied tariff, trade-weighted average	22.9
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**75.3**
Logistics performance index	**12.9**
ISO 9001 quality certificates	**0.0**
ISO 14001 environmental certificates	**0.0**
Governance index	38.3
Connect	
ICT access	-
ICT use	-
Government's online service	**7.5**
Change	
Ease of getting credit	18.7
Interest rate spread	41.7
School life expectancy	**0.0**
Ease of starting a business	**54.1**
Patent applications	-
Trademark registrations	**11.4**



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2017) for firm level data; for other sources and methodology, see the Technical Annex.

Sierra Leone

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Strategic snapshot

Sierra Leone is a low income country with a population of 6.6 million and GDP of $3.9 billion. Goods and services account for 57.7% and 42.3% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Natural honey, crustaceans and starches are top exports. The country could export an additional $28 million in *cocoa beans* to the Americas, Asia and Europe. This product scores well on the price stability indicator compared with the country's other goods. There are also export opportunities for *wood* and *frozen fish*.

Sierra Leone has export diversification opportunities in wood and cocoa beans and related products, through products such as *cocoa paste* and *sheets for veneering*. Another group of products identified for diversification – *flours*, *meals and pellets of fish or crustaceans unfit for human consumption* – features strong levels of female employment and scores well on the price stability indicator, compared with the country's other goods.

Small firms in Sierra Leone face a number of challenges. Their capacity to connect and capacity to change are lower than those of small firms in other least developed countries. Smalls firms could enhance their capacity to connect through better use of the internet. SMEs would be better prepared for change if they had better access to investments financed by banks, foreign technology licences, and audited financial statements. Small firms could further enhance their competitiveness by obtaining international quality certificates and using bank accounts. Large firms in Sierra Leone already perform well on these two indicators, suggesting it is feasible for small firms to catch up. Large and medium-sized firms do not use their capacity to full extent. At the business ecosystem level, there is room for improvement in access to finance, domestic shipping and power reliability. Firms of all sizes report a good access to educated workforce, although large firms report that experienced managers are lacking.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Cocoa beans, whole or broken, raw or roasted	180100	36.7									
Other frozen fish	0303Xa	6.1									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	16.6									
Coffee (excluding roasted and decaffeinated)	090111	4.5									
Pigments and preparations based on titanium dioxide of a kind used for colouring any material or...	320611	1.6									
Exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials, incl...	680620	1.1									
Fixed electrical capacitors, dielectric of paper or plastics (excluding power capacitors)	853225	1.1									
Oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, soya beans,...	1207Xa	0.6									
Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., weighing > 70 g/...	560393	0.6									
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of > 6 mm...	4407Xb	0.9									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Sri Lanka

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Key indicators

Population (millions)	21.4
GDP ($ billions)	83.6
GDP per capita ($)	3905.6
Share of world GDP (PPP$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-2.5
Tariff preference margin (percentage points)	2.5
Imports and exports (goods and services), share of GDP (%)	52.5
Services exports, share of total exports (%)	38.0
Geographic region	Asia
Country group	
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.5	**5.0**	39.4
	Medium	51.7	27.0	62.0
	Large	66.0	66.8	**78.8**
	All	42.7	**11.0**	48.9
BUSINESS ECOSYSTEM		55.8	58.7	41.7
NATIONAL ENVIRONMENT		50.4	47.5	50.9
Reference level (a function of GDP per capita): 48.0				
Weaknesses are scores below: 24.0			**Strengths are scores above: 72.0**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

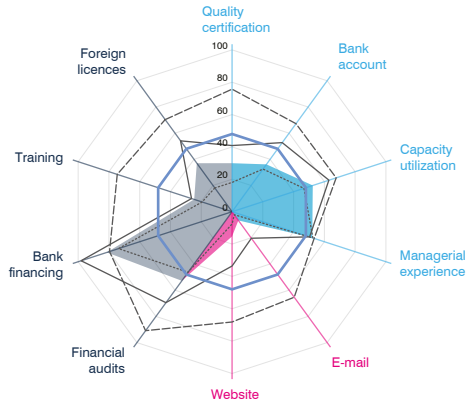
Compete	Small	Medium	Large	All
International quality certificate	**18.1**	40.9	**75.7**	30.0
Bank account	32.5	52.7	67.2	36.2
Capacity utilization	46.8	62.9	67.7	52.5
Managerial experience	52.5	50.4	53.4	52.1
Connect				
E-mail	**2.4**	**20.3**	65.4	**6.7**
Firm website	**7.6**	33.6	68.2	**15.3**
Change				
Audited financial statement	46.3	69.5	**90.9**	52.8
Investment financed by banks	**73.8**	**98.1**	**79.6**	**81.4**
Formal training programme	**19.4**	26.3	**74.6**	24.6
Foreign technology licences	**18.1**	54.1	70.3	37.0

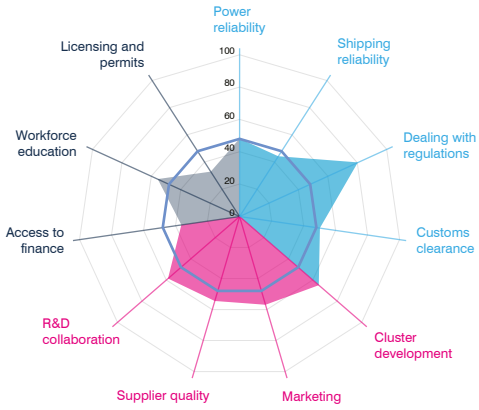
BUSINESS ECOSYSTEM (Normalized scores)

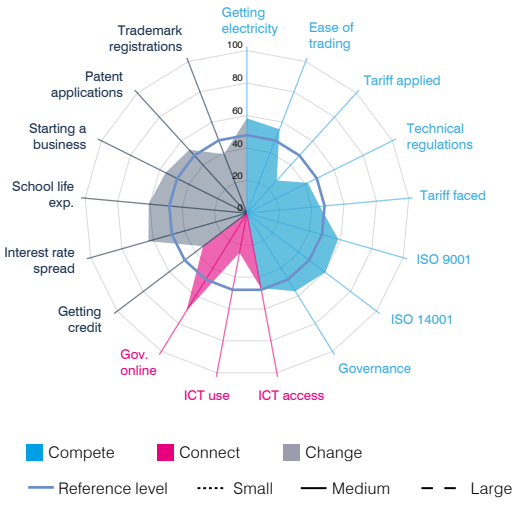
Compete	Small	Medium	Large	All
Power reliability	50.0	43.0	48.7	48.1
Domestic shipping reliability	38.6	58.2	58.2	44.3
Dealing with regulations	**83.2**	**73.3**	68.8	**80.4**
Customs clearance efficiency	-	-	56.2	50.2
Connect				
State of cluster development				64.9
Extent of marketing				56.9
Local supplier quality				54.5
University-industry collaboration in R&D				58.6
Change				
Access to finance	33.6	44.0	53.0	36.4
Access to educated workforce	60.5	47.7	32.3	55.7
Business licensing and permits	32.3	35.8	33.6	32.9

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	58.4
Ease of trading across borders	55.4
Applied tariff, trade-weighted average	27.2
Prevalence of technical regulations	41.9
Faced tariff, trade-weighted average	45.1
Logistics performance index	-
ISO 9001 quality certificates	58.4
ISO 14001 environmental certificates	60.3
Governance index	56.6
Connect	
ICT access	46.9
ICT use	24.8
Government's online service	70.8
Change	
Ease of getting credit	33.8
Interest rate spread	63.0
School life expectancy	60.7
Ease of starting a business	55.9
Patent applications	52.7
Trademark registrations	39.0







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2011) for firm level data; for other sources and methodology, see the Technical Annex.

Sri Lanka

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Strategic snapshot

Sri Lanka is a lower-middle income country with a population of 21.4 million and GDP of $83.6 billion. Goods and services account for 62% and 38% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Articles of apparel and clothing accessories, tea, rubber and articles of rubber are top exports. The country could export an additional $194 million in *pepper* to its home region, the Americas, and Europe. There are export opportunities globally for *black fermented tea in bulk* and *black fermented tea in packing of under 3kg,* scoring well on the price stability indicator. The tea packing industry employs a large share of women, compared with other sectors in Sri Lanka. The country could increase exports of *brassieres of all types of textile materials* – a product featuring a large share of SMEs and women in its production, compared with the country's other goods.

Sri Lanka has export diversification opportunities in electronic equipment, wood products and miscellaneous manufactured products, through *parts and accessories of printers, copying machines, facsimile machines and other office machines,* and *flat-woven mats, matting and screens of vegetable plaiting materials*. Compared with other goods in Sri Lanka, SMEs are strongly represented in the production of another product identified for diversification, *furniture of plastics,* which scores well on the price stability indicator. The country could also develop exports of *tableware and kitchenware, plastics* and *ordinary natural water.*

Large firms in Sri Lanka perform well in their capacity to change. Small firms perform less well, with their capacity to change affected by a limited use of foreign technology licences and low provision of formal training to employees. A particularly large gap between large and small firms, and hence opportunity for improvement, lies in international quality certification. SMEs could enhance their capacity to connect by making better use of the internet. Firms of all sizes have investments financed by banks. At the business ecosystem level, there is room for improvement in access to finance and business licensing and permits. Firms of all sizes report that dealing with regulations is easier than expected for a country at Sri Lanka's development level.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090240	730.5									
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090230	586.3									
Diamonds, worked, but not mounted or set (excluding industrial diamonds)	710239	179.1									
Brassieres of all types of textile materials, whether or not elasticated, incl. knitted or crocheted	621210	533.8									
Pepper of the genus Piper, neither crushed nor ground	090411	92.0									
Gloves, mittens and mitts, impregnated, coated or covered with plastics or rubber, knitted or crocheted	611610	238.7									
Rubies, sapphires and emeralds, worked, whether or not graded, but not strung, mounted or set,...	710391	147.1									
Cinnamon and cinnamon-tree flowers, neither crushed nor ground	0906XX	132.4									
Solid or cushion tyres, interchangeable tyre treads and tyre flaps, of rubber	401290	346.3									
Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding knitted...	620342	309.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Suriname

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Key indicators

Population (millions)	0.6
GDP ($ billions)	3.7
GDP per capita ($)	6415.7
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	9.4
Tariff preference margin (percentage points)	4.1
Imports and exports (goods and services), share of GDP (%)	89.8
Services exports, share of total exports (%)	8.7
Geographic region	Americas
Country group	SIDS
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	41.4	**8.2**	29.1
	Medium	57.2	**24.8**	36.0
	Large	74.2	**13.1**	50.6
	All	53.3	**14.9**	34.1
BUSINESS ECOSYSTEM		64.4	32.6	**16.6**
NATIONAL ENVIRONMENT		49.9	51.0	35.8
Reference level (a function of GDP per capita): 52.1				
Weaknesses are scores below: 26.0		**Strengths are scores above: 78.1**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

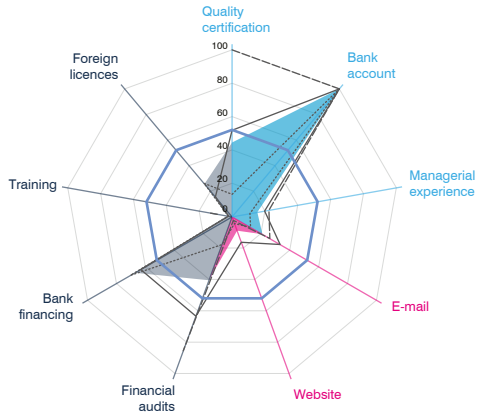
Compete	Small	Medium	Large	All
International quality certificate	**13.4**	51.8	**100.0**	44.4
Bank account	**100.0**	**100.0**	**100.0**	**100.0**
Capacity utilization	-	-	-	-
Managerial experience	**10.9**	**19.8**	**22.5**	**15.4**
Connect				
E-mail	**12.8**	33.2	26.2	**21.0**
Firm website	**3.5**	**16.3**	**0.0**	**8.9**
Change				
Audited financial statement	**17.8**	63.4	**85.5**	40.5
Investment financed by banks	70.3	63.2	-	67.2
Formal training programme	**2.3**	**2.0**	**15.7**	**2.9**
Foreign technology licences	**26.0**	**15.5**	-	**25.7**

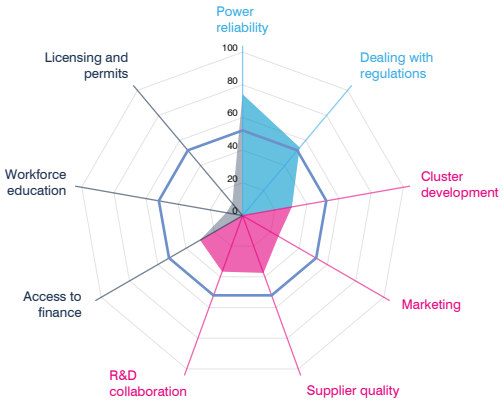
BUSINESS ECOSYSTEM (Normalized scores)

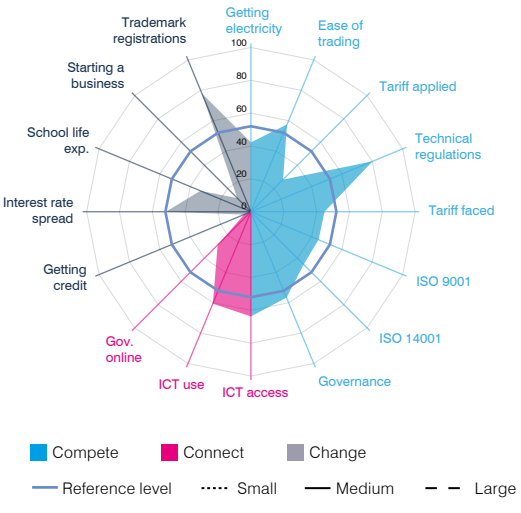
Compete	Small	Medium	Large	All
Power reliability	72.1	**83.1**	-	74.3
Domestic shipping reliability	-	-	-	-
Dealing with regulations	54.8	54.4	51.6	54.4
Customs clearance efficiency	-	-	-	-
Connect				
State of cluster development				30.7
Extent of marketing				**25.5**
Local supplier quality				37.5
University-industry collaboration in R&D				36.6
Change				
Access to finance	27.5	32.9	32.0	30.1
Access to educated workforce	**10.8**	**7.2**	34.0	**10.1**
Business licensing and permits	**6.6**	**13.4**	**11.3**	**9.7**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	42.2
Ease of trading across borders	57.5
Applied tariff, trade-weighted average	27.7
Prevalence of technical regulations	**80.2**
Faced tariff, trade-weighted average	44.8
Logistics performance index	-
ISO 9001 quality certificates	44.6
ISO 14001 environmental certificates	45.4
Governance index	56.6
Connect	
ICT access	63.7
ICT use	60.5
Government's online service	28.6
Change	
Ease of getting credit	**4.5**
Interest rate spread	51.8
School life expectancy	33.3
Ease of starting a business	**11.8**
Patent applications	-
Trademark registrations	77.8







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Suriname

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Strategic snapshot

Suriname is an upper-middle income country with a population of 0.6 million and GDP of $3.7 billion. Goods and services account for 91.3% and 8.7% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils, rice and wood are top exports. The country could export an additional $164 million in *bananas* to its home region, Asia and Europe. This product scores well on the price stability indicator compared with the country's other goods. There are also export opportunities for *husked or brown rice* and *frozen shrimps and prawns*. Both products feature a large share of SMEs and women in their production, compared with other goods and sectors in Suriname.

Suriname has export diversification opportunities in food products and metals, through *food preparations for infant use* and *iron and non-alloy steel in puddled bars*. Another product identified for diversification – *wire of non-alloy aluminium* – scores well on the price stability indicator compared with the country's other goods.

Small firms in Suriname underperform small firms in countries with a similar level of development. Their capacity to compete is affected by limited use of international quality certificates. Large firms in Suriname have international quality certificates, suggesting that it is feasible for small firms to catch up. Firms of all sizes report that their managers have limited experience, which is reflected in a low score on the access to educated workers at the business ecosystem level, and a below average score on school life expectancy at the national level. SMEs could improve their capacity to connect through increased use of the internet. SMEs would be better prepared for change if they had easier access to foreign technology licences and provided formal training to employees. At the business ecosystem level, there is room for improvement in business licences and permits, access to an educated workforce, and the extent of marketing. Power reliability is adequate, especially in the opinion of medium-sized firms.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 160	0 160	0 160	0 160	0 160				
Bananas, incl. plantains, fresh or dried	0803	64.0									
Gold, incl. gold plated with platinum, in semi-manufactured forms, for non-monetary purposes	710813	171.8									
Husked or brown rice	100620	14.0									
Shrimps and prawns, frozen	0306Xb	22.7									
Other frozen fish	0303Xa	31.1									
Frozen fish fillets	0304Xb	9.9									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like;...	4403XX	59.8									
Other fresh or chilled fish	0302Xd	9.7									
Fish (excluding fillets) and fish offal, dried, salted or in brine; fish, fish fillets and offal, smoked	0305Xb	4.8									
Wood, sawn or chipped lengthwise, sliced or peeled, sanded or end-jointed, of a thickness of > 6 mm...	4407Xb	16.0									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Tajikistan

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Key indicators

Population (millions)	8.8
GDP ($ billions)	7.2
GDP per capita ($)	818.6
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-6.3
Tariff preference margin (percentage points)	1.0
Imports and exports (goods and services), share of GDP (%)	66.9
Services exports, share of total exports (%)	21.4
Geographic region	Asia
Country group	LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	23.8	19.3	36.2
	Medium	36.6	29.9	47.1
	Large	35.4	**58.3**	45.0
	All	29.8	25.9	41.8
BUSINESS ECOSYSTEM		30.2	47.5	49.9
NATIONAL ENVIRONMENT		30.3	**8.4**	29.6
Reference level (a function of GDP per capita): 35.2				
Weaknesses are scores below: 17.6			**Strengths are scores above: 52.8**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

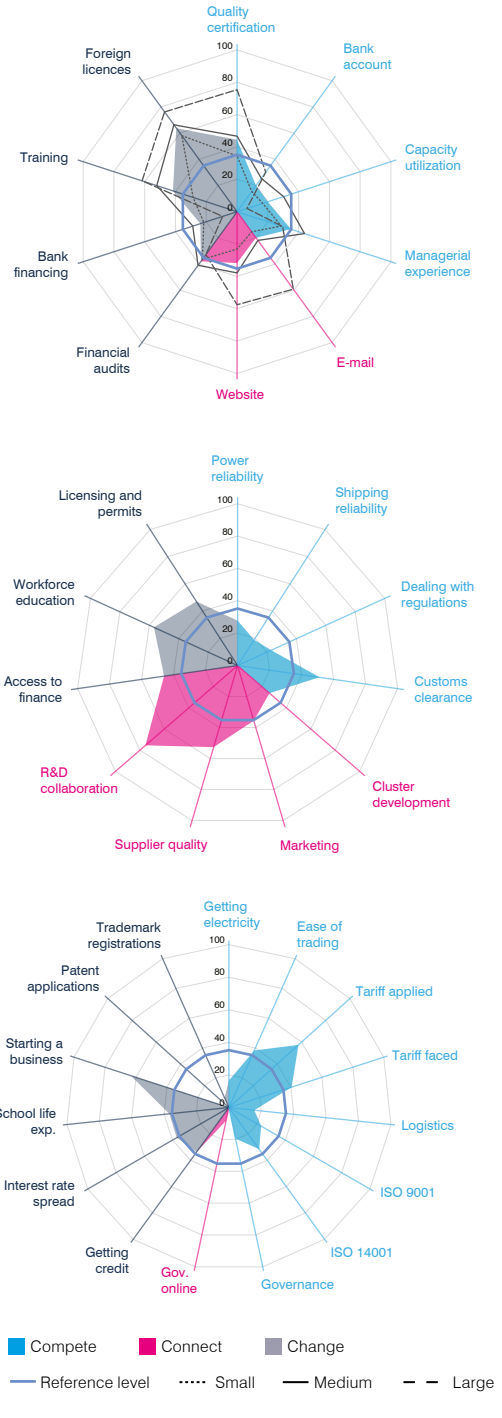
Compete	Small	Medium	Large	All
International quality certificate	34.4	46.7	**75.4**	44.4
Bank account	**15.4**	25.5	30.1	19.9
Capacity utilization	**16.6**	30.3	**6.4**	19.9
Managerial experience	28.7	43.9	29.7	35.1
Connect				
E-mail	**15.4**	21.9	**59.2**	20.0
Firm website	23.2	37.8	**57.5**	31.8
Change				
Audited financial statement	36.4	40.9	32.7	38.0
Investment financed by banks	21.6	28.8	**9.3**	23.9
Formal training programme	28.6	52.2	**61.7**	41.7
Foreign technology licences	**58.1**	**66.3**	**76.2**	**63.8**

BUSINESS ECOSYSTEM (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	27.5	28.1	26.0	27.7
Domestic shipping reliability	**10.8**	36.3	29.1	18.9
Dealing with regulations	25.6	19.3	23.2	22.8
Customs clearance efficiency	-	-	33.5	51.2
Connect				
State of cluster development				26.2
Extent of marketing				35.6
Local supplier quality				52.7
University-industry collaboration in R&D				**75.5**
Change				
Access to finance	45.5	45.5	50.9	45.9
Access to educated workforce	**66.4**	**52.9**	34.0	**56.9**
Business licensing and permits	47.7	46.6	43.6	47.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**16.6**
Ease of trading across borders	38.3
Applied tariff, trade-weighted average	**57.5**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	40.5
Logistics performance index	**15.7**
ISO 9001 quality certificates	22.8
ISO 14001 environmental certificates	31.6
Governance index	19.5
Connect	
ICT access	-
ICT use	-
Government's online service	**8.4**
Change	
Ease of getting credit	33.8
Interest rate spread	37.0
School life expectancy	36.7
Ease of starting a business	**63.4**
Patent applications	**0.0**
Trademark registrations	**6.5**



Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Tajikistan

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Strategic snapshot

Tajikistan is a lower-middle income country with a population of 8.8 million and GDP of $7.2 billion. Goods and services account for 78.6% and 21.4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Unwrought aluminium, cotton, and lead ores and concentrates are top exports. The country could export an additional $204 million in *aluminium* to its home region and Europe. This product scores well on the price stability indicator compared with other goods in the country. There are also opportunities to export *cotton* and *fresh or dried walnuts* to Asia, and *dried apricots* and *men's or boys' trousers of cotton* to Asia and Europe.

Tajikistan has export diversification opportunities in food products, textiles and synthetic textile fabric, through *carpets and other floor coverings, babies' garments and clothing accessories of cotton* and *single cotton yarn*. SMEs are strongly represented in the production of another group of products identified for diversification, *frozen sheep carcases and half-carcases,* which scores well on the price stability indicator compared with the country's other goods.

In comparison to countries with a similar level of development, large firms in Tajikistan perform well in their capacity to connect. Large companies tend to have international quality certificates and foreign technology licences, and provide formal training to employees. Yet their capacity utilization is low. This probably is linked to a lack of investments financed by banks and difficulties with access to electricity. Small firms face a number of challenges in their capacity to connect and capacity to compete. Few SMEs have bank accounts, use their resources to full capacity, or use the internet. At the business ecosystem level, small firms report difficulties with domestic shipping, a situation similar to that of other landlocked countries. It is exacerbated by a low logistics performance at the national level. Access to an educated workforce and university-industry collaboration in R&D are strong features of the business ecosystem, compared with expectations for a country at Tajikistan's level of development.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Aluminium, not alloyed, unwrought	760110	303.3									
Cotton, neither carded nor combed	520100	135.6									
Unwrought aluminium alloys	760120	57.2									
Dried apricots	081310	13.3									
Fresh or chilled onions and shallots	070310	15.8									
Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding knitted...	620342	13.9									
Fresh or dried walnuts, shelled	080232	1.6									
Dried prunes	081320	1.6									
Fresh or dried walnuts, in shell	080231	0.3									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather"...	41XXXa	6.2									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Timor-Leste

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Key indicators

Population (millions)	1.2
GDP ($ billions)	2.7
GDP per capita ($)	2189.9
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-5.6
Tariff preference margin (percentage points)	0.4
Imports and exports (goods and services), share of GDP (%)	54.6
Services exports, share of total exports (%)	17.6
Geographic region	Asia
Country group	LDC, SIDS
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	23.5	**6.2**	26.7
	Medium	42.8	27.7	34.2
	Large	46.1	**13.6**	**64.9**
	All	29.0	**12.1**	28.7
BUSINESS ECOSYSTEM		43.2	**20.6**	60.0
NATIONAL ENVIRONMENT		58.6	31.5	36.9
Reference level (a function of GDP per capita): 43.3				
Weaknesses are scores below: 21.6			**Strengths are scores above: 64.9**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

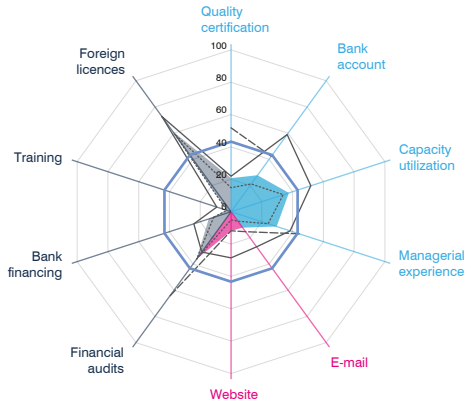
Compete	Small	Medium	Large	All
International quality certificate	**14.8**	21.9	51.8	**20.8**
Bank account	**21.2**	59.0	42.3	27.8
Capacity utilization	33.9	51.8	-	37.6
Managerial experience	24.1	38.4	44.3	29.7
Connect				
E-mail	**7.3**	26.9	**15.3**	**12.2**
Firm website	**5.0**	28.5	**11.8**	**11.9**
Change				
Audited financial statement	36.1	30.8	**64.9**	36.3
Investment financed by banks	**11.3**	24.2	-	**14.5**
Formal training programme	**0.0**	**9.3**	-	**2.7**
Foreign technology licences	59.3	**72.6**	-	61.4

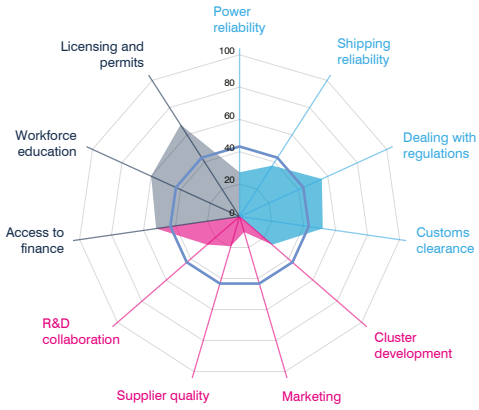
BUSINESS ECOSYSTEM (Normalized scores)

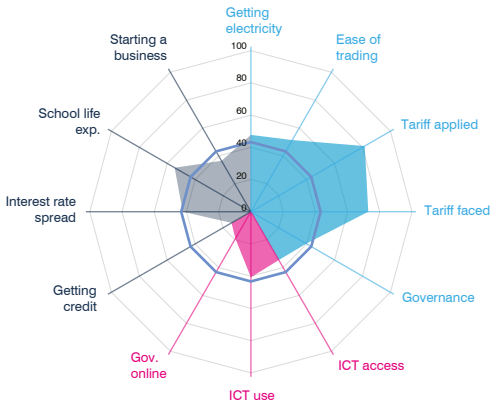
Compete	Small	Medium	Large	All
Power reliability	29.2	25.5	-	27.3
Domestic shipping reliability	42.7	34.2	-	37.4
Dealing with regulations	60.1	48.2	58.3	55.9
Customs clearance efficiency	57.1	-	-	52.0
Connect				
State of cluster development				26.7
Extent of marketing				**10.1**
Local supplier quality				**19.1**
University-industry collaboration in R&D				26.7
Change				
Access to finance	50.9	56.4	48.1	52.2
Access to educated workforce	59.6	58.8	**72.9**	60.1
Business licensing and permits	**72.9**	60.6	55.8	**67.6**

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	47.7
Ease of trading across borders	51.4
Applied tariff, trade-weighted average	**81.6**
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**72.9**
Logistics performance index	-
ISO 9001 quality certificates	-
ISO 14001 environmental certificates	-
Governance index	39.7
Connect	
ICT access	34.6
ICT use	40.7
Government's online service	**19.3**
Change	
Ease of getting credit	**13.9**
Interest rate spread	42.4
School life expectancy	54.7
Ease of starting a business	36.5
Patent applications	-
Trademark registrations	-







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2015) for firm level data; for other sources and methodology, see the Technical Annex.

Timor-Leste

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Strategic snapshot

Timor-Leste is a lower-middle income country with a population of 1.2 million and GDP of $2.7 billion. Goods and services account for 82.4% and 17.6% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils, coffee, textiles and worn clothing are top exports. The country could export an additional $13 million in *coffee* to its home region, Europe, Oceania and the Americas. This product scores well on the price stability indicator compared with the country's other goods. There are also some export opportunities for *stuffed pasta with meat or other substances* and *containers for the transport of fluids*.

Timor-Leste has export diversification opportunities in food products, vegetal residues and animal feed, through *crude coconut oil, oilcake and other solid residues resulting from the extraction of palm nuts or kernels, or resulting from the extraction of coconut or copra* and *manioc starch*. Another product identified for diversification is *prepared or preserved palm hearts*. This product scores well on the price stability indicator compared with other products in the country.

In Timor-Leste, firms of all sizes have lower capacity to connect than firms in other least developed countries. They could improve their capacity to connect by making better use of the internet. Furthermore, small firms face a number of challenges that affect their capacity to compete. Few firms have international quality certifications, or use bank accounts. SMEs would be better prepared for change if they had easier access to investment financed by banks and offering formal training to their employees. At the business ecosystem level, there is room for improvement in local supplier quality and the use of marketing tools and techniques. Firms report that dealing with regulations and obtaining business licences and permits are easy, compared with expectations for countries with similar development levels, and that an educated workforce is available.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Coffee (excluding roasted and decaffeinated)	090111	13.8									
Pasta, stuffed with meat or other substances, whether or not cooked or otherwise prepared	190220	0.3									
Fixed vegetable fats and oils and their fractions, whether or not refined, but not chemically modified...	151590	0.2									
Containers, incl. containers for the transport of fluids, specially designed and equipped for carriage by...	860900	0.3									
Oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, soya beans,...	1207Xa	0.1									
Arrowroot, salep, Jerusalem artichokes and similar roots and tubers with high starch or inulin content,...	0714XX	0.0									
Cards incorporating one or more electronic integrated circuits "smart cards"; electronic...	85XXXd	0.3									
Storage units for automatic data-processing machines	847170	0.0									
Liquid crystal devices, n.e.s. and other optical appliances and instruments not elsewhere...	901380	0.0									
Boring or sinking machinery for boring earth or extracting minerals or ores, not self-propelled and...	843049	0.0									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Uganda

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Key indicators

Population (millions)	37.7
GDP ($ billions)	26.4
GDP per capita ($)	700.5
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-5.6
Tariff preference margin (percentage points)	13.6
Imports and exports (goods and services), share of GDP (%)	50.4
Services exports, share of total exports (%)	49.0
Geographic region	Africa
Country group	LDC, LLDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	27.1	**9.7**	42.4
	Medium	42.9	28.3	**51.6**
	Large	**68.0**	29.6	**51.8**
	All	33.2	**13.2**	44.6
BUSINESS ECOSYSTEM		35.1	50.4	49.8
NATIONAL ENVIRONMENT		47.5	29.9	35.6

Reference level (a function of GDP per capita): 33.9

Weaknesses are scores below: 17.0 | **Strengths are scores above: 50.9**

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

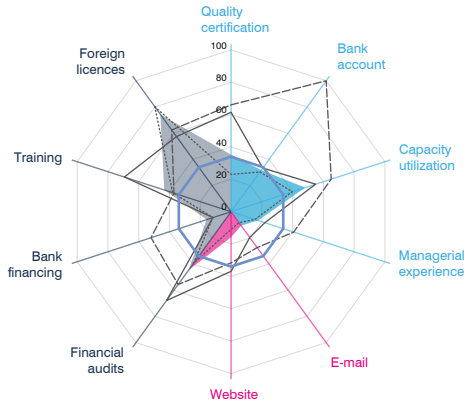
Compete	Small	Medium	Large	All
International quality certificate	23.0	**61.4**	**66.0**	35.2
Bank account	30.4	33.3	**100.0**	31.8
Capacity utilization	39.8	**54.9**	**65.1**	48.2
Managerial experience	**15.4**	22.0	40.7	17.6
Connect				
E-mail	**8.4**	19.7	27.5	**10.7**
Firm website	**11.0**	36.9	31.7	**15.8**
Change				
Audited financial statement	39.8	**67.9**	**55.6**	44.7
Investment financed by banks	**11.8**	**11.8**	**52.0**	**15.9**
Formal training programme	38.0	**69.3**	37.1	43.4
Foreign technology licences	**80.1**	**57.4**	**62.4**	**74.3**

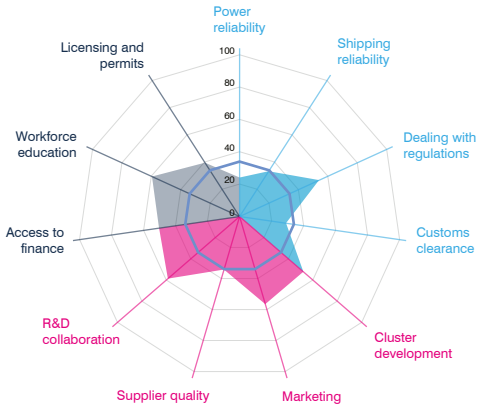
BUSINESS ECOSYSTEM (Normalized scores)

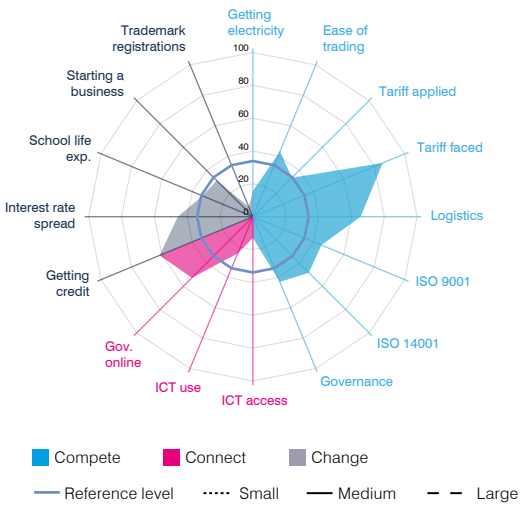
Compete	Small	Medium	Large	All
Power reliability	25.1	20.9	22.9	24.1
Domestic shipping reliability	37.4	47.9	**5.7**	33.3
Dealing with regulations	**55.5**	**53.0**	39.7	**54.1**
Customs clearance efficiency	31.3	31.8	26.2	29.0
Connect				
State of cluster development				**52.2**
Extent of marketing				**56.5**
Local supplier quality				34.2
University-industry collaboration in R&D				**58.7**
Change				
Access to finance	50.8	**57.7**	25.7	50.3
Access to educated workforce	**59.4**	**69.2**	39.5	**59.6**
Business licensing and permits	44.8	29.9	**14.2**	39.5

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**15.7**
Ease of trading across borders	43.1
Applied tariff, trade-weighted average	33.6
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**85.5**
Logistics performance index	**65.6**
ISO 9001 quality certificates	45.2
ISO 14001 environmental certificates	48.2
Governance index	42.9
Connect	
ICT access	**12.9**
ICT use	24.1
Government's online service	**52.6**
Change	
Ease of getting credit	**61.5**
Interest rate spread	45.8
School life expectancy	33.2
Ease of starting a business	31.3
Patent applications	-
Trademark registrations	**6.5**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Uganda

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Strategic snapshot

Uganda is a low income country with a population of 37.7 million and GDP of $26.4 billion. Goods and services account for 51% and 49% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a substantial share of the economy.

Coffee, gold and fish are top exports. The country could export an additional $74 million in *cocoa beans* to Asia and Europe and $158 million in *coffee* globally. Both products score well on the price stability indicator compared with other Ugandan goods. There are some opportunities to export *maize seed for sowing, dried shelled beans* and *black fermented tea* to Africa, Asia and Europe, as well as *skins and leather of bovine or equine animals* to Asia and Europe.

Uganda has export diversification opportunities in apparel, meat and non-alcoholic beverages, through *frozen, boneless meat of bovine animals* and *unfermented pineapple juice*. Compared with other Ugandan goods, SMEs are strongly represented in the production of another group of products identified for diversification, *t-shirts, singlets and other vests of textile materials, knitted or crocheted,* which scores well on the price stability indicator.

In comparison with other least developed countries, large and medium-sized firms in Uganda perform well in their capacity to change. Unlike their larger counterparts, few small firms in Uganda have investments financed by banks, limiting their capacity to change. Small firms face difficulties in using the internet, affecting their capacity to connect. The widest performance gap between small and large firms lies in the capacity to compete; only few small firms obtain international quality certifications, and have experienced managers. Large firms perform well on these two indicators for a country at Uganda's level of development, suggesting it is feasible for small firms to catch up. The business ecosystem level in Uganda is stronger than in countries with a similar level of development. The strong features of the business ecosystem are the ease of dealing with regulations, state of cluster development, extent of marketing, university-industry collaboration in R&D, and access to an educated workforce. Large companies find that the domestic shipping reliability and the administration of business licences and permits could be improved.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Coffee (excluding roasted and decaffeinated)	090111	366.8									
Cocoa beans, whole or broken, raw or roasted	180100	61.7									
Maize seed for sowing	100510	36.5									
Dried, shelled beans "Vigna and Phaseolus" (excluding beans of species "Vigna mungo [L.]...	0713Xa	20.9									
Cane or beet sugar and chemically pure sucrose, in solid form (excluding cane and beet sugar...	170199	18.4									
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090240	40.6									
Fish (excluding fillets) and fish offal, dried, salted or in brine; fish, fish fillets and offal, smoked	0305Xb	30.4									
Palm oil and its fractions, whether or not refined (excluding chemically modified and crude)	151190	23.7									
Portland cement (excluding white, whether or not artificially coloured)	252329	64.7									
Hides, skins and leather of bovine "incl. buffalo" or equine animals ("incl. parchment-dressed leather"...	41XXXa	32.4									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Venezuela

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Key indicators

Population (millions)	31.4
GDP ($ billions)	215.3
GDP per capita ($)	6850.1
Share of world GDP (PPP$, %)	0.3
Current account surplus/deficit, share of GDP (%)	-0.4
Tariff preference margin (percentage points)	0.1
Imports and exports (goods and services), share of GDP (%)	34.1
Services exports, share of total exports (%)	4.0
Geographic region	Americas
Country group	
Income group	Upper-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	51.3	36.6	41.1
	Medium	67.3	51.8	57.6
	Large	58.0	**93.8**	68.4
	All	54.5	41.2	51.6
BUSINESS ECOSYSTEM		27.9	**25.7**	47.3
NATIONAL ENVIRONMENT		33.7	50.7	31.9
Reference level (a function of GDP per capita): 52.6				
Weaknesses are scores below: 26.3			**Strengths are scores above: 78.9**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

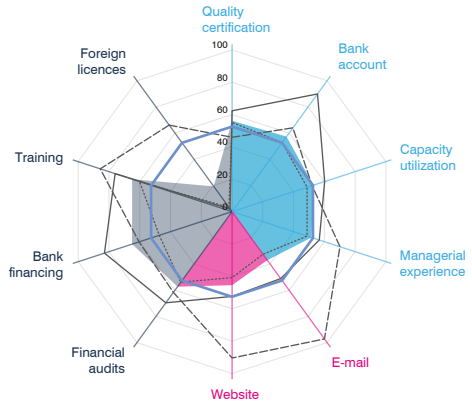
Compete	Small	Medium	Large	All
International quality certificate	55.2	62.3	45.9	56.2
Bank account	52.7	**89.9**	64.1	57.3
Capacity utilization	48.8	60.2	52.0	52.9
Managerial experience	48.7	56.7	70.1	51.7
Connect				
E-mail	32.6	51.2	**97.2**	37.1
Firm website	40.7	52.3	**90.4**	45.4
Change				
Audited financial statement	53.9	69.6	61.6	57.3
Investment financed by banks	47.3	**82.9**	60.4	65.0
Formal training programme	60.0	76.0	**85.6**	64.9
Foreign technology licences	**3.3**	**2.0**	66.1	**19.4**

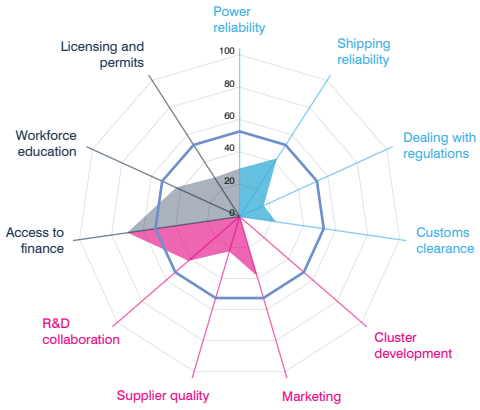
BUSINESS ECOSYSTEM (Normalized scores)

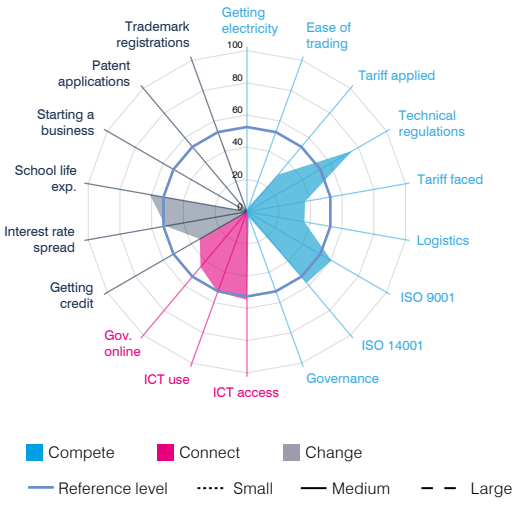
Compete	Small	Medium	Large	All
Power reliability	31.0	**24.9**	34.1	29.6
Domestic shipping reliability	44.3	36.3	58.2	42.7
Dealing with regulations	**19.0**	**10.4**	**8.1**	**16.5**
Customs clearance efficiency	-	-	**19.1**	**22.7**
Connect				
State of cluster development				**0.2**
Extent of marketing				38.3
Local supplier quality				**22.5**
University-industry collaboration in R&D				41.8
Change				
Access to finance	66.9	**79.6**	**88.4**	70.2
Access to educated workforce	49.9	33.7	**12.3**	43.1
Business licensing and permits	28.7	28.4	29.9	28.7

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	**0.0**
Ease of trading across borders	**3.6**
Applied tariff, trade-weighted average	30.1
Prevalence of technical regulations	75.4
Faced tariff, trade-weighted average	36.6
Logistics performance index	36.2
ISO 9001 quality certificates	60.5
ISO 14001 environmental certificates	57.6
Governance index	**3.5**
Connect	
ICT access	54.1
ICT use	53.1
Government's online service	44.8
Change	
Ease of getting credit	33.8
Interest rate spread	51.3
School life expectancy	61.1
Ease of starting a business	**0.0**
Patent applications	**0.0**
Trademark registrations	45.1







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2010) for firm level data; for other sources and methodology, see the Technical Annex.

Venezuela

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Strategic snapshot

Venezuela is an upper-middle income country with a population of 31.4 million and GDP of $215.3 billion. Goods and services account for 96% and 4% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Petroleum oils, gold, and iron ores and concentrates are top exports. The country could export an additional $171 million in *methanol* to its home region, Asia and Europe. This product scores well on the price stability indicator compared with other goods in Venezuela. There are also export opportunities for *urea, propene* and *ferrous products*.

Venezuela has export diversification opportunities in food products, chemicals and machinery, and electronic equipment, through *vinyl acetate* and *parts for boring or sinking machinery*. Another product identified for diversification – *paper and paperboard* – scores well on the price stability indicator compared with the country's other goods.

Compared with other countries with similar level of development, firms in Venezuela are competitive. SMEs would be better prepared for change if they had foreign technology licences. Most large firms in Venezuela use the internet, have bank accounts and bank financing, and offer formal training to employees. Nevertheless, at the business ecosystem level, there is room for improvement, particularly through the development of clusters and enhancing the quality of local suppliers. Firms of all sizes report difficulties in dealing with regulations and customs clearance efficiency, while access to finance is reported to be easy, given the country's level of development.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Methanol "methyl alcohol"	290511	490.4									
Urea, whether or not in aqueous solution (excluding that in pellet or similar forms, or in packages with...	310210	236.4									
Propene "propylene"	290122	105.3									
Ferrous products obtained by direct reduction of iron ore, in lumps, pellets or similar forms	720310	289.7									
Aluminium, not alloyed, unwrought	760110	141.8									
Unwrought aluminium alloys	760120	63.6									
Shrimps and prawns, frozen	0306Xb	65.7									
Saturated monohydric acyclic alcohols (excluding methanol "methyl alcohol", propan-1-ol...	290519	27.3									
Mixed alkylbenzenes and mixed alkylnaphthalenes produced by the alkylation of benzene and...	381700	33.6									
Rum and other spirits obtained by distilling fermented sugar-cane products	220840	36.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Zambia

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Key indicators

Population (millions)	17.2
GDP ($ billions)	25.6
GDP per capita ($)	1483.7
Share of world GDP (PPP$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-3.6
Tariff preference margin (percentage points)	3.4
Imports and exports (goods and services), share of GDP (%)	83.3
Services exports, share of total exports (%)	11.0
Geographic region	Africa
Country group	LDC, LLDC
Income group	Lower-middle income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	30.8	**13.1**	37.4
	Medium	45.9	23.2	48.8
	Large	**60.6**	**64.9**	**75.0**
	All	35.3	**17.2**	44.0
BUSINESS ECOSYSTEM		38.7	45.3	51.2
NATIONAL ENVIRONMENT		46.0	27.1	42.2
Reference level (a function of GDP per capita): 40.1				
Weaknesses are scores below: 20.0			**Strengths are scores above: 60.1**	

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

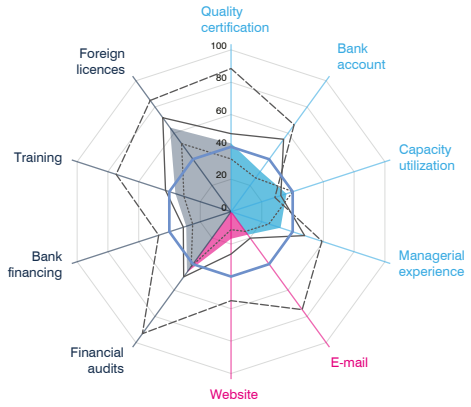
Compete	Small	Medium	Large	All
International quality certificate	32.6	48.2	**88.5**	42.2
Bank account	25.8	55.3	**66.4**	30.9
Capacity utilization	40.2	32.4	28.5	36.0
Managerial experience	24.6	47.8	59.1	32.2
Connect				
E-mail	**15.1**	20.2	**74.8**	**17.6**
Firm website	**11.1**	26.2	55.0	**16.7**
Change				
Audited financial statement	42.0	49.8	**93.2**	46.4
Investment financed by banks	25.0	31.0	47.0	29.1
Formal training programme	30.6	42.5	**74.7**	36.2
Foreign technology licences	52.0	**71.8**	**85.0**	**64.3**

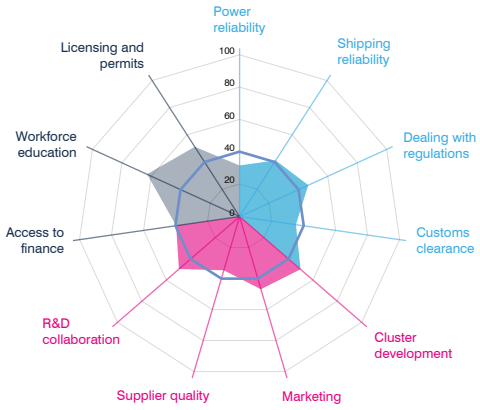
BUSINESS ECOSYSTEM (Normalized scores)

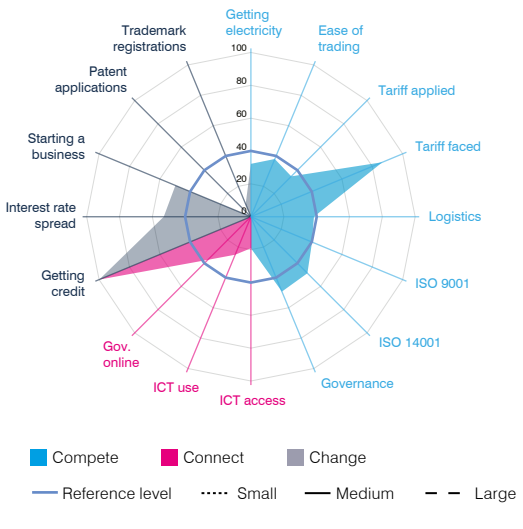
Compete	Small	Medium	Large	All
Power reliability	34.1	23.4	35.0	31.5
Domestic shipping reliability	44.3	35.2	52.4	41.2
Dealing with regulations	47.3	46.4	41.8	46.7
Customs clearance efficiency	-	41.5	27.3	35.2
Connect				
State of cluster development				49.9
Extent of marketing				46.9
Local supplier quality				34.7
University-industry collaboration in R&D				49.7
Change				
Access to finance	37.1	43.7	**62.5**	39.7
Access to educated workforce	**63.5**	**64.7**	48.6	**62.9**
Business licensing and permits	51.2	50.0	57.0	51.2

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	32.2
Ease of trading across borders	38.0
Applied tariff, trade-weighted average	34.8
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	**86.7**
Logistics performance index	38.4
ISO 9001 quality certificates	40.3
ISO 14001 environmental certificates	48.6
Governance index	49.3
Connect	
ICT access	**19.2**
ICT use	25.1
Government's online service	37.1
Change	
Ease of getting credit	**100.0**
Interest rate spread	53.1
School life expectancy	-
Ease of starting a business	49.7
Patent applications	**0.0**
Trademark registrations	**8.3**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2013) for firm level data; for other sources and methodology, see the Technical Annex.

Zambia

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Strategic snapshot

Zambia is a lower-middle income country with a population of 17.2 million and GDP of $25.6 billion. Goods and services account for 89% and 11% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Copper, telephone sets and maize are top exports. The country could export an additional $2.4 billion in *refined copper in the form of cathodes* globally. Compared with the country's other goods, SMEs are strongly represented in the production of this product, which scores well on the price stability indicator. There are also export opportunities for *unrefined copper,* mostly to Asia.

Zambia has export diversification opportunities in metals, vegetable oils, and fats and meat, through *crude sunflower-seed or safflower oil* and *frozen, boneless meat of bovine animals*. Another product identified for diversification is *nickel mattes*. Compared with other goods in Zambia, SMEs are strongly represented in the production of this product, which scores well on the price stability indicator.

Compared with other least developed countries, large firms in Zambia perform well in their capacities to connect, compete, and change. Large firms tend to own international quality certificates and foreign technology licences, use bank accounts and have audited financial statements. The widest performance gap between small and large firms is in the capacity to connect, as few small firms use the internet. This is likely to be linked to a low ICT access at the national level. At the business ecosystem level, firms report an adequate access to skilled workers, while power reliability and local supplier quality require improvement.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
			0 2200	0 2200	0 2200	0 2200	0 2200				
Copper, refined, in the form of cathodes and sections of cathodes	740311	3143.7									
Copper, unrefined; copper anodes for electrolytic refining	740200	2040.2									
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	48.1									
Wood in the rough (excluding rough-cut wood for walking sticks, umbrellas, tool shafts and the like...	4403XX	40.7									
Maize (excluding seed for sowing)	100590	178.1									
Rubies, sapphires and emeralds, worked, whether or not graded, but not strung, mounted or set,...	710391	51.3									
Cobalt mattes and other intermediate products of cobalt metallurgy; unwrought cobalt; cobalt...	8105XX	99.8									
Electric conductors, for a voltage <= 1.000 V, insulated, not fitted with connectors, n.e.s.	854449	29.9									
Cotton, neither carded nor combed	520100	85.9									
Wire of refined copper, with a maximum cross-sectional dimension of > 6 mm	740811	80.6									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

Zimbabwe

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Key indicators

Population (millions)	14.9
GDP ($ billions)	17.1
GDP per capita ($)	1149.7
Share of world GDP (PPP$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-3.6
Tariff preference margin (percentage points)	5.5
Imports and exports (goods and services), share of GDP (%)	88.4
Services exports, share of total exports (%)	12.5
Geographic region	Africa
Country group	LLDC
Income group	Low income

SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.5	30.1	42.4
	Medium	34.6	47.1	43.9
	Large	44.0	**87.3**	**72.8**
	All	32.6	33.9	44.2
BUSINESS ECOSYSTEM		48.9	24.3	42.8
NATIONAL ENVIRONMENT		33.1	26.6	**15.2**
Reference level (a function of GDP per capita): 38.0				
Weaknesses are scores below: 19.0		**Strengths are scores above: 57.0**		

SME Competitiveness Grid

FIRM CAPABILITIES (Normalized scores)

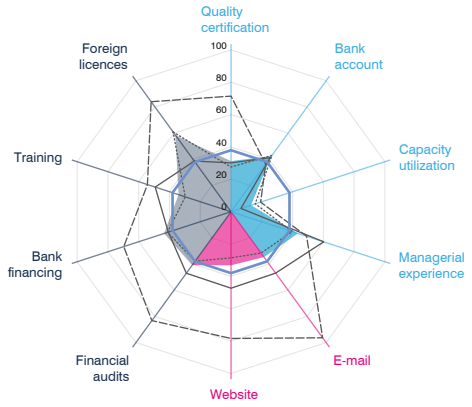
Compete	Small	Medium	Large	All
International quality certificate	27.6	30.2	**71.4**	31.3
Bank account	43.0	41.3	36.4	42.5
Capacity utilization	**15.7**	**6.4**	19.2	**13.0**
Managerial experience	39.8	**60.3**	49.1	43.4
Connect				
E-mail	31.6	46.9	**96.3**	34.7
Firm website	28.5	47.3	**78.3**	33.1
Change				
Audited financial statement	37.8	47.0	**83.2**	40.8
Investment financed by banks	41.3	40.7	**69.7**	43.5
Formal training programme	29.8	49.3	54.3	34.1
Foreign technology licences	**60.9**	38.7	**84.1**	**58.5**

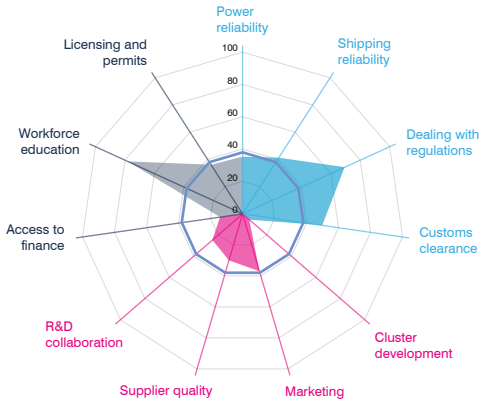
BUSINESS ECOSYSTEM (Normalized scores)

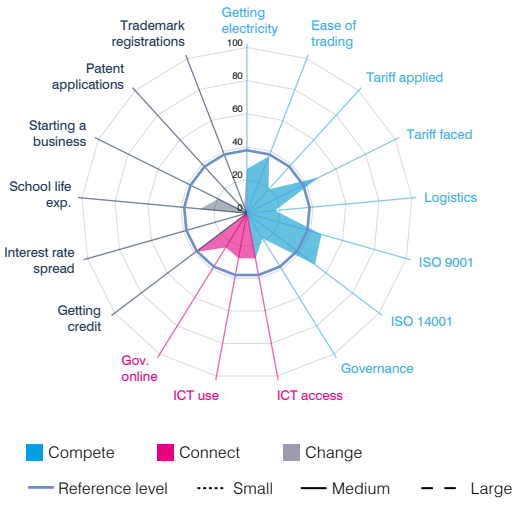
Compete	Small	Medium	Large	All
Power reliability	36.9	29.0	48.7	35.3
Domestic shipping reliability	35.2	50.0	52.4	41.2
Dealing with regulations	**71.3**	**62.9**	**61.0**	**69.4**
Customs clearance efficiency	53.0	45.1	52.4	49.8
Connect				
State of cluster development				**5.5**
Extent of marketing				37.0
Local supplier quality				30.0
University-industry collaboration in R&D				24.7
Change				
Access to finance	**14.6**	**8.8**	28.7	**14.1**
Access to educated workforce	**77.5**	**79.0**	**85.1**	**78.1**
Business licensing and permits	39.9	23.0	31.9	36.1

NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	26.7
Ease of trading across borders	36.7
Applied tariff, trade-weighted average	19.8
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	48.4
Logistics performance index	**17.1**
ISO 9001 quality certificates	46.8
ISO 14001 environmental certificates	51.5
Governance index	**17.9**
Connect	
ICT access	27.8
ICT use	27.7
Government's online service	24.4
Change	
Ease of getting credit	39.1
Interest rate spread	**0.0**
School life expectancy	28.3
Ease of starting a business	19.3
Patent applications	**0.0**
Trademark registrations	**4.6**







Note: Scores range from 0 to 100, a higher score indicates a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.
Source: World Bank Enterprise Survey (2016) for firm level data; for other sources and methodology, see the Technical Annex.

Zimbabwe

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Strategic snapshot

Zimbabwe is a low income country with a population of 14.9 million and GDP of $17.1 billion. Goods and services account for 87.5% and 12.5% of exports, respectively. This snapshot focuses on trade in goods, given that data are lacking on trade in services, which account for a growing share of the economy.

Unmanufactured tobacco, gold and nickel ores and concentrates are top exports. The country could export an additional $29 million in *ferro-chromium* to Asia, Europe and Oceania. This product scores well on the price stability indicator compared with the country's other goods. There are also export opportunities for *industrial diamonds* and *fresh and dried oranges*.

Zimbabwe has export diversification opportunities in textile products and cereals, through *wheat or meslin flour*. Compared with other goods in Zimbabwe, SMEs are strongly represented in the production of another group of products identified for diversification, *sacks and bags of polyethylene or polypropylene strip,* which scores well on the price stability indicator.

Compared to countries with similar levels of development, large firms in Zimbabwe perform well in their capacity to connect and capacity to change. Large firms tend to own foreign technology licences and international quality certificates, and make good use of the internet and the banking system. Firms, nevertheless, face some challenges that limit their competitiveness, particularly not using their resources to full capacity. At the business ecosystem level, there is scope for improvement in access to finance and the state of cluster development, while firms find it easy to find educated workers and deal with regulations compared with other countries at similar levels of development.

Unrealized potential: Existing export products

Product description	Product code	Exports ($ million)	Value of unrealized potential exports by destination ($ million)					Development indicators			
			Africa	Americas	Asia	Europe	Oceania	Price stability	SME presence	Women employed	Technology
Raw cane sugar, in solid form, not containing added flavouring or colouring matter	1701XX	100.6									
Ferro-chromium, containing by weight > 4% of carbon	720241	183.6									
Hides, skins and leather of reptiles ("incl. parchment-dressed leather", excluding chamois leather, patent...	41XXXc	41.4									
Fresh or dried oranges	080510	27.8									
Industrial diamonds unworked or simply sawn, cleaved or bruted	710221	22.9									
Nickel, not alloyed, unwrought	750210	17.6									
Fresh or dried nuts (excluding coconuts, Brazil nuts, cashew nuts, almonds, hazelnuts, filberts, walnuts...	0802Xc	9.5									
Fresh or chilled peas "Pisum sativum", shelled or unshelled	070810	20.7									
Other molluscs and aquatic invertebrates	03XXXX	8.2									
Black fermented tea and partly fermented tea, whether or not flavoured, in immediate packings...	090240	20.1									

Notes: Top 10 products in decreasing order of unrealized export potential to the world. **Exports:** Average value over 2012–2016. **Price stability, SME presence,** and **Women employed:** Green - performance above a country's trade-weighted mean. Red - the opposite. **Technology:** Green - transformed products exported by countries at least matching the country's per capita GDP. Red - the opposite. Blank spaces - data are not available.

Source: Data on export potential (table above) and product diversification opportunities (listed in the text) are derived from ITC's Export Potential Map, http://exportpotential.intracen.org. The website provides the complete list of products, while the text is based on the top 25 products filtered by a technological advancement criterion.

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Abridged Technical Annex

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Abridged Technical Annex

This Chapter summarizes the methodology underlying the country profiles. A detailed description is provided online.[325] There are in total 50 country profiles, while the data used for the calculation of regional averages cover 109 countries (Table A.9).

The country profiles cannot be compared directly across years, as most underlying firm-level indicators are not updated yearly. Even if the data for a specific country is the same, its strengths and weaknesses may differ from previous years. First, strengths and weaknesses are relative to the performance of other countries. Second, the expected competitiveness is a function of a country's GDP per capita, and hence the reference level of competitiveness may increase or decrease. Third, the calculations of the export potential and price stability have undergone methodological changes.

Definitions

Competitiveness

This report follows the following definition of competitiveness, elaborated in detail in the first edition of the *SME Competitiveness Outlook*[326]: Competitiveness is the demonstrated ability to design, produce and commercialize an offer, which fully, uniquely and continuously fulfils the needs of targeted market segments, while connecting with and drawing resources from the business ecosystem, and achieving a sustainable return on the resources employed.

Small and medium-sized enterprises

The definition of the size of a firm is based on the number of full-time employees:

- Micro: 1 to 4 employees
- Small: 5 to 19 employees
- Medium: 20 to 99 employees
- Large: 100 or more employees.

Note that the SME competitiveness grid indicators and development indicators on the SME export potential page are largely based on the World Bank Enterprise Surveys administered to legally register small, medium and large firms in manufacturing and services sectors.[327] Hence, micro firms, informal entities and agricultural enterprises are not included in the country profiles due to lack of suitable data.

Technical notes

Key indicators

Key indicators are derived from ITC's Market Analysis Tools and databases of other international institutions. They are taken directly from their respective sources (listed below), and are expressed in the units indicated alongside the indicator's name. They have not been transformed or undergone normalization calculations.

SME competitiveness

Grid summary

The competitiveness grid summary provides summary statistics for all 39 indicators of the SME competitiveness grid. Out of these 39 indicators, 17 apply directly to business establishments and are available by firm size. Indicator averages (listed vertically in the table) are calculated for each competitiveness level:

(1) Firm capabilities

(2) Business ecosystem

(3) National environment.

Furthermore, indicators are averaged by pillar of competitiveness, creating a matrix containing competitiveness levels and pillars:

(1) Capacity to compete (highlighted in blue)

(2) Capacity to connect (highlighted in pink)

(3) Capacity to change (highlighted in grey).

Reference level, strengths and weaknesses

Threshold values defining strengths and weaknesses related to competitiveness are based on a country-specific reference level. To determine the reference level for each country, the SME competitiveness indicators are averaged by country and regressed on the natural logarithm (log) of country GDP per capita. The reference level is then set to the predicted value for log of GDP per capita, as determined by the least-squares regression.

An indicator is considered a 'strength' when it surpasses a threshold value of 150% of the country's reference level (indicated by bold green text). Conversely, an indicator signals 'weakness' when it falls below a threshold value of 50% of the reference level (indicated by bold red text). Thus, strengths and weaknesses allow for an easy comparison of individual indicators for a given country to the average value of all indicators in the sample, conditioning on the country's GDP per capita.

Indicators and radar diagrams

The SME competitiveness grid presents transformed and normalized scores for competitiveness indicators. The indicators are split into three levels of competitiveness, each in turn split into three pillars. Whenever possible, the grid includes indicators by firm size.

To allow for cross-indicator and cross-country comparisons, indicators are normalized on a [1-100] scale, with a score of 100 representing the best possible outcome. For positive indicators, those in which higher values represent better outcomes, a raw data series *X* is transformed according to:

$$Y_{(+)} = 100 \frac{X - \min(X)}{\max(X) - \min(X)}$$

For negative indicators, those on an inverse scale, in which higher values represent worse outcomes, a raw data series X is transformed according to:

$$Y_{(-)} = 100 \frac{\max(X) - X}{\max(X) - \min(X)}$$

Equivalently, the normalized series for negative indicators may be constructed from:

$$Y_{(-)} = 100 - Y_{(+)}$$

A non-linear transformation (developed by ITC) is then applied over the same [1-100] range to compensate for highly skewed distributions, aimed at bringing the sample median to 50. For an input data series Y, the transformed score Z is defined as:

$$Z = 100 \frac{\ln(1 + aY)}{\ln(1 + 100a)}$$

where

$$a = \frac{100 - 2\,\text{median}(Y)}{\text{median}(Y)^2}$$

and median(*Y*) is the sample median. The formula is not defined in the likely event that the median is already equal to 50; in this case, the second step becomes redundant.

The radar diagrams on the right hand side of the SME competitiveness grid convey the same statistics as indicated in the tables. The solid area plots are colour-coded according to each competitiveness pillar and represent aggregate indicator values for all firm sizes, while the line plots of varying patterns identify indicators for small firms (dotted black line), medium firms (solid black line), and large firms (dashed black line). A blue line is a country-specific reference level indicating the expected competitiveness of this country.

Export potential

The below provides a short summary on ITC's methodology of calculating a country's unrealized export potential, product diversification and development indicators presented on the second page of each country profile. Please refer to the methodology paper for full technical details.[328]

Strategic snapshot

The summary on the second page of each country profile describes key economic indicators and the SME competitiveness in the country, focusing on the business ecosystem. It lists products with export potential and products with diversification opportunities, i.e. products that a country does not export yet, but can potentially produce and export to diversify its export basket.

These products have been selected based on ITC's Product Diversification Indicator (PDI). The methodology is motivated by Hausmann and Hidalgo's product space concept that establishes links between products through an assessment of how frequently they are found together in a country's export baskets.[329] Demand and supply combined allows to rank products according to their diversification opportunities for a given target market that may yield export revenues in the medium- to long-term future.

To identify diversification opportunities, the product space concept establishes linkages from a country's current comparative advantages to potential new ones. The average distance of a product from a country's current export basket replaces the expected market share as an estimate of supply capacity. Demand and market access indicators remain identical to the export potential indicator (EPI) methodology.

A country's potential to diversify is based on a density measure, which determines the proximity between products. The density of product *k* with respect to a currently exported product *l* is based on the conditional probability of exporting *k*, given that *l* is exported, taking into account the export composition of a large number of countries.

The mean density is then computed over all currently exported products *l*, weighed by the respective comparative advantage (CA) of each product *l*. Comparative advantages are defined as Balassa's revealed comparative advantage (RCA), corrected for tariff advantages (a country may have RCA in a product because it benefits from a tariff advantage, but this does not imply that this country has an actual comparative advantage in exporting the product). The resulting value $Density_{ik}$ is a measure of comparative advantage in products surrounding product *k*. Higher values imply that country *i* should be able to move into production and export of product *k* in the future with relative ease. All density values are normalized to ensure that their range follows that of the corresponding market share.

The final PDI indicator is calculated as:

$$PDI_{ijk} = Density'_{ik} \times Ease_{ij} \times Exp.m_{jk}$$

Potential new export products undergo several qualification filters. First, products that already appear as products with significant export potential are removed – to limit PDI to products that are not exported on a regular basis by the country. Potential agricultural products are then checked against the country's climactic conditions; agricultural products unsuitable to the country's climactic endowments are eliminated from consideration. Finally, sea access is considered for the production of some products; some sea-related products are eliminated from consideration for landlocked countries (some exceptions being freshwater fish and marine equipment). Products in the text included only those that satisfy the technology criterion, suggesting that their development would increase the overall technological level of the country.

Unrealized potential: Existing export products

Each country's top 10 products with the highest export potential to the world are reported in the table 'Unrealized potential: Existing export products', based on ITC's EPI.[330] The length of the bars reflects the potential by geographic region. Blank values indicate that the product has not been in consistent demand for over five years by any country in the respective region.

Unrealized export potential for product *k* between exporting country i and importing country *j* exists when the export potential exceeds the value of current exports. Export potential depends on three critical factors, which are country *i*'s expected capacity to supply this product ($Exp.MShare_{ik}$), partner *j*'s expected demand for this product ($Exp.m_{jk}$) and the overall ease to trade between countries *i* and *j* ($Ease_{ij}$). Therefore, in its simplest form, EPI is defined as:

$$EPI_{ijk} = Exp.MShare_{ik} \times Ease_{ij} \times Exp.m_{jk}$$

The actual formula includes correction factors corresponding to tariff (dis)advantages and product-specific distance sensitivity. The above formula can be seen as the outcome of a theoretical model of world trade based on the following assumptions:

1. A given country will offer similar products, in terms of type and quality, to all markets. In other words, the type and quality of products exported does not depend on the export destination. This assumption is essential to derive an export potential value in new markets from the observed performance of a supplier in current markets.
2. Trade costs are identical for all products.

In the final EPI that includes correction factors, trade costs vary across products because of different sensitivities to distance and because of tariff (dis)advantages.

The below describes three components that make up the export potential indicator. Firstly, the expected market share of country *i* in product *k* is based on current exports x_{ik} times the ratio of GDP 2021 forecast and current GDP, noted GDP_i^g relative to the same ratio for other suppliers of the same product.
The expected world market share is simply:

$$Exp.MShare_{ik} = \frac{x_{ik} GDP_i^g}{\sum_i x_{ik} GDP_i^g}$$

Secondly, the ease to export from country *i* to country *j* is calculated as the ratio of actual trade and potential trade between these countries. Here, potential trade is the value of total bilateral trade based on the critical assumption that the exporter has the same market share in a particular market as it has at the world level, for every product. When the ease to export is above one, the market is easier to reach than average markets.

$$Ease_{ij} = \frac{X_{ij}}{\Sigma_k \times MShare_{ik} \times m_{jk}}$$

With

- $\boldsymbol{x_{ij}}$ total exports of exporter *i* to market *j*
- $\boldsymbol{MShare_{ik}}$ the current[331] world market share of exporter *i* for product *k*
- $\boldsymbol{m_{jk}}$ country *j*'s total imports of product *k*.

Finally, partner *j*'s expected demand for product *k* in 2021 is calculated as its current imports of that product, multiplied by the expected growth ratio of these imports between the current period and 2021:

$$Exp.m_{jk} = m_{\widetilde{jk2021}} = m_{jk} \times \frac{m_{\widetilde{jk2021}}}{m_{jk}}$$

The expected growth of imports between the period 2012–2016 and 2021 is computed using expected annual growth rates of

import per capita, which are based on GDP and population forecasts and the following relation:

$$\hat{m}_{jkt} = \alpha_{dc}\hat{Y}_{jt} + \beta_{dc} + \varepsilon_{jkt}$$

Where

- m_{jkt} is the growth rate of imports per capita;
- y_{jt} is the growth rate of GDP per capita;
- α_{dc} and β_{dc} are parameters depending on d, the development level of market j (developed or developing), and c, the HS 2-digit chapter of product k.[332]

Development indicators

To allow for a comprehensive analysis and policy formulation, EPI is reported alongside four additional indicators:

- **Price stability** is based on the standard deviation of unit values at product level, deflated by the overall increase of trade prices.
- **SME presence** is the share of SMEs in the sector.
- **Women employed** is the share of female employment in the sector.
- **Technology** indicates a technologically advanced product (green bullet). The product is considered advanced if it is regularly exported with comparative advantage, positive trade balance and above-average per capita exports by countries that have a GDP per capita at least as high as the country itself.

Indicators for price stability, SME presence, and women employment are relative. They depend on how other sectors in the country perform. Green bullets indicate performance above the trade-weighted mean, and red bullets indicate performance below the trade-weighted mean. Indicator cells are empty when data is not available.

Methodological changes

In predicting demand for exports of a particular product, the methodology has been refined. Previously, only income elasticity, GDP and population growth were used, whereas now the predictions feature the intercept parameter β_{dc} corresponding to the trend in demand for a particular product independently from growth factors.

Furthermore, in this year's edition, price stability calculations feature an improved computation of the overall increase of trade prices relying on the Marshall-Edgeworth price index. The increase of trade prices is used to deflate individual unit values before computing price stability.

Data sources

Each indicator is calculated using the most recent data available, with specific periods for data series provided next to the source. Indicators rely on actual values, with the exception of GDP and population, which rely on a 2017 forecast to ensure that the reference is based on the same year for all countries (see tables A.1 to A.5 for comprehensive data sources).

Certain indicators contain the phrase 'inverted scale' in the description tag to signal that these indicators are based on raw data measured by an inverted scale, in which higher values indicate worse outcomes. The transformation and normalization procedure converts these series to a positive scale, in which higher values indicate better outcomes.

Key indicators

TABLE A.1. Data sources used in key indicators

Indicator	Source	Year
Population	IMF World Economic Outlook	2017
GDP	IMF World Economic Outlook	2017 (2016 for Egypt and Pakistan)
GDP per capita	IMF World Economic Outlook	2017 (2016 for Egypt and Pakistan)
Share of world GDP	IMF World Economic Outlook	2017
Current account surplus/deficit	IMF World Economic Outlook	2017
Tariff preference margin	ITC Market Access Map	2006–2017
Imports and exports (goods and services)	ITC Trade Map	2010–2015
Service exports	ITC Trade Map	2010–2015
Income Group	World Bank classification	2017

Firm capabilities

TABLE A.2. Data sources used in firm capabilities

Indicator	Source	Year
Compete		
International quality certification	World Bank Enterprise Surveys	2006–2017
Bank account	World Bank Enterprise Surveys	2006–2017
Capacity utilization	World Bank Enterprise Surveys	2006–2017
Manager's experience	World Bank Enterprise Surveys	2006–2017
Connect		
E-mail	World Bank Enterprise Surveys	2006–2017
Firm website	World Bank Enterprise Surveys	2006–2017
Change		
Audited financial statements	World Bank Enterprise Surveys	2006–2017
Investments financed by banks	World Bank Enterprise Surveys	2006–2017
Formal training programme	World Bank Enterprise Surveys	2006–2017
Foreign technology licences	World Bank Enterprise Surveys	2006–2017

Note: The most recent years refer to the year of the latest edition of the World Bank's *Doing Business Report*.

Business ecosystem

TABLE A.3. Data sources used in business ecosystem

Indicator	Source	Year
Compete		
Power reliability (inverted scale)	World Bank Enterprise Surveys	2006–2017
Domestic shipping reliability (inverted scale)	World Bank Enterprise Surveys	2006–2017
Dealing with regulations (inverted scale)	World Bank Enterprise Surveys	2006–2017
Customs clearance efficiency (inverted scale)	World Bank Enterprise Surveys	2006–2017
Connect		
State of cluster development	World Economic Forum, Executive Opinion Survey	2012–2018
Extent of marketing	World Economic Forum, Executive Opinion Survey	2012–2018
Local supplier quality	World Economic Forum, Executive Opinion Survey	2012–2018
University industry collaboration in R&D	World Economic Forum, Executive Opinion Survey	2012–2018
Change		
Access to finance (inverted scale)	World Bank Enterprise Surveys	2006–2017
Access to educated workforce (inverted scale)	World Bank Enterprise Surveys	2006–2017
Business licensing and permits (inverted scale)	World Bank Enterprise Surveys	2006–2017

Note: The most recent years refer to the year of the latest edition of the World Bank's *Doing Business Report* and World Economic Forum's *The Global Competitiveness Report*.

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National environment

TABLE A.4. Data sources used in national environment

Indicator	Source	Year
Compete		
Getting electricity	World Bank, *Doing business*	2018
Ease of trading across borders	World Bank, *Doing business*	2018
Applied tariff, trade-weighted average (inverted scale)	ITC Market Access Map	2006–2017
Prevalence of technical regulations (inverted scale)	International NTM database, available from ITC Market Access Map	2008–2017
Faced tariff, trade-weighted (inverted scale)	ITC Market Access Map	2006–2017
Logistics performance index	World Bank and Turku School of Economics	2007–2016
ISO 9001 quality certificates	ISO, ISO Survey of Management System Standard Certification	2016
ISO 14001 environmental certificates	ISO, ISO Survey of Management System Standard Certification	2016
Governance index	World Bank, Worldwide Governance Indicators	2016
Connect		
ICT access	ITU, Measuring the Information Society, ICT Development index	2017
ICT use	ITU, Measuring the Information Society, ICT Development index	2017
Government's online service	UNPAN, e-government survey	2016
Change		
Ease of getting credit	World Bank, *Doing Business*	2018
Interest rate spread (inverted scale)	World Bank, on the basis of IMF data, International Financial Statistics and data files	1988–2016
Ease of starting a business	World Bank, Doing Business	2018
Patent applications	WIPO	2000–2015
Trademark registrations	WIPO	2004–2015

Export potential

TABLE A.5. Data sources used in export potential assessment

Variable	Underlying data source	Period and further information
Export and import values	ITC Trade Map	2012-2016
Ad-valorem tariffs	ITC Market Access Map	Latest year available as of September 2017
Price elasticities	GTAP	Hertel, Hummels, Ivanic and Keeney (2004)
Distances	CEPII GeoDist	CEPII GeoDist (Mayer and Zignago, 2011), based on geodesic distances between main cities (with population figures from 2004). Geodesic distance between capital cities is used for missing countries.
GDP growth projections	IMF World Economic Outlook database	2016–2021 (as of October 2017)
Population projections	ILOStat database	2016–2021 (UN estimates and projections, July 2015)
Land endowment by climate type	GTAP "Land Use" database, version 7	Avetisyan, Baldos and Hertel (2011)
GDP (current $) and population data	World Bank WDI database	2012-2016
Price stability	ITC calculations based on the data from CEPII (Centre d'études prospectives et d'informations internationales)	2003–2015
SME presence	ITC calculations based on World Bank Enterprise Surveys	2006–2017
Women employment	ITC calculations based on World Bank Enterprise Surveys	2006–2017

Note: Further details are available in the underlying references.[333]

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Listed countries and composition of regions

The SME Competitiveness sample does not cover all countries in the five regions. For example, in Europe, the data is mainly available for countries in Central and Eastern Europe; in the Americas, the sample covers Latin America and the Caribbean; in Asia, the sample does not include Japan or the Republic of Korea. Data for Oceania is not available.

This section lists all 109 countries that were included in the calculations of the SME Competitiveness Grid, grouped following the United Nations' definition of geographic regions[334]. It also shows whether countries are least developed countries (LDCs), landlocked developing countries (LLDCs), small island developing States (SIDS), and/or belong to the Organisation for Economic Co-operation and Development (OECD). The 50 countries, which are included in the country profiles, are indicated in bold.

TABLE A.6. Countries in Africa included in country profiles

Country	Group
Angola	LDC
Benin	LDC
Botswana	LLDC
Burkina Faso	LDC, LLDC
Burundi	LDC, LLDC
Cabo Verde	SIDS
Cameroon	
Chad	LDC, LLDC
Côte d'Ivoire	
Democratic Republic of the Congo	LDC
Egypt	
Ethiopia	LDC, LLDC
Gabon	
Gambia	LDC
Ghana	
Guinea	LDC
Kenya	
Lesotho	LDC, LLDC
Liberia	LDC

Country	Group
Madagascar	LDC
Malawi	LDC, LLDC
Mali	LDC, LLDC
Mauritania	LDC
Mauritius	SIDS
Morocco	
Mozambique	LDC
Namibia	
Nigeria	
Rwanda	LDC, LLDC
Senegal	LDC
Sierra Leone	LDC
South Africa	
Swaziland	LLDC
Tunisia	
Uganda	LDC, LLDC
United Republic of Tanzania	LDC
Zambia	LDC, LLDC
Zimbabwe	LLDC

Note: Countries indicated in bold are included in the country profiles.

TABLE A.7. Countries in the Americas included in country profiles

Country	Group
Argentina	
Barbados	SIDS
Belize	SIDS
Bolivia	LLDC
Brazil	
Chile	OECD
Colombia	
Costa Rica	
Dominican Republic	SIDS
Ecuador	
El Salvador	
Guatemala	

Country	Group
Guyana	SIDS
Honduras	
Jamaica	SIDS
Mexico	OECD
Nicaragua	
Panama	
Paraguay	LLDC
Peru	
Suriname	SIDS
Trinidad and Tobago	SIDS
Uruguay	
Venezuela	

Note: Countries indicated in bold are included in the country profiles.

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TABLE A.8. Countries in Asia included in country profiles

Country	Group
Armenia	LLDC
Azerbaijan	LLDC
Bangladesh	LDC
Bhutan	LDC, LLDC
Cambodia	LDC
China	
Georgia	
India	
Indonesia	
Israel	OECD
Jordan	
Kazakhstan	LLDC
Kyrgyzstan	LLDC
Lao People's Democratic Republic	LDC, LLDC
Lebanon	
Malaysia	
Mongolia	LLDC
Myanmar	LDC
Nepal	LDC, LLDC
Pakistan	
Philippines	
Sri Lanka	
Tajikistan	LLDC
Thailand	
Timor-Leste	
Turkey	
Viet Nam	

Note: Countries indicated in bold are included in the country profiles.

TABLE A.9. Countries in Europe included in country profiles

Country	Group
Albania	
Bosnia and Herzegovina	
Bulgaria	
Croatia	
Czech Republic	OECD
Estonia	OECD
Hungary	OECD
Latvia	OECD
Lithuania	
Montenegro	
Poland	OECD
Republic of Moldova	LLDC
Romania	
Russian Federation	
Serbia	
Slovakia	OECD
Slovenia	OECD
Macedonia, former Yugoslav Republic of	LLDC
Sweden	OECD
Ukraine	

Note: Countries indicated in bold are included in the country profiles.

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Endnotes and References

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Chapter 6

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Technical Annex

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