

# Meeting the standard for trade



**5** Thought  
leaders

**9** Case  
studies

**35** Country  
profiles



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TRADE IMPACT FOR GOOD

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# Meeting the standard for trade

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### **SME Competitiveness Outlook 2016: Meeting the Standard for Trade**

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This issue of the annual flagship report of ITC focuses on the role of standards and regulations in increasing the competitiveness of small and medium-sized enterprises (SMEs). The report combines data analysis, academic insights, thought leader opinions and case studies to provide guidance for policymakers, SME managers and standard setters. It discusses standards as different as food safety standards, environmental standards, container size standards, security technology standards for encrypted communication, labour standards, accounting standards and medical and wellness tourism standards; provides both general insights into the impact of standards and regulations on SME competitiveness, and targeted insights into specific channels through which individual standards and regulations affect SMEs. Based on the findings the report provides readers with: strategies for SME managers on how to select and implement standards and regulations, and an action plan for policymakers and TISIs.

Descriptors: **SMEs, Competitiveness, Global Value Chains, Standards, Food Standards, Food Safety, Environment, Services, Technical Regulations, Case Studies.**

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# Acronyms

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AGI	Association of Ghana Industries	LAC	Latin America and the Caribbean
ASEAN	Association of Southeast Asian Nations	LDC	Least developed country
EAC	East African Community	MENA	Middle East and North Africa
EECA	Eastern Europe and Central Asia	MLA/MRA	Mutual recognition agreement and arrangement
EPA	Export Potential Assessment	NGO	Non-governmental organization
EPI	Export Potential Index	NTB	Non-tariff barrier
EU	European Union	NTM	Non-tariff measure
EUI	European University Institute	OECD	Organisation for Economic Co-operation and Development
FAO	Food and Agriculture Organization of the United Nations	PDI	Product Diversification Index
GAP	Good Agricultural Practices	SME	Small and medium-sized enterprise
GDP	Gross domestic product	SPS	Sanitary and phytosanitary
HACCP	Hazard analysis and critical control points	TBT	Technical barrier to trade
HS	Harmonized system	TISI	Trade and investment support institution
IAF	International Accreditation Forum	UNCTAD	United Nations Conference on Trade and Development
ICT	Information and communications technology	UNECE	United Nations Economic Commission for Europe
IEC	International Electrotechnical Commission	UNIDO	United Nations Industrial Development Organization
ILAC	International Laboratory Accreditation Cooperation	VSS	Voluntary sustainability standard
ILO	International Labour Organization	WTO	World Trade Organization
ISO	International Organization for Standardization		
IT	Information technology		
IVC	International value chain		

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# Foreword

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Making trade 'possible' is an important part of crafting international trade rules. Making trade 'happen' is very much at the core of the work of the International Trade Centre (ITC).

Making 'good' trade happen hinges upon effective standards that protect consumers and the environment, including plant and animal life – and ensuring that all countries and their micro, small and medium-sized enterprises (MSMEs) have the tools to address these standards. Standards and regulations for both goods and services are essential tools to achieve the social and environmental sustainability of trade, contribute to consumer protection and facilitate trade by guaranteeing compatibility.

In addition to public standards and regulations, the 21st century trade landscape is also marked by a proliferation of voluntary sustainability standards (VSS), which must be considered in any business or policy discussion about regulatory frameworks. They are at the heart of international value chains (IVCs), supporting better traceability, transparency and efficiency. The majority of VSS originate in the industrialized world. But this trend is shifting: between 2010 and 2015, over one-third of new VSS originated in non-OECD countries.

Standards are pervasive and diverse. Toys, drugs, business processes and food require very different sets of standards, regulations and technical infrastructure. Navigating the maze of standards and regulations – which many trade practitioners call non-tariff measures (NTMs) – is complex, especially for small and medium-sized enterprises (SMEs). These are particularly vulnerable to the compliance costs that standards and regulations can represent.

Given that getting SMEs into international markets is critical to inclusive global growth and job creation, it is imperative that standards are both known and achievable.

This is why this year's *SME Competitiveness Outlook* focuses on standards. It combines data analysis, academic insights, thought leader opinions and case studies to provide new insights and guidance on how to navigate this complex world of standards. Policymakers, SME managers, trade experts and standard setters will find information, analysis and cutting-edge tools on the links between standards, trade and competitiveness.

To assist SME managers in navigating the complex world of standards, the report contains guidance for SME managers on how to select and implement standards and regulations.

Policymakers and trade and investment support institutions (TISIs) can help SMEs by ensuring that standards promote 'better' trade, rather than become a bottleneck. This report offers policymakers a five-point action plan to strengthen firms' ability to adopt standards and prove compliance.

A key role for policymakers is to provide well-functioning, appropriate technical infrastructure for standards. This technical infrastructure includes the multitude of bodies involved in creating, maintaining and implementing standards and regulations, both at and behind the border, in the form of national standards agencies, conformity assessment bodies, metrology and accreditation bodies and more. The sheer number of agencies, together with the complex nature of their interdependence, makes improving technical infrastructure a real challenge.

Nevertheless, it is a prerequisite for firms interested in selling abroad.

A component of this infrastructure is shaping governance at the border to facilitate trade. The policymaker's role, however, does not stop at the border. Pro-active involvement in international initiatives working towards mutual recognition or harmonization of procedures, certifications and standards can be highly beneficial. Fostering public-private dialogue can also help in facilitating absorption of standards by firms.

Resource-constrained governments have to make strategic decisions about which product lines they will support with new or more internationally recognized technical infrastructure. This is the case because such infrastructure can be costly.

Regional integration can play a role here. Where domestic market size is insufficient to justify costly investments, governments can come together and pool resources to build the necessary technical infrastructure at a regional level. This is an especially useful approach for small economies and least developed countries (LDCs).

Investment decisions in technical infrastructure have serious long-term implications; they ultimately influence the content of countries' export baskets. To support policymakers in thinking through their investment decisions, this report contains regional snapshots, as well as 35 country profiles featuring information on product lines with unexploited export potential and on diversification opportunities.

This is combined with data on regulatory intensity across sectors, along with SME weaknesses and strengths when dealing with standards and regulations in the relevant economies. Together, policymakers can find a comprehensive, nuanced picture of where opportunities may lie for further investment to boost exports, and where support may be required for SMEs to overcome related burdens.

ITC, the joint agency of the United Nations and the World Trade Organization (WTO), has a long tradition of assisting governments in this endeavour. We collect data on government regulations, on business perceptions of such regulations and on VSS. These data are made available via online platforms designed for the business community.

ITC's policy advice to trade policymakers and standard setters is designed to support them in making standards work for SME competitiveness.

Much of this advice is based on public-private dialogue facilitated by ITC. We assist TISIs directly in building the technical infrastructure that underpins standards and in obtaining international accreditation. We also work with SMEs to meet technical requirements in international markets and overcome technical barriers to trade.

ITC does not work in isolation. Both in the field and in Geneva, ITC works closely with public and private-sector partners to synergise efforts for greater impact on the ground. In our data collection and dissemination, we work with partner agencies like the United Nations Conference on Trade and Development (UNCTAD), the United Nations Economic Commission for Europe (UNECE), the World Bank and WTO – as well as with our network of private-sector partners. On the capacity-building side, we value our longstanding relationship with the International Organization for Standardization (ISO). Our analytical work this year has benefited from collaboration with the European University Institute and from ITC's involvement in the research network on Productivity, Non-Tariff Measures and Openness (PRONTO). I thank all of these partners for our excellent working relationship, and look forward to further collaboration.

My particular thanks go to the five global thought leaders who contributed personally to this report by outlining their views and visions on the role of standards and regulations for international trade. My thanks also go to Sri Lanka, the host of this year's World Export Development Forum, which contributed a special feature to *SME Competitiveness Outlook 2016*.

This year marks the first full year of the implementation of the UN Global Goals. With this report, ITC wants to support the efforts of UN Member States towards meeting these goals. Firm in our conviction that SME competitiveness is key for the inclusiveness of trade, we believe that greater integration of SMEs in IVCs can be achieved in a way that is socially and environmentally sustainable. I am confident that this report provides valuable insights into how this can be achieved.



Arancha González  
Executive Director, ITC

# Executive Summary

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Standards and regulations are essential to international trade and value chains. They determine whether inputs are compatible with the next stage in the value chain, final products are safe for consumption and international trade is socially and environmentally sustainable.

This year's *SME Competitiveness Outlook* focuses on making the most of standards and regulations for the competitiveness of small and medium-sized enterprises (SMEs). The report combines data analysis, academic insights, thought leader opinions and case studies to provide guidance for policymakers, SME managers and standard setters.

The report exploits two unique ITC databases for this purpose: the ITC Business Survey on Non-Tariff Measures (NTMs) and the ITC Standards Map, which has data on more than 200 voluntary sustainability standards (VSS). ITC collects and disseminates this data to contribute to increased transparency in trade and provide market-relevant information to SMEs and the institutions that support them.

This report uses these databases for econometric analysis, and draws new and useful insights on sustainable value chain governance and the discriminatory effect of burdensome standards and regulations. The effect of this burden is twice as negative for the exports of small firms as for the exports of large firms.

Standards and regulations are here to stay because of their positive impact on sustainability, compatibility and consumer protection. It is therefore necessary for SME managers to increase their diligence in dealing with standards and regulations. Policymakers and trade and investment support institutions (TISIs), meanwhile, must do what they can to reduce the burden of these measures on SMEs.

The findings presented in this report allow us to provide readers with:

- Strategies for SME managers on how to select and implement standards and regulations.
- An action plan for policymakers and TISIs seeking to think strategically about the ability of SMEs to compete in markets where standards and regulations matter.

## Standards – a part of our daily life

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Standards and regulations are an integral, if easily overlooked, part of our daily life. They determine whether a plug fits into a socket, whether one mobile phone can connect to another, or whether we understand the traffic signs when driving in another country. They determine whether water is safe for human consumption, whether a medicine can be sold or whether a financial institution is allowed to accept deposits and provide credit.

*Standards and regulations are here to stay because of their positive impact on sustainability, compatibility and consumer protection.*

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### ***Standards are pervasive***

Any company wanting to export is likely to have to meet at least one standard or regulation, be it a governmental regulation affecting imports, a voluntary sustainability standard or a services regulation. An exporter of toddler beds to the United States of America, for instance, must comply with the federal regulation defining safety standards for toddler beds. For exporters producing wooden beds, it is also worth considering employing wood certified by the Forest Stewardship Council (FSC), as the FSC standard is widely used in the furniture industry. Agriculture exporters are likely to employ standards developed by the United Nations Economic Commission for Europe (UNECE) as 70% of fruits and vegetables comply with UNECE agricultural standards.

### ***Standards set the bar***

The terms 'standard' and 'regulation' mean different things to those who use them. Lawyers, economists, academics, practitioners, government officials and private-sector representatives see standards and regulations in diverse ways. Trade practitioners often use the term NTMs when referring to standards or regulations.

This report takes the point of view of decision makers in SMEs, and those who advocate on their behalf. For entrepreneurs, terminology is not of primary concern. ITC firm-level surveys repeatedly show that what matters for SMEs is whether access to a selected market depends on meeting the relevant quality level. Whether these originate with a government, a non-governmental body or a private-sector buyer matters little, as does the distinction among national, regional or global standards.

### ***Running a business: Standards every step of the way***

Standards play a critical role at every stage of a firm's generic or – internal – value chain, and in its interaction with suppliers and customers. An internal value chain consists of support activities and primary activities. Support activities pertain to the firm's infrastructure (e.g. management, accounting, and finance), human resource management, technology development and procurement. Primary activities are: inbound and outbound logistics; marketing and sales; post-sale service; and operations, which reflect the firm's core business.

Services-related standards and regulations abound in manufacturing production networks, strongly affecting support activities such as accounting, management and human resources. They are also crucial for primary activities such as logistics, marketing and sales, and post-sale services.

### ***Standards are diverse***

At the operations level, standards and regulations are highly specific to sectors or products. A car manufacturer and a hotel may abide by the same accounting standards, but technical regulations for car production have little in common with services regulations for the tourism industry. Food safety regulations for fruits and vegetables, safety rules for cars, compatibility standards in telecommunication, prudential regulation in finance and privacy regulation for data storage all fall into the category of standards. But they cover very different worlds.

Each sector has its own set of standards and regulations, and institutional set-ups for knowledge transfer, monitoring and certification differ substantially.

Multiple standards also coexist within individual sectors. In the textile industry, the GINETEX textile care labelling system, which provides instructions on washing, drying,

## Definitions used in this report

This report defines standards and regulations broadly:

- **Standard** – a required or agreed level of quality or attainment.
- **Regulation** – a rule or directive made and maintained by an authority, often a government.

A standard becomes a regulation when written into law. The EU Directive 93/42/EEC on medical devices, for instance, makes multiple references to relevant ISO standards, such as ISO 1135-4:2011 on 'transfusion equipment for medical use'.

Whenever it is not necessary to make a distinction between standards and regulations, the report uses the term 'standard' for both.

Where the term 'standard' does not explicitly refer to rules or directives made by a governmental body, the report makes this clear by specifying or naming the type of standard under discussion.

ironing and dry cleaning clothes, fulfils an entirely different purpose than the labour standards of the International Labour Organization (ILO).

## Sustainability, compatibility, consumer protection

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Standards play a key role in economies. They are introduced by governments or businesses to facilitate compatibility between bolts and nuts, software and hardware, one software network and another. Businesses introduce standards in value chains to protect their brand name, and governments adopt regulations to protect consumer safety. Increasingly, standards and regulations target social and environmental objectives. Some sectors face more regulations or standards than others.

### *Consumer protection regulation covers most economic activities*

Fresh and processed foods are marked by the most technical regulations per imported product and the highest share of imports subject to such regulations. This is unsurprising. Because food safety has a direct and immediate effect on human health and life, governments seek to control strictly the quality of food that reaches consumers.

Consumer protection regulation is hardly limited to food, and is common to most economic activities, although its design and stringency varies. Regulations tend to be stricter when a good or service affects consumers' physical well-being (e.g. food additives or surgical interventions), rather than solely their economic well-being (e.g. financial products).

Consumer protection regulation in agriculture and manufacturing often specifies product characteristics. In the services sector, it often targets supplier characteristics.

In food safety, for example, regulation of products includes maximum levels of nitrates in spinach and lettuce and maximum levels of lead in fruit juices. Regulation of suppliers includes food hygiene in restaurants, such as requirements regarding the availability of hand washing facilities for staff or the location of storage for disinfectants.

*The standards relevant for inbound and outbound logistics are critical to the effective functioning of international value chains.*

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*International buyers increasingly search for suppliers that possess key attributes, such as management quality and strong accounting methods.*

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*Social and environmental sustainability standards cover most economic activities.*

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### ***Services standards are crucial in international value chains ...***

The more vertically integrated the value chain is, the more important standards and regulations become. The standards relevant for inbound and outbound logistics are critical to the effective functioning of international value chains (IVCs). Compatibility standards are also significant, particularly where assemblers source parts from multiple suppliers.

Such standards allow firms to benefit from network externalities and producers to coordinate their activities along the value chain system more efficiently. A Boeing airplane assembled in the United States, for instance, contains parts from multiple suppliers located in more than 10 countries. When the plane is assembled, all the different parts have to be compatible. A Barbie doll designed in the United States and assembled in Malaysia also contains body parts produced by suppliers in Chinese Taipei and clothing from suppliers in China. The clothes have to fit perfectly on the body part in order for Barbie to look attractive and for children to be able to change her clothing.

### ***... and for their sustainability***

Lead firms of IVCs increasingly show concern for the reputation of their brand. Applying standards within the IVC can facilitate monitoring for lead firms. A lead firm may follow a globally established standard and/or its own standard to set the quality requirements along the value chain. All inputs along the value chain need to be aligned with regulatory requirements or brand expectations.

In this context, international standards for management, accounting and labour practices are playing an increasingly important role within IVCs. Management and accounting standards are becoming more important for SMEs as international buyers increasingly search for suppliers that possess key attributes, such as management quality and strong accounting methods. International labour standards and regulations, meanwhile, are relevant for human resource management within IVCs. Compliance with international labour standards is often necessary to operate efficiently and jointly with partners.

## **Some facts and figures about standards**

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### ***Social and environmental sustainability standards are widespread***

Like consumer protection regulation, sustainability standards cover most economic activities. They are frequently non-governmental initiatives.

Whether the focus is on social or environmental sustainability differs across sectors. ITC collects data on VSS that are disseminated through the ITC Standards Map and used in this report.

VSS mainly aim to:

- Eliminate negative impacts of economic activity on the environment (e.g. GlobalG.A.P., ProTerra, certification by the Global Sustainable Tourism Council).
- Protect basic human rights, such as work and living conditions (e.g. Ethical Trading Initiative, Business Social Compliance Initiative Code of Conduct).
- Improve the economic situation of producers (e.g. Fairtrade International, UTZ).

Implementation levels of such VSS differ significantly across countries. While there are many countries in which producers implement only a handful of VSS, in some countries producers can get certified to as many as 88 initiatives. Access to conformity assessment is likely to be a major determinant of the number of VSS operating in a country.

### ***ILO conventions: The most widely referenced international governmental standard***

The ITC Standards Map online database reveals that the ILO core conventions, setting out basic labour rights such as the prohibition of forced work, are the most widely referenced international governmental standards in VSS. The conventions stipulated in the ILO Declaration on Fundamental Principles and Rights at Work adopted in 1998 are referenced in 105 out of 180 VSS in the ITC Standards Map. Other ILO conventions are referred to in 69 VSS. The international governmental norms ranking third and fourth in terms of frequency are the norms set by the World Health Organization (WHO) and the UN Universal Declaration of Human Rights, which are referenced 44 and 42 times respectively.

### ***Emerging economies play a growing role in VSS***

Most voluntary standards originate in the industrialized world. One of the earliest VSS was the Fair Trade label Max Havelaar, initiated in the Netherlands in 1988. The first product to trade under the label was coffee produced by a Mexican cooperative. About three quarters of the currently active VSS covered in the ITC Standards Map have originated in the Organisation for Economic Co-operation and Development (OECD).

The trend is shifting, however. Between 2010 and 2015, more than one-third of new VSS originated in non-OECD countries. According to ITC's Standards Map, standard setters are particularly active in Brazil, Colombia, India, Kenya and South Africa.

For example, in South Africa, a number of VSS cover: organic production (Afrisco); fruits (Sustainability Initiative of South Africa – SIZA); viticulture (Wine and Agricultural Ethical Trade Association – WIETA); and tourism (Fair Trade Tourism Product Certification Standard). In Colombia, a number of VSS cover different types of products: Echar PA'LANTE – Colcocoa for cocoa, Florverde for floriculture and Alliance for Responsible Mining (ARM), covering metals and minerals extraction.

### ***Larger markets have more sustainability standards***

#### ***Standards may not be globally available***

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Geographically, sustainability standards are not available to everyone on an equal basis. On average, ITC found 33 standards operating in a country. The numbers are much lower in the Middle East and North Africa and sub-Saharan Africa. The largest number, 106, is found in the European Union.

Home market size is a major deciding factor in the number of VSS in a country, as shown in a recent publication by ITC and the European University Institute (EUI). Larger economies have more voluntary standards present in their territory. In other words, they have higher standards availability.

This finding is likely to be driven by supply-side related factors:

- First, larger economies are more diversified. VSS tend to focus on certain products and services – those for which consumers and value chain players require higher standards, more transparency and traceability, for example agriculture, mining and textiles. Larger, more diversified economies have a higher probability of producing such products and services; hence we expect a higher number of standards in operation.
- Second, third-party certifiers (conformity assessment bodies) generally operate as commercial entities and choose their geographic location based on cost-benefit analysis. Setting up local premises involves fixed costs, which is more likely to be economically viable in larger economies with a sufficient number of clients (i.e. producers to certify).

## Standards affect competitiveness

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### ***Investing in standards and regulations is costly, especially for SMEs***

Smaller and less productive firms find it harder to cover fixed costs to comply with standards and regulations. The same requirement represents a bigger obstacle to a developing country small firm, which therefore is likely to have lower capacity to comply.

### ***Small firms' export value hit twice as hard***

This report finds that when there is a 10% increase in the frequency of regulatory or procedural trade obstacles encountered, the value of exports decreases by 1.6% for large firms. For small firms, however, the value of exports declines by 3.2%.

### ***Firms from poorer countries find it harder to meet standards***

This is particularly a problem in developing countries, where firms tend to be smaller and less productive than in developed countries. Firms in poorer economies may also face a more challenging immediate business environment, because necessary testing facilities and logistics infrastructure are more likely to be lacking.

As one interviewee in the NTM Business Surveys said, '[exported] products need to be tested, but proper equipment is needed, for testing and facilities in our country are limited' and 'the Ministry of Health takes time to deliver health certificates [required to export] and the Ministry of Fisheries takes too long to issue the export authorization'.

Evidence collected through ITC NTM Business Surveys confirms that firms located in poorer countries are more likely to complain about regulatory or procedural obstacles to trade than their counterparts in richer countries. For example, exporting and importing firms from Malawi report, on average, a higher share of markets where they face burdensome regulatory or procedural obstacles to trade compared to exporting and importing firms from Mauritius. Investments in the relevant technical infrastructure in poor economies can help to address this.

### ***Only the fittest survive***

This report also finds that technical regulations do not affect the prices of existing exporters, but do affect those of new entrants. This may be due to the latter being unable to internalize the costs of compliance with technical regulations.

Econometric findings show that higher presence of technical regulations leads to increased exit rates for firms of all size and a higher concentration of firms within each sector. Only the fittest survive – those that have the financial capacity to absorb increased costs and that are able to offer a higher-priced product to consumers.

### ***Procedures discriminate against women***

***The share of procedural obstacles to trade reported by female-owned exporting firms is higher than for male-owned firms.***

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Female-owned enterprises do not report a higher burden from regulations than those owned by men. This changes, however, when it comes to procedural obstacles, which often require personal interaction between firm managers or owners and national officials. When exporting is subject to a licence, for example, a female applicant can face discrimination in countries with gender-biased cultural barriers. This can take the form of demand for a bribe or a delay in processing the application.

ITC Business Surveys on NTMs show that the share of procedural obstacles to trade reported by female-owned exporting firms is higher than for male-owned firms. Notably, the share of cases associated with 'information and transparency issues' is greater

among female-owned firms than male-owned firms. Female-owned micro firms report a higher share of procedural obstacles due to 'information and transparency issues', 'informal or high payments' and 'discriminatory behaviour' than male-owned micro firms.

Female-owned exporting enterprises are also found to experience better sales and profitability when trading with far-off destinations than when trading just across the border from their home country. Reduced regional trade may therefore be one of the unintended consequences of a bias against women through procedural obstacles.

### ***Compliance costs are lower for more competitive SMEs***

Complying with standards associated with IVCs is likely to benefit prospective suppliers, because it gives privileged access to the value chain and thus to buyers.

Beyond these tangible returns on investing in compliance, connecting to IVCs may offer other financial advantages, according to data from the ITC Standards Map. When standards are set by companies, producers and other stakeholders (such as buyers in the supply chain) are more likely to share implementation and certification costs. This evidence suggests that when lead firms set standards, they are more likely to help defray some of the compliance costs that otherwise would be entirely borne by suppliers.

Accessing IVCs, however, is easier said than done. Lead firms have an incentive to look for the most suitable suppliers before entering into commercial relationships with them. Therefore, SMEs must be competitive and productive to integrate successfully into such chains. Only the most competitive will succeed.

## **Policymakers and managers: Similar challenges, different angles**

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### ***Managers navigate a complex world of standards***

Management decisions are crucial for export success. Navigating the complex world of regulations and standards is one of the challenges managers meet. For those running a firm that exports and/or imports, this challenge is more complex.

Business managers can take practical steps to make standards and regulations work for the firm, instead of against it. For this they need to understand how their firm is affected by what is often known as regulatory turbulence – the combined effect firms face due to regulatory distance and regulatory fluctuation. Regulatory distance captures the stringency of standards and regulations in countries in which the firm operates. Regulatory fluctuation indicates how these change over time.

### ***Information is crucial; so is the ability to assimilate and use it***

Access to information about the design of standards and the compliance and certification processes is crucial to make standards work for SMEs. There are multiple national, regional and global platforms of information, which this report describes. SME managers, however, also need to have the capacity to digest and use this information constructively.

Once managers decide which standards and regulations to meet, compliance must be ensured. This becomes an integral part of production, provision, import and export of goods and services. From the point of view of an exporting company, standards and regulations affect every stage of goods production and services provision, from importing inputs to delivering the final product or service. Proving compliance is another critical step, notably when serving foreign markets.

### ***Being proactive, gaining market share***

Managers also have the option of seeking to influence the development of standards and regulations. Standard-setting processes usually include consultations involving private sector specialists. The development of industry standards, for instance, typically involves members of relevant trade associations or a firm consortium. Proactive participation in this process is particularly important for managers because other participants are likely to be their direct competitors.

The payoffs can be significant, as illustrated in recent case studies. Even if a firm is not able to influence significantly specifications in a national or international standard, being informed early is often enough to adjust business operations and be prepared for the new standard.

### ***Policymakers and TISIs shape the immediate business environment***

While standards are a gateway to trade, compliance can be time-consuming and costly. Whether costs are prohibitive largely depends on the support SMEs find in the immediate business environment, in national legislation and from national institutions.

Policymakers and TISIs can shape a supportive regulatory environment that simultaneously protects the public interest. This role is complex, because an effective regulatory environment needs to be supported by a national technical environment consisting of numerous interdependent institutions. Shortcomings in a single institution can trigger systemic problems.

### ***Informed decisions for costly investments***

The national technical infrastructure to support standards and regulations comprises processes and institutions that define standards and regulations and carry out conformity assessment. Conformity assessment, in turn, has five components: testing, inspection, certification, metrology and accreditation. Creating and maintaining a well-functioning technical infrastructure is challenging for resource-constrained developing countries, yet it is crucial for connecting firms to regional and global markets.

The specificity of standards at the operations level has implications for how governments target resources to build certification and other standards-related technical infrastructure. It also has implications for the private sector's role in this process.

Different expertise is needed to set up a laboratory to test food additives, a crash-testing institute for vehicles, or an institution to regulate finance. Resource-constrained developing countries may not be in a position to build these all at the same time. Investment decisions regarding technical infrastructure may therefore promote one sector over another, whether intentionally or not.

### ***Public and private sectors: Joining forces***

Governments have a role to ensure that national technical infrastructure works for firms. Collaboration with the private sector – often through TISIs – increases the chance that regulation and implementation are business-friendly.

When it comes to standards and regulations, it can be challenging to attain a government objective such as consumer protection or environmental sustainability without unduly hampering production processes. Striking the right balance often requires involving industry specialists in the standard-setting process.

Governments must weigh public and private roles, however, to avoid industry capture. Indeed, there may be incentives for industry to lobby for regulations that offer protection

at the border or are too lax to protect consumers, workers or the environment effectively. The responsibility for avoiding such situations lies with the government.

## **An action plan for policymakers and TISIs**

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Setting the right incentives while introducing appropriate checks and balances is a complex challenge. Part of the challenge relates to the number of institutions that make up national technical infrastructure, and their interdependence.

### ***Five-point action plan to make standards work for trade and development***

To make standards work for trade and reap maximum benefits from trade opportunities, policymakers may focus on five areas:

- Make information on standards and technical regulations accessible to firms.
- Encourage and enable firms to adopt standards and comply with technical regulations.
- Strengthen technical infrastructure.
- Improve governance at home to facilitate border crossing.
- Leverage international mechanisms that facilitate trade.

TISIs are likely to play a key role in this action plan, notably because they are active in the technical infrastructure relevant for standards and regulations in many countries.

### ***Facilitate access to information***

Obtaining information on standards and regulations, especially in unpredictable regulatory environments, can be costly for firms. General and sector-specific TISIs can contribute to addressing this challenge by disseminating relevant information. Such entities interact directly with businesses and are thus better positioned to understand their information needs.

### ***Enable firms to comply with technical standards***

When firms consider implementing standards or regulations, they are likely to perform an analysis of the costs and benefits. On the one hand, costs are often easy to identify, as they are tangible and immediate. On the other hand, benefits are often hard to identify and measure. Strengthening firms' awareness and capacity to deal with relevant decision-making processes can help.

### ***Support technical infrastructure***

Technical infrastructure related to conformity assessment is complex and potentially costly. A challenge for governments interested in building their country's technical infrastructure is the fact that standards and regulations are specific to certain sectors. For instance, the training and equipment needed to demonstrate compliance with a variety of sanitary and phytosanitary (SPS) measures differs greatly across products. Testing milk and meat are two totally different processes. As governments have limited resources, there inevitably are choices regarding which sectors to support. This may have significant impact on the country's future export course.

### ***Strengthen governance at home***

The lack of coordination among agencies involved in the end-to-end trading process is one of the most common causes of delays in administrative and compliance

procedures for exports. Increased inter-agency coordination, for instance between conformity assessment bodies and border agencies, can contribute to addressing this.

More importantly, it is crucial to define and demarcate clearly the roles and responsibilities of all institutions involved in national infrastructure. The demarcation between accreditation and certification bodies is important. The definition and set-up of the institution that applies sanctions for breaches in compliance are key to the institution fulfilling its role.

There needs to be a well-defined national strategy for how these institutions work together to support SME compliance with standards and regulations.

### ***Leverage international mechanisms***

Certification of goods or services at home only facilitates trade if relevant foreign conformity assessment bodies recognize it. Otherwise, exports may need to be certified again in the destination country or become blocked at the border. Participation in mutual recognition agreements for certification or in efforts to harmonize standards and regulation across borders can be of benefit.

Mutual recognition agreements of certification are formal agreements that acknowledge the equivalence of accreditation by laboratories and certification bodies. Mutual recognition of testing procedures permits firms to avoid double testing, which reduces compliance costs. This is one of the areas where the multilateral process can contribute greatly to facilitating trade.

Harmonization stimulates exports by allowing exporters to sell the same product in multiple markets. Therefore, national regulators may want to consider international standards when they develop national policies. Where adhering to international standards is not possible or desirable, mutual recognition of partner countries' standards or regulations may in certain instances represent an alternative route to facilitating trade.

## **SME competitiveness to enter sustainable value chains**

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### ***ITC assesses standards and regulations at three levels.***

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Standards and regulations matter for SME competitiveness. They intervene at all three levels of the economy – firm level, immediate business environment level and national policy level – and consequently figure prominently among the determinants of SME competitiveness.

The report has analysed:

- At the **firm level**, the role of standards is captured by the 'International Quality Certificate' indicator which measures the number of firms with internationally recognized quality certificates. These include operation-specific certificates.
- At the **immediate business environment level**, an indicator measuring how much time managers spend on requirements imposed by government regulations is included. The variable indicates the administrative effectiveness regarding implementation of regulations.
- At the **national level**, an indicator reflecting the prevalence of technical regulations for imports and compliance with ISO standards related to management processes. The latter variable was collected at the national level and cannot be broken down by firm size. It is used to assess the friendliness of the national environment to international standards.

## Regional snapshots: standards are key to exploiting export potential



### *Middle East and North Africa*

The Middle East and North Africa (MENA) has significant unexploited growth potential for fresh and processed food exports. Much of this is for trade within the region itself. Yet, the MENA region imposes, on average, the largest number of technical regulations on fresh and processed food imports – nearly four times more than other regions. Reforming those regulations could be very beneficial for the region. More intensive use of harmonization or mutual recognition within the region could also help the region to exploit its export potential.

In addition, small firms in the MENA region hold few internationally recognized quality certificates. Strengthening firm-level capacity to meet standards could also contribute to increased export growth and competitiveness.



### *Asia-Pacific*

The Asia-Pacific region has strong export performance in IT and electronics. ITC's export assessment analysis finds that those sectors are also responsible for about one quarter of the unexploited export potential in existing lines of export. Chemicals are the most promising avenue for product diversification. This sector is characterized by a predominance of consumer protection regulation, whereas compatibility standards dominate in the IT and consumer electronics sectors. The region's immediate business environment for implementing standards and regulations is strong.

SMEs in the Asia-Pacific region are, on average, less likely to hold an internationally recognized quality certificate than most other regions. These results, however, are likely to be driven by poor, small economies in the region. The regional standards analysis is based on unweighted averages. These do not convey the strong performance in quality certificates and international management standards in large emerging economies such as China, India and Indonesia. The relevant country profiles discuss in detail this performance.



### *Latin America and the Caribbean*

In the Latin American and Caribbean (LAC) region, the fresh food and transport equipment sectors have significant unrealized export potential. ITC's product diversification assessment identifies a wide variety of sectors the region could diversify into, including fresh and processed foods, chemicals, and metals and basic manufactures.

In contrast to other regions, the LAC region exposes fresh food imports to significantly more regulation than imports of processed food.

Adopting international management standards is relatively popular in the region. But while medium-sized and large firms perform well when it comes to international quality certificates, small firms are trailing. It could be beneficial for the region to strengthen the capacity of small firms to comply with quality certificates, which are often sector specific, as well as to strengthen the immediate business environment to help reduce the time management spends dealing with regulations.

### *Sub-Saharan Africa*

Fresh food, metals and basic manufacturing have the highest unrealized export potential in sub-Saharan Africa. Metals and basic manufactures and, to a lesser extent, chemicals offer opportunities for export diversification.

Adoption of international quality certificates is fairly widespread among medium-sized and large firms in sub-Saharan Africa. Small firms trail, but the situation is no worse than in other regions. In this context, it is surprising that international management standards are not more widely adopted. Given that these management standards are not sector specific – implying transferable expertise – weaknesses in this domain may undermine the region's potential to diversify into new products.

### *Eastern Europe and Central Asia*

Eastern Europe and Central Asia (EECA) have unexploited export potential in metals and basic manufactures. Together with chemicals, this sector also offers opportunities for further export diversification.

Apart from developed economies, the EECA region is the wealthiest region in our sample. Not surprisingly, the region performs well in criteria related to standards and regulations at the firm and national policy levels. Nevertheless, the EECA region does not outperform other regions when it comes to time managers spend on regulations and the extent to which they adopt international management standards. These areas may warrant improvement, in particular if the region aims to take advantage of diversification opportunities in sectors such as chemicals.



### *Compliance: A key to exploiting export potential*

Country profiles and regional snapshots in this report also feature information on products and sectors with potential for increased exports. ITC's export potential assessment identifies underexploited export opportunities in products that are already being exported. The product diversification assessment tool identifies new sectors that could help diversify the economy's export basket.

The information presented is based on quantitative analysis. It is a useful and evidence-based step towards the development of trade and investment strategies, particularly if complemented with qualitative country-level information to exploit its full potential. Due to data restrictions, this analysis only covers exports of goods.

Regional snapshots in this report combine information on export potential and SME competitiveness with a focus on sectors in which standards play an important role. In global trade, fresh and processed foods are the two sectors most affected by regulations. The next three sectors with the highest average number of regulations are information technology (IT) and consumer electronics, chemicals and transportation equipment.

For countries with the potential to ramp up production and exports in these sectors, optimizing standards-related determinants of SME competitiveness is critical to realizing this potential and translating it into broad-based job creation and economic diversification.

### *Being strategic increases chances of success*

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*Aligning investment decisions in technical infrastructure with national policy priorities may make sense*

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As we have seen, many standards and regulations are specific to sectors, value chains or products. The same holds for many components of technical infrastructure for assessing conformity and certifying compliance. Given that building and running technical infrastructure is costly, resource-constrained countries may sometimes have to make hard choices, notably for the products to be supported by an internationally recognized technical infrastructure. Aligning investment decisions in technical infrastructure with national policy priorities – including those outlined in export strategies – may make sense.

Public-private dialogue is key to this endeavour. It ensures that governments' policy and investment decisions take business imperatives into account. This sets the stage for policies and institutions geared towards guaranteeing 'good' trade: trade that takes consumer protection, social responsibility and environmental sustainability objectives into account.

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# About this report

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International trade and value chains are dominated by standards and regulations. This year's *SME Competitiveness Outlook* focuses on making the most of standards and regulations to increase the competitiveness of small and medium-sized enterprises (SMEs). The report combines data analysis, academic insights, thought leader opinions and case studies to provide guidance for policymakers, SME managers and standard setters.

The world of standards and regulations is extremely rich and multifaceted. This report provides an illustration of this by discussing standards as different as food safety standards, environmental standards, container size standards, security technology standards for encrypted communication, labour standards, accounting standards and medical and wellness tourism standards.

Combined, they have a significant effect on the functioning of companies, economies and international trade. Individually, each of them is characterized by its own design and its own field of application.

**Part I** provides both general insights into the impact of standards and regulations on SME competitiveness, and targeted insights into specific channels through which individual standards and regulations affect SMEs.

Insights into individual standards and regulations are obtained by closely examining the internal value chain of the firm (Chapter 2) and firms' integration into international value chains (Chapter 3).

General insights are obtained by examining the existing economic and business literature and by econometrically exploiting two unique ITC databases (Chapter 4):

- ITC Business Survey on Non-Tariff Measures;
- ITC Standards Map, with data on more than 200 voluntary sustainability standards.

These insights are then used to provide readers with two tools:

- Strategies for SME managers on how to select and implement standards and regulations (Chapter 5);
- An action plan for policymakers and trade and investment support institutions (TISIs) who wish to strengthen SMEs' ability to meet standards and regulations (Chapter 6).

**Part II** provides regional snapshots on how to better exploit export potential in sectors where standards matter, by combining findings on competitiveness, export potential and regulatory environments. This is followed by SME competitiveness country profiles, which contain country-specific information on the regulatory environment and its relevance for SMEs.

Because of restrictions in data availability, the competitiveness and export potential discussion focuses on goods and does not include services. Much of the presented information is based on quantitative analysis. It represents a useful, innovative and evidence-based first step towards the development of trade and investment strategies but should ideally be complemented with qualitative country-level information to exploit its full potential.



PART I.

# SME Competitiveness: Standards and regulations matter

## CHAPTER 1

# Standards and regulations – a part of our daily life

Standards and regulations have become part of our daily life. They determine whether a plug fits into a socket, whether one mobile phone can connect with another, whether a container fits on a ship, or whether we understand traffic signs when driving in another country. They also determine whether water is considered fit for consumption by humans, whether a medicine can be brought to market or whether a financial institution is allowed to accept deposits and provide credit.

### *Standards set the bar*

The terms 'standard' and 'regulation' mean different things to those who use them. Lawyers, economists, academics, practitioners, government officials and private sector representatives see standards and regulations in diverse ways. This report takes the point of view of decision makers in small and medium-sized enterprises (SMEs), and those who advocate on their behalf. It therefore defines standards and regulations broadly:

- Standard – a required or agreed level of quality or attainment. Standards can be set by public or private entities.
- Regulation – a rule or directive made and maintained by an authority, often a government. A standard becomes a regulation when written into law.

Standards and regulations can apply to both goods and services. Regulations related to goods are commonly known as technical regulations, while regulations in services tend to be referred to as services regulations.

### *A key role in trade*

Standards and regulations play an important role in international trade. The definitions in international trade agreements – especially the World Trade Organization (WTO) Agreements – are therefore especially relevant.

Trade practitioners refer to standards and regulations that affect exporters as non-tariff measures (NTMs). If such measures are discriminatory and negatively affect trade, they are also referred to as non-tariff barriers (NTBs). This report uses both terms, given its focus on trade.

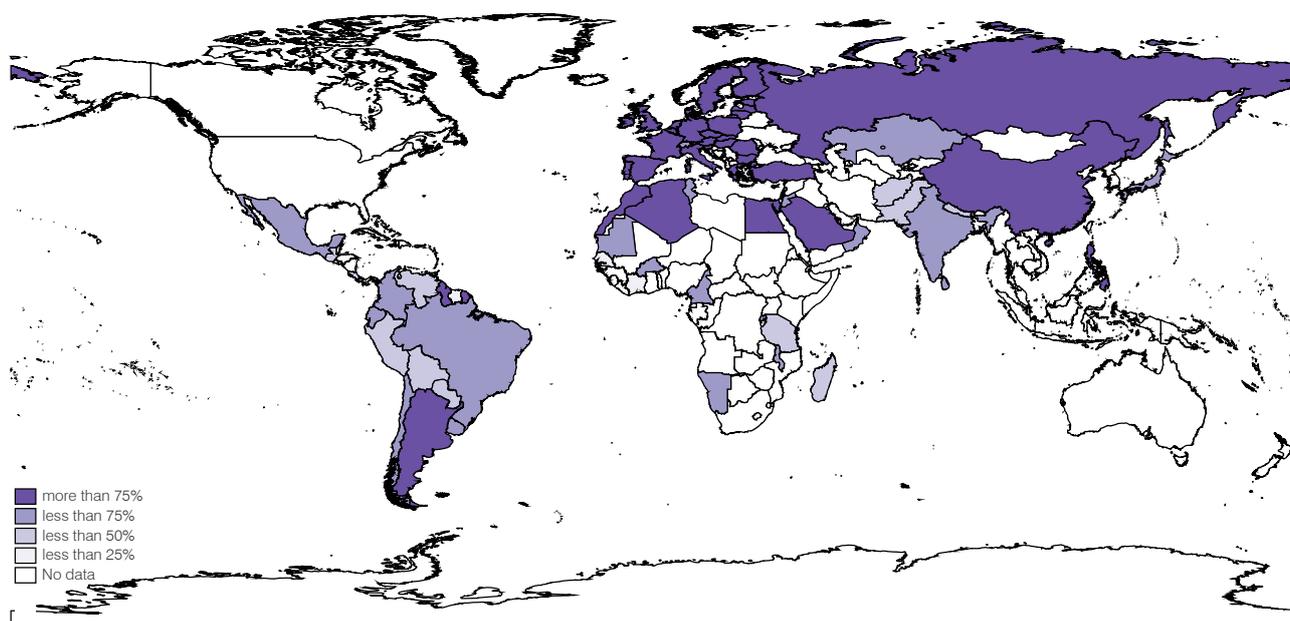
For entrepreneurs, however, terminology may not matter. ITC firm-level surveys repeatedly show that interviewees in SMEs do not necessarily identify whether a government, a non-governmental organization (NGO) or a private-sector buyer imposes a required level of attainment. They may not distinguish between national, regional or global standards. What mainly matters for them is whether access to a selected market depends on meeting the relevant quality level or attainment. The legal term 'de facto compulsory' therefore appears highly relevant for their decision-making process.

Throughout this report, the term 'standard' will be used for both standards and regulations, whenever the distinction between the two is not important for the argument. Where the term 'standard' does not embrace rules or directives made by an authority, this is made clear by making reference to the specific type of standard that is being discussed.

### *SMEs face range of standards*

Any SME seeking to export will have to meet at least one standard or regulation. The following three world maps illustrate how important standards and regulations are for trade. They show the share of goods subject to compulsory import regulations, the coverage of voluntary sustainability standards (VSS) and the level of restrictions on trade due to national regulation of services. The first striking observation on those maps is the amount of dark colours, reflecting that any SME that wants to export somewhere is likely to have to meet at least one standard or regulation.

FIGURE 1 Imports face technical regulations



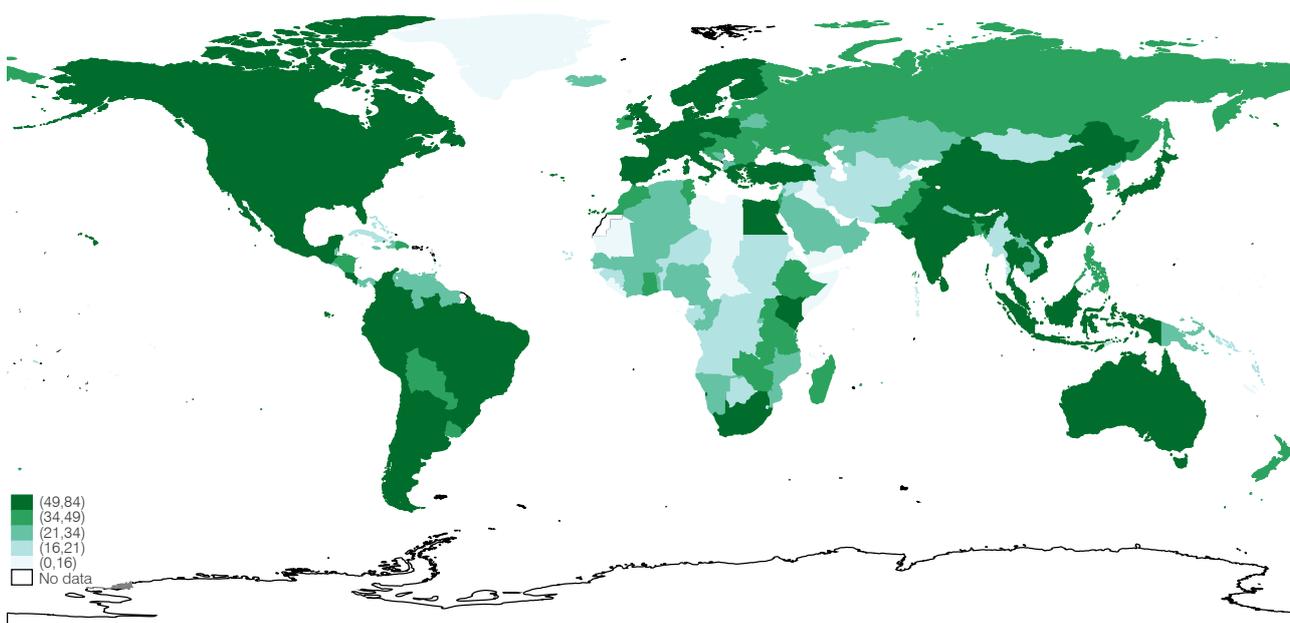
**Note:** The colour intensity indicates the share of imports subject to at least one technical requirement.

**Source:** ITC calculations based on the multi-agency regulatory database on NTMs, accessed through Market Access Map ([www.macmap.org](http://www.macmap.org)). The software generating maps does not apply UN definitions of national borders.

Imported goods face technical regulations. While the picture is incomplete (data are not available for areas in white, including the United States of America and Australia), Figure 1 shows that companies exporting to the European Union (EU), China or the Russian Federation are very likely to face one or more technical regulations.

Voluntary sustainability standards are now widespread. These cover environmental, social or ethical VSS, and can be assessed in the ITC Standards Map. Figure 2 shows how many standards initiatives are operational in each economy with economies having at least one such initiative. In some economies producers can get certified to as many as 88 initiatives, with 33 initiatives available on average.

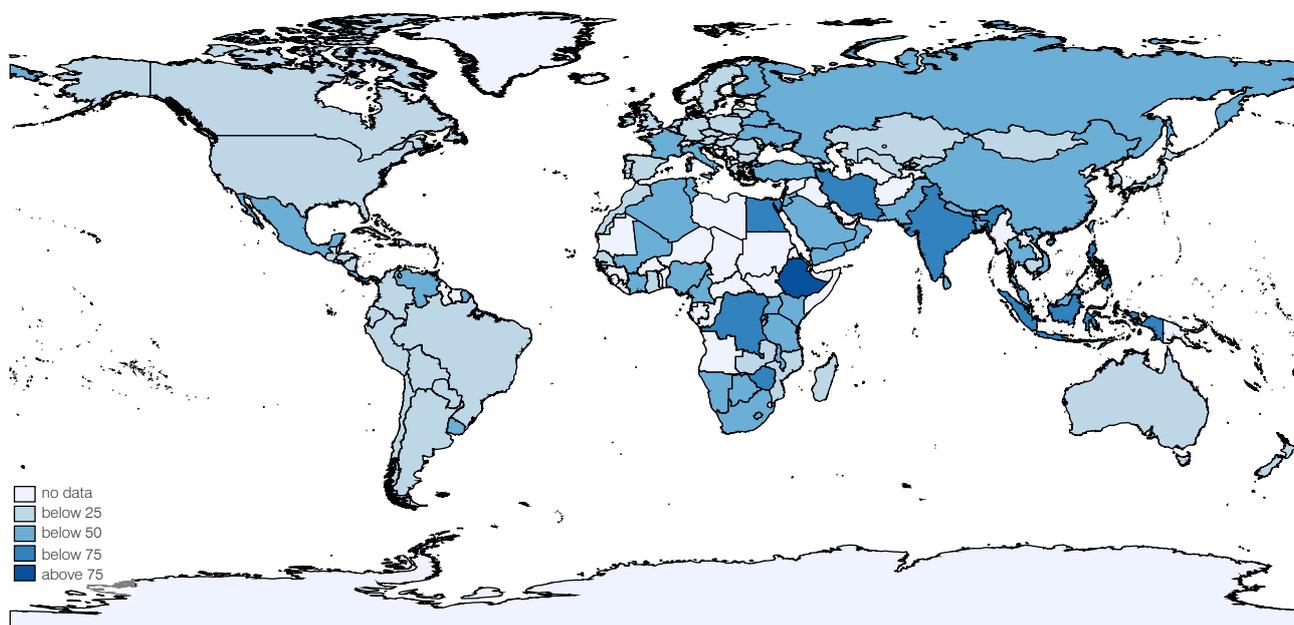
FIGURE 2 Voluntary sustainability standards are now widespread



**Note:** The colour intensity indicates the number of standards initiatives that operate in each economy.

**Source:** ITC and EUI (2016) based on ITC Standards Map database. The software generating maps does not apply UN definitions of national borders.

**FIGURE 3** Services trade may be restricted by regulations



**Note:** The colour intensity indicates the Services Trade Restrictiveness Index Score.  
**Source:** ITC calculations based on the Services Trade Restrictions Database, World Bank. The software generating maps does not apply UN definitions of national borders.

The five economies where producers can sign up to the most VSS initiatives are Mexico and Brazil (79), China (82), the United States (84) and the EU (106). The five economies with the lowest number of initiatives in operation are Bhutan, Côte d'Ivoire, Equatorial Guinea, Eritrea and Somalia, all of which are small economies. Home market size turns out to be a major determinant for the spread of VSS in a country, as shown in a recent publication by ITC and the European University Institute (EUI).<sup>1</sup>

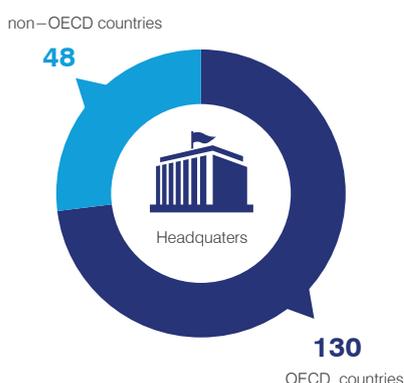
The World Bank's Service Trade Restrictions Index (STRI) helps measure the impact of the regulatory environment

on trade in services. In Figure 3, STRI is scored out of 100, where 0 is the highest level of openness and 100 is lowest level of openness. The STRI is designed to show the extent to which services regulation hampers trade, contrary to measuring coverage as presented in Figures 1 and 2. As a result, the measure is of direct relevance for trade practitioners and services exporters, but arguably less so for regulators and domestic service providers.

### *Designed in the developed world*

Most voluntary standards originate in the industrialized world, as the ITC Standards Map data reveal in Figure 4.

**FIGURE 4** Voluntary sustainability standards are mostly headquartered in OECD countries



**Source:** ITC and EUI (2016) based on ITC Standards Map database.

The trend goes, however, in the direction of an increasingly active involvement of countries that are not part of the Organisation for Economic Co-operation and Development (OECD). Over time, the percentage of new VSS with headquarters in non-OECD countries has increased (Figure 5). In the period 2010–15, over one-third of new VSS originated in non-OECD countries; before 1990, this share stood at less than 10%.

### *Regulations affect sectors differently*

Technical regulations can be very sector specific, and therefore affect sectors differently. The sectors with the highest numbers of technical regulations per imported product and the highest share of imports subject to such regulations are fresh and processed food (Figure 6). This

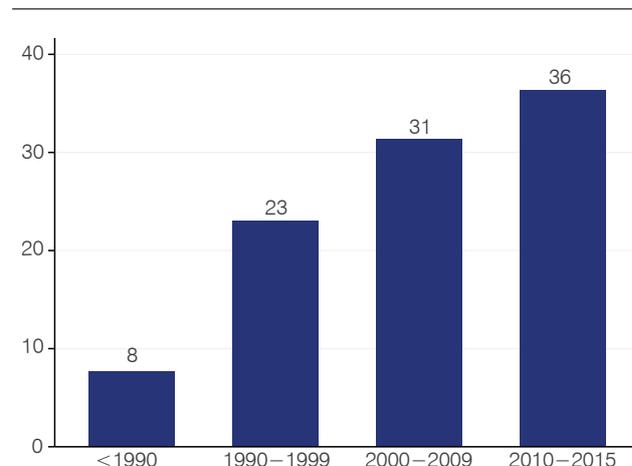
is not entirely surprising, as food consumption has a direct effect on human health and life. In many countries, the quality of food reaching consumers is heavily controlled by governments.

### *Domestic and regional impact*

A sizeable share of NTMs affects domestic and regional trade. Agriculture and manufacturing exporters face about one-quarter of NTMs in their home countries and most of the obstacles to trade in manufacturing in their home regions, according to ITC Business Surveys on NTMs<sup>2</sup>.

Globally, technical requirements and related conformity assessment account for 70% of all cases in agriculture and 44% in manufacturing. As an example, within the Arab States region, these shares stand at 54% and 43% respectively. The types of requirements are shown in Figure 7.

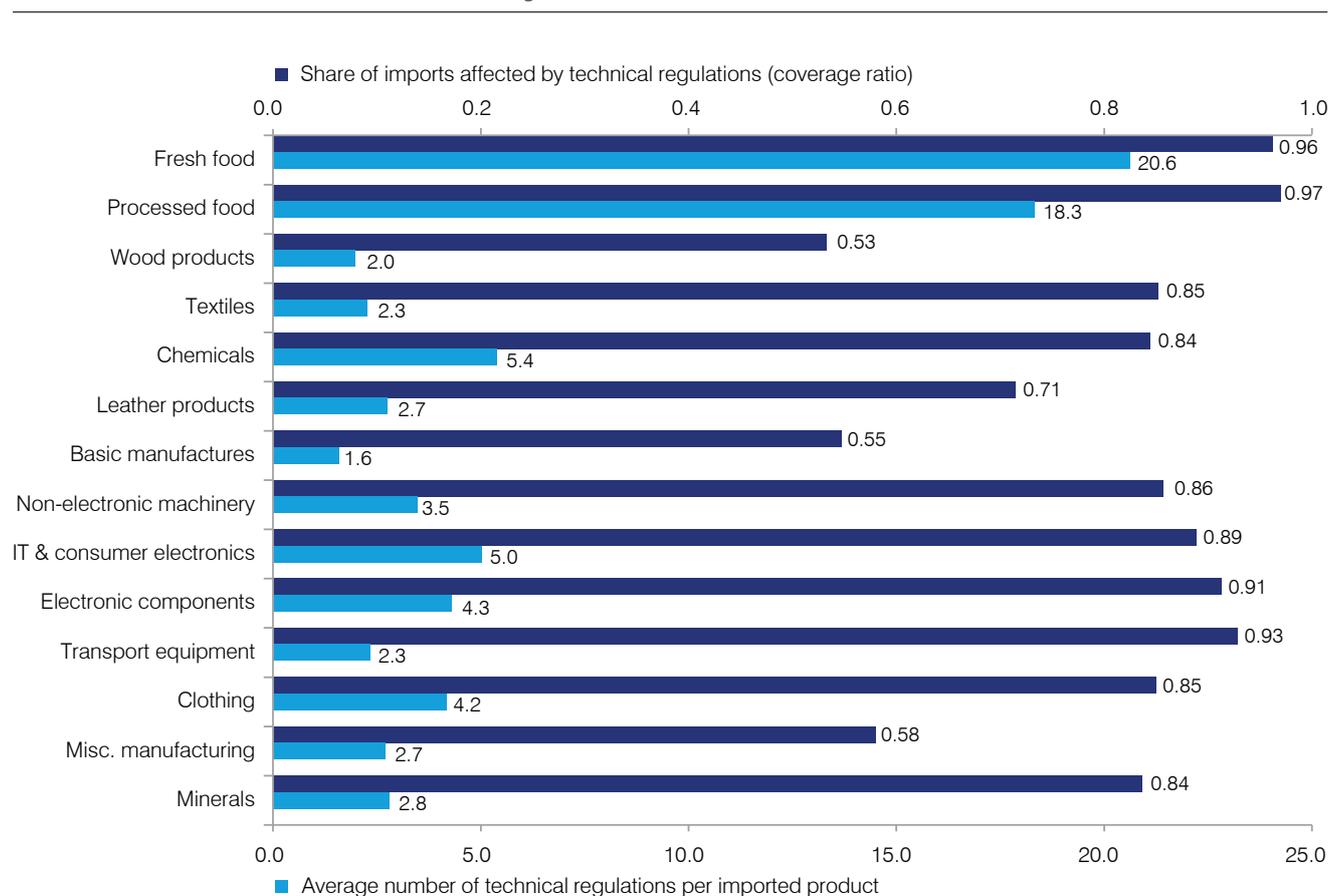
**FIGURE 5** Voluntary sustainability standards' headquarters are on the rise in non-OECD countries



**Note:** Share of standard initiatives with headquarters outside OECD in the total number of new initiatives, by period.

**Source:** ITC and EUI (2016) based on ITC Standards Map database.

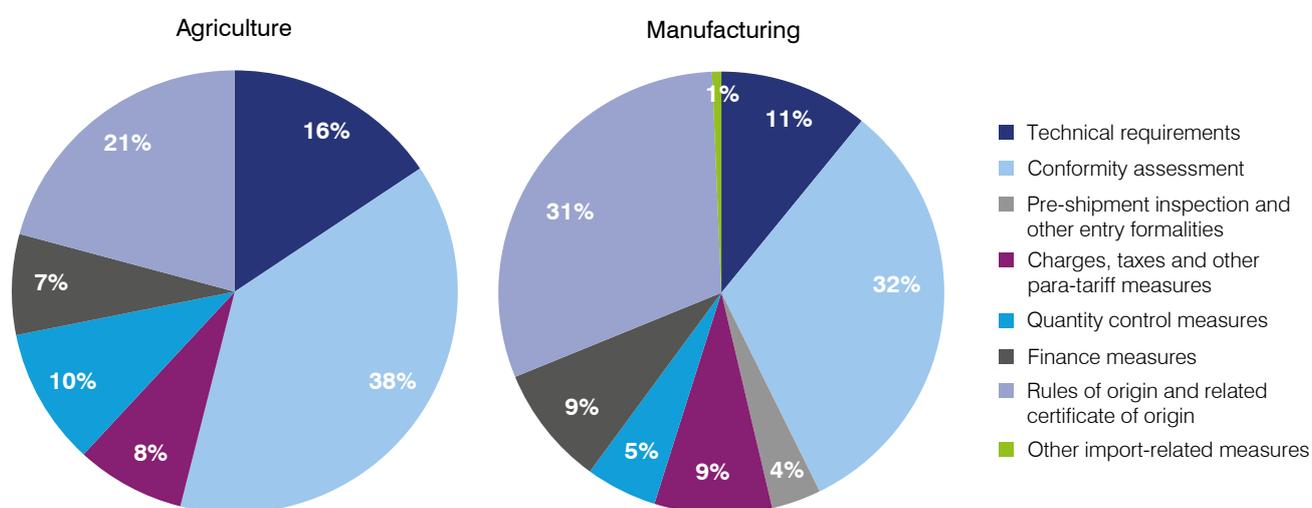
**FIGURE 6** Some sectors face more technical regulations



**Note:** Dark blue bars represent the share of trade subject to at least one technical requirement; light blue bars represent the average number of technical regulations per imported product.

**Source:** ITC calculations based on the multi-agency regulatory database on NTMs accessed through Market Access Map.

**FIGURE 7** Burdensome NTMs applied by trade partners within Arab States



**Note:** Based on ITC Business Surveys on NTMs in Egypt, Morocco, State of Palestine and Tunisia, 2010–2013.  
**Source:** ITC (2015). Making regional integration work.

### *Proving compliance is a burden*

Strikingly, demonstrating compliance represents a bigger problem than meeting technical or sanitary requirements. Conformity assessment requirements are perceived as a major challenge for both agriculture and manufacturing (Figure 7).

The datasets above and other data related to standards and regulations will be analysed in more detail in other parts of this report. Different types of standards and regulations exist and all of them tend to be widespread. As a consequence, standards and regulations matter, and matter a lot for SMEs that want to compete in international markets.

## CHAPTER 2

# Running a business: Standards, every step of the way

Standards and regulations play a critical role at every stage of the firm's internal value chain, and in its interaction with suppliers and customers.

Services-related standards and regulations turn out to abound as they strongly affect support activities such as accounting, management and human resources. They are also crucial for primary activities such as logistics, marketing and sales and post-sale services.

In company operations, standards and regulations are often specific to certain sectors or even products. Food and safety regulations for fruit and vegetables, safety rules for cars, compatibility standards in telecommunication, prudential regulation in finance and privacy regulation for data storage all fall into the category of standards. But

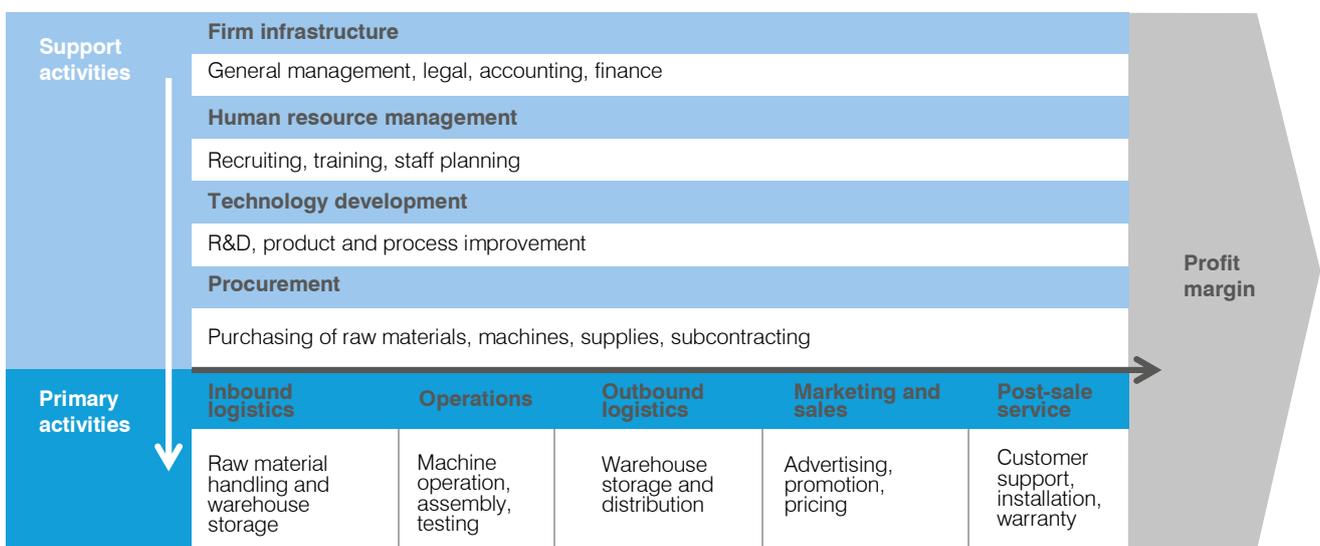
they cover very different worlds. For small exporters, the quantity, variety and specificity and range of standards can be hard to meet.

### Impact on primary and support activities

Standards and regulations have an impact on the basic functioning of firms. In finance, human resource management, operations or logistics, they affect a firm's cost structure and consequently its efficiency.

When applied in a firm's core operations, standards and regulations influence the final products delivered to consumers or intermediary products entering an

FIGURE 8 Generic value chain



Source: Adapted from Porter, M.E. (1985).

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international value chain (IVC). Regulations applied to post-sale services have an impact on how customers experience the consumption of goods and services.

### ***Firm-level value chain***

Standards and regulations can be pinpointed at each production stage, using American academic Michael Porter's management concept of the firm-level value chain.<sup>3</sup> Porter's generic value chain (Figure 8) provides a useful framework to describe how standards and regulations affect a firm's production process. Porter divides firm-level business activities into:

- **Support (secondary) activities:** Firm's infrastructure, human resource management, technological development and procurement activities;
- **Primary activities:** Inbound logistics, operations, outbound logistics and post-sale services.

Firms of all sizes have to handle standards and regulations, regardless of their structure. Not every firm, and certainly not every SME, has a separate department for each function. Some regulations cover a range of functions, while others are very specific. SMEs without a separate department for each function may find it cumbersome to deal with function-specific regulations.

A firm may choose to specialize in one or more value chain activities and outsource the others. Increased outsourcing may increase the need for standards within the value chain.

### **Standards in a firm's support activities**

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A firm's infrastructure informs all primary and support activities.<sup>4</sup> It includes general management, legal, finance and accounting functions. Internationalized production makes these areas important for SMEs. This is because buyers further up in the international value chain search for suppliers that possess key attributes such as management quality and strong accounting techniques.

### ***Accounting and management standards: A must***

Good financial reporting helps banks and investors to assess credit worthiness of a borrowing firm. A firm that masters its accounting and finance is better able to handle complex relationships with banks, potential investors and commercial partners. These ties are often subject to market failures, especially imbalances between the information available to small businesses and their larger counterparts.

Compliance with accounting and reporting standards can improve access to finance. While meeting the Generally Accepted Accounting Principles (GAAP) can be very challenging for firms of any size, SMEs have other options.

The International Financial Reporting Standard (IFRS) for SMEs, for instance, is less complex, as it omits topics that are seldom relevant for SMEs. These include earnings per share, interim financial reporting and segment reporting. The IFRS for SMEs is free to download and available in 25 languages. IFRS provides SMEs with an implementation guide, training materials and workshops.

Management system and risk standards are also used to assess a firm's infrastructure. Highly relevant is ISO 9000, a series of standards that define, establish and maintain an effective quality assurance system for both manufacturing and services industries. ISO 31000, related to risk management, is also relevant.

In addition, sector-specific standards relate to management practices. ISO/IEC 20000, for instance, is the first international standard for managing and delivering IT services.

### ***Human resources: International labour standards predominate***

It is the role of human resource managers to ensure that their firm complies with all employment, health and safety legislation – from recruitment to benefits, labour relations and termination – applicable where the firm operates. This can be challenging for firms operating in several locations.

Increasingly, private sector players follow international labour standards or impose them within the value chain they lead. The International Labour Organization's (ILO) core labour standards are the most prominent. They refer to eight conventions in four core areas: freedom of association and collective bargaining; child labour; forced labour; and non-discrimination (Box 1).

There can be strong links between government-driven international standards and private sector standards in the same domain. Figure 9 illustrates how a range of international norms are used in 180 major VSS.

ILO core conventions and related ILO instruments far outpace other international norms and are the most widely referenced international standards in privately-led standard-setting initiatives. The World Fair Trade Organization (WFTO), for instance, proposes a voluntary standard with a monitoring scheme known as the WFTO Guarantee System. Its criteria are based on WFTO Principles and ILO conventions.

**BOX 1: Standards to protect workers in value chains**

Core labour standards are increasingly reflected in value chains. These are based on the International Labour Organization's Declaration on Fundamental Principles and Rights at Work (1998), which commits Member States to respect and promote principles and rights in four categories, whether or not they have ratified the relevant conventions.

- **Freedom of association and collective bargaining**

- Freedom of Association and Protection of the Right to Organise Convention (1948)
  - Right to Organise and Collective Bargaining Convention (1949)

- **Prohibition of child labour**

- Minimum Age Convention (1973)
  - Worst Forms of Child Labour Convention (1999)

- **Prohibition of forced labour**

- Forced Labour Convention (1930)
  - Abolition of Forced Labour Convention (1957)

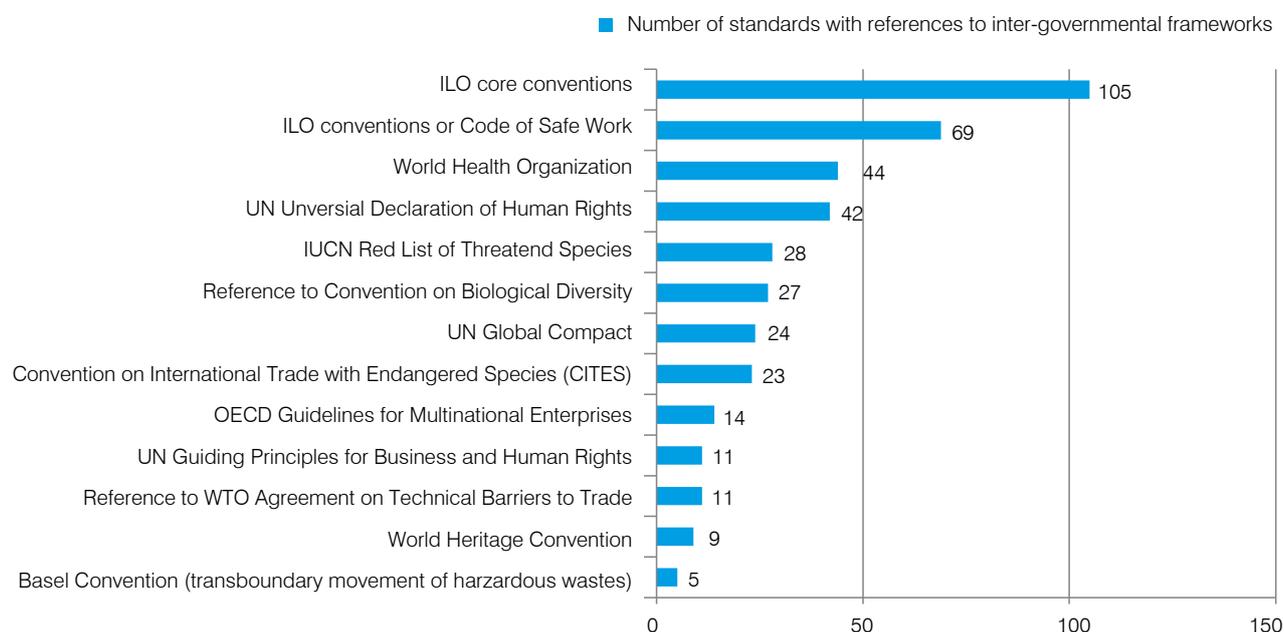
- **Non-discrimination**

- Equal Remuneration Convention (1951)
  - Discrimination (Employment and Occupation) Convention (1958)

**Technology: Testing is highly regulated**

Technology development is crucial for economic progress and growth. However, when new products or services affect people's health or environmental sustainability, governments usually require testing before they can be marketed. For product development in the food and drug industries, standards and technical regulations are critical.

The R&D stage in pharmaceuticals, for instance, includes finding the ingredients, developing clinical trials and undergoing multiple trial phases. Even after many years in development, a new medicine will not be marketed if it has not undergone a sufficient number of trials.

**FIGURE 9** International labour norms rank high in voluntary sustainability standards

Source: Fiorini, M. et al. (2016).



## CASE STUDY

# Practical guides for SMEs on standards and quality management

The complexity and sheer number of standards and regulations can cause an information overload to companies of all sizes – but in particular to small and medium-sized enterprises (SMEs). ITC helps SMEs from developing countries to strengthen their capacity to compete, connect and change by supporting their understanding of, and ability to meet trade-relevant standards and regulations.

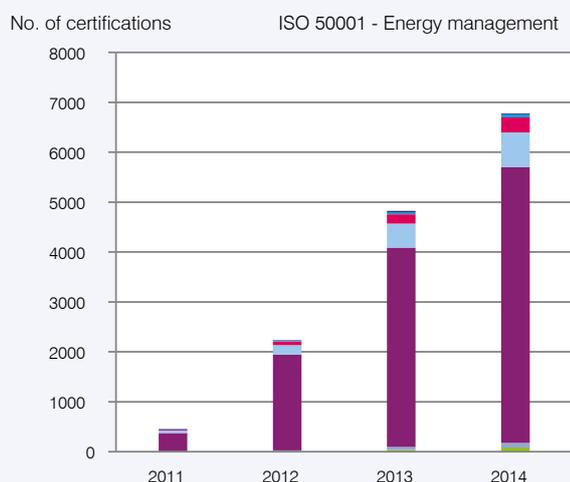
Together with its partners, such as the International Organization for Standardization (ISO), Germany's National Metrology Institute (PTB), and the United Nations Industrial Development Organization (UNIDO), ITC provides practical information for SMEs to understand standards and technical requirements. This includes training workshops, tools, guides and bulletins. Among

these are step-by-step guides on how SMEs can achieve certification for four of the most important management systems for energy (ISO 50001), environment (ISO 14001), quality (ISO 9001) and food safety (ISO 22000). The figure shows how the four management system certifications have evolved worldwide to become an integral part of international business.

ISO 9001 has grown to be the most popular management standard, both in absolute number of certifications and its rate of growth since it was developed and published in 1987. The standard applies to all sectors, including manufacturing and services, and to organizations of all sizes. It is a standard to demonstrate an organization's ability to provide consistently products or services that meet customer and regulatory requirements.

Evolution of ISO 50001, 14001, 9001 and 22000

■ Africa ■ Central / South America ■ Central and South Asia ■ East Asia and Pacific ■ Europe ■ Middle East ■ North America



Source: ISO (2016).



ITC guides, such as the *Export Quality Management – A Guide for Small and Medium-Sized Exporters*, provide a detailed action plan on how to set up a quality management system, for example ISO 9001, through:

- Team nomination
- Gap analysis
- Documentation
- Training and implementation
- Internal audit and improvement
- Management review
- Certification.

The guide provides SME managers with a holistic overview of critical issues related to managing and improving quality to boost participation in international trade. These include standardization, conformity assessment, metrology, technical regulations, accreditation, sanitary and phytosanitary measures, and WTO Agreements on Technical Barriers to Trade.

The second guide, published in 2011, is available in English, French, Spanish, Arabic, Russian and Swahili and

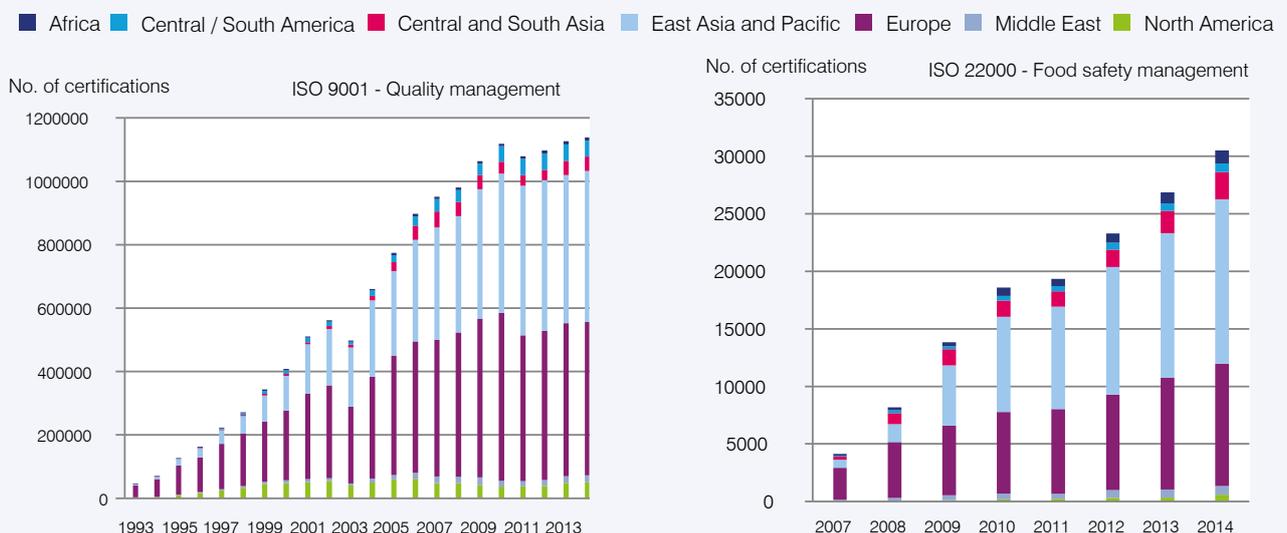
was customized with a separate directory of services for SMEs in the State of Palestine, Jordan, Nepal, and Egypt.

Export quality bulletins from ITC provide clear and succinct information on applying:

- Traceability in food and agricultural products
- ISO 26000 and social responsibility
- 5S workplace organization
- Good housekeeping techniques for enhancing productivity
- Quality and safety at the workplace
- Exporting seafood to the European Union
- Information retrieval on sanitary and phytosanitary measures
- Applying HACCP.

To see the full range of ITC's capacity-building and advisory services on standards and regulations as well as learn about ITC's partner trade and investment support institutions that focus on quality-related issues, visit:

<http://www.intracen.org/itc/exporters/quality-management/quality-publications-index/>.



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Box 2 illustrates the stages a pharmaceutical company in the United States goes through to develop a new drug. At each stage of the process, private standards or governmental regulations intervene to ensure that animal and human health are taken into account.

### ***Procurement: standards facilitate outsourcing***

A firm's procurement unit adds value by purchasing goods and services (production inputs) in a timely manner and at the best price. Inputs include raw materials, supplies, services and assets, such as machinery, office equipment and buildings.

A firm's primary activities commonly involve procurement, for instance purchasing raw materials for operations. Support activities can also include purchased inputs, such as procuring laboratory supplies and independent testing services as part of technology development or accounting services.<sup>5</sup>

Outsourcing is when a company assigns selected business processes, usually non-core activities, to an external agency. Outsourcing of goods occurs when a company contracts another firm to produce parts of the product as inputs. Business Process Outsourcing (BPO) is outsourcing of services for a specific business task, such as payroll or accounting. With the increase of outsourcing, the role of procurement has therefore become more important within internal value chains.

Information Technology (IT) is the most commonly outsourced function.<sup>6</sup> However, outsourcing of other functions such as human resources, legal services, and management of real estate and facilities – once viewed as core activities to be handled internally – is expected to expand at rates of 12% to 26% across the functions analysed, according to Deloitte's Global Outsourcing Survey 2016.<sup>7</sup> As businesses look to be more competitive and tap into wider networks of expertise, outsourcing increases. The relentless push to operate more

## **BOX 2: Pharmaceutical research – standards and regulations**

### **Discovery and development**

When researchers target a potential medicine, they identify the most promising compounds that can be used to fight diseases, conduct experiments and develop new drugs in a laboratory. ISO 15189:2012 is a standard that sets out requirements for quality and competence for clinical laboratories. It is used by medical laboratories in developing their quality management systems and assessing their own competence. It can also be used for confirming or recognizing the competence of medical laboratories by laboratory customers, regulating authorities and accreditation bodies.

### **Pre-clinical research**

Before testing a drug on people, researchers must verify whether it has the potential to cause serious harm. The two types of pre-clinical research are *in vitro* and *in vivo*. ISO/TC 212, for example, is a technical committee set up by ISO to develop standards in the field of clinical laboratory testing and *in vitro* diagnostic test systems. It has so far developed 26 standards. The United States Food and Drug Administration (FDA) requires researchers to use good laboratory practices, defined in regulations on medical product development, for pre-clinical laboratory studies.

### **Clinical research**

'Clinical research' refers to studies, or trials, that are done on people. It tests potential treatments on human volunteers to see whether they should be approved for wider use in the general population. As the developers design the clinical study, they will consider what they want to accomplish for each of the different Clinical Research Phases and begin the Investigational New Drug Process (IND), a process they must go through before clinical research begins. Clinical trials are an integral part of new product discovery and development and are required by the FDA before a new product can be brought to market.

### **Review by relevant national authorities**

If a drug developer has evidence from its early tests and preclinical and clinical research that a drug is safe and effective for its intended use, the company can file an application to market the drug. The FDA review team thoroughly examines all submitted data on the drug and makes a decision to approve or not approve it.

**Sources:** Vaisala (2012), United States Food and Drug Administration (2015), International Organization for Standardization (1994) & (2012).

efficiently remains the driving force behind outsourcing. It has also become a competitive, strategic tool, allowing companies to develop products faster than ever, as well as reduce costs.<sup>8</sup>

The outsourcing boom led to the creation of ISO 37500:2014.<sup>9</sup> This standard covers the main phases, processes and governance aspects of outsourcing, independent of size and sectors of industry and commerce. It is intended to provide a good foundation to enable organizations to enter into, and continue to sustain, successful outsourcing arrangements throughout the contractual period. This standard addresses flexibility in outsourcing arrangements to accommodate changing business requirements. The standard applies to all forms of outsourcing. As outsourcing grows, standards addressing its efficiency will have an increasingly important role.

## Standards in a firm's primary activities

Standards and regulations do not only play a role in support activities, they also play a critical role for primary activities: operations, logistics, marketing and sales, and post-sale services. When it comes to operations, standards and regulations tend to be specific to the type of activities a firm is engaged in.

### ***Logistics: generating economies of scale while guaranteeing safety***

In a global system of value chains, receiving and storing inputs before processing them is crucial for firms. Standards and regulations govern these activities indirectly and play multiple roles. These include increasing efficiency – for example, through containerization – and ensuring health and safety.

### ***Standardizing containers for efficiency***

The first uniform containers date back to 1956, when the American trucking magnate Malcom McLean realized that he could reduce the cost of loading from \$5.93 per ton for loose cargo to \$0.16 per ton when cargo was packed in standardized containers.

Nowadays, two ISO standards (ISO 668:2013 and ISO 1496-1:2013) largely define the dimensions and permissible gross weights of uniform, or intermodal, containers. While container lengths can vary between 8 feet and 56 feet, the most common lengths are 20 feet and 40 feet.<sup>10</sup>

In addition to generating benefits through increased compatibility, uniform containers reduce risk and

associated insurance costs, and increase traceability.<sup>11</sup> For example, the Serial Shipping Container Code (SSCC) – in conjunction with the Electronic Data Interchange (EDI) – enables tracking and recording of containers and helps smooth global logistics.

While many firms outsource inbound and outbound logistics, traceability is at the core of a firm's competitiveness. Traceability systems allow firms to adjust their firm activities to provide just-in-time deliveries, promote lean production and eliminate non-value added activities.

### ***Smaller exporters disadvantaged***

While uniform containers boost efficiency, they can put small exporters and ports at a disadvantage, due to low volumes and the inability to achieve economies of scale. Companies in countries with small economies have to pay higher transport costs when trucks or vessels run partly loaded or empty.<sup>12</sup>

Moreover, when trading volumes are low, exporters from developing countries and small economies face longer travel times, because international carriers require a larger number of stops to fill containers or vessels.<sup>13</sup>

### ***Storage processes critical***

In today's world of global production, many firms are vertically integrated in international value chain systems. To meet health and safety requirements, it is necessary to store and transport products appropriately while moving along the value chain. This is particularly the case for foodstuffs that need to meet sanitary and phytosanitary (SPS) requirements. But chemicals and explosives also need proper storage, just as loose bulk materials do.

Standards and regulations that govern these processes vary by country, as well as by product. The International Organization for Standardization (ISO), for instance, has a long list of storage guides for vegetables and derived products. Whether for onions (ISO 1673:1991), cultivated mushrooms (ISO 7561:1984) or horseradish (ISO 4187:1980), almost every agricultural product has its own guide for storage.

The main objective is to guarantee an unbroken cold chain that extends shelf life for fresh produce, seafood, frozen food, chemicals and pharmaceuticals. Pharmaceuticals are subject to further regulations by public authorities, such as the EU's Guidelines on Good Distribution Practice of Medicinal Products for Human Use.

Storage standards compliance is also important for firms that seek certification from private standard initiatives such as Fairtrade. Producers must maintain a central storage



Diane Wang

Chief Executive Officer,  
DHgate.com

*Cross-border e-commerce is one of the best ways to empower SMEs to access global markets.*

*Guaranteeing a trustworthy and safe marketplace is the most important aspect for businesses to successfully engage in cross-border e-commerce.*

## THOUGHT LEADER

# The standards and regulations of cross-border e-commerce trade and their effect on SME competitiveness

With the onset of technology, many new options and innovative new business models for trade have emerged, providing lucrative opportunities for small and medium-sized enterprises (SMEs).

### *Higher business survival rates for tech masters*

According to a report from the University of Southern California Marshall School Of Business specifically for the Asia-Pacific Economic Cooperation (APEC), SMEs with high Internet and technology usage grow 2.1 times faster than SMEs that do not leverage technology, regardless of the industry; and 60%–80% of e-commerce exporters survive their first year in business, compared with a 30%–50% survival rate for traditional businesses.

This type of evidence has drawn the attention of leaders worldwide. G20 and APEC business leaders especially, have reached a consensus that cross-border e-commerce is one of the best ways to empower SMEs to access global markets. However, innovative new business models that facilitate international trade through the Internet are operating in new frontiers. Therefore, we must acknowledge that new rules and standards must be implemented to ensure a positive environment for conducting business.

### *Building trust in e-commerce*

Notably, the same academic research mentioned above from the University of Southern California, reported that 95% of firms surveyed agreed that fraud was a concern in cross-border e-commerce. According to a separate report by Nielson Holdings that surveyed the six major markets for cross-border e-commerce, 9 out of 10 e-commerce customers indicated that they wanted buyer protection for their overseas purchases.

In acknowledgment of this kind of research, along with the backing of industry experts, major cross-border e-commerce platforms have widely accepted that guaranteeing a trustworthy and safe marketplace is the most important aspect for businesses to successfully engage in cross-border e-commerce.

In recent years, the slogan 'Trust and Safety' has been coined as the common term for the proactive processes and measures taken to uphold new trade standards and regulations for the purpose of ensuring an ethical trading and transactional environment for all cross-border e-commerce participants, buyers and sellers alike. The responsibility of which generally falls on the platforms to uphold. Platform implemented measures and proactive processes mainly address:

- Fraud and general dishonest business practices;
- Account takeover;
- Regulation of the sale of illegal products, controlled substances and infringing products.

These methods which support ethical practices have moulded the standards SMEs must meet in order to successfully leverage the digital business model to trade internationally.

Because businesses that trade over the Internet will never actually physically interact with one another, curbing general dishonesty and fraud was originally quite the challenge. Such behaviours commonly include: sellers sending fake products, sellers sending wrong products, sellers sending no order at all, and buyers claiming their order never arrived when in fact it did. Platforms combat this with a very natural approach. In any business, the reputation of the products or services is always a deciding factor of success.

### ***Emerging practices***

Cross-border e-commerce is no different, that is why major platforms have implemented methods of gathering customer feedback and comments about the businesses operating on their platforms, and put them in the spotlight. These peer reviews and comments of past experiences dealing with other cross-border e-commerce trade participants create mandatory standards to abide by, otherwise participants are dooming their business to failure.

Major platforms also have strict rules and regulations that participants must follow in order to continue operating their businesses through the platform. Platforms require sellers to be logged into their account for a minimum amount of time every day, so that they are available to provide real time customer service to buyers. Sellers are also usually required to deposit money in an escrow account. In the event that a buyer is treated unethically by a seller, the platform will reimburse the buyer for their loss with the seller's pre-deposited funds.

***Major platforms deploy password control software and require a phone number to be linked to each account.***

Account takeover refers to the illegal operation of a buyer's or seller's account in direct violation of their proprietary rights. This is especially dangerous because the perpetrator is assuming control of someone else's business, and therefore can make decisions on their behalf. To counter these risks, major platforms deploy password control software to establish strict rules for passwords and restrict the amount of times users can attempt to log-in to their account. Cross-border e-commerce participants are also required to link a phone number to their accounts. That way, text message verification can be used to confirm the identity of a participant in order to activate accounts. This also limits platform membership to one account per telephone number.

*Major platforms create mandatory standards to abide by, otherwise participants are dooming their business to failure.*

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The sale of drugs, alcohol, tobacco, weapons, credit cards, and cash is illegal on cross-border e-commerce marketplaces. The sale of products that violate patent and copyright laws also is prohibited from being distributed via cross-border e-commerce. To prevent these things from occurring, cross-border e-commerce platforms utilize product management software to alert security analysts when keywords or photos prompt an alert.

Many platforms also assign a barcode with a specific tracking number to every individual product, which is the only ID in the world for that product. Cloud-based technology is then used to track the products from production all the way through the point of sale. Upon product delivery, buyers can then use a smartphone app to scan the barcode and instantly verify product authenticity and information.

A real life example of cross-border e-commerce standardization and regulation is at our firm, B2B cross-border e-commerce marketplace DHgate.com. We were the first major player to launch an entire department dedicated to Trust and Safety. We cooperate with third-party service providers from Asia, North America, Europe and Australia to ensure an ethical trading environment for buyers and sellers on our platform, as well as administer aftersales services.

At DHgate.com, we highly emphasize the proactive aspect of the Trust and Safety strategy we use to enforce the trade regulations and standards of our platform, which feature three different types of mechanisms. Firstly, mechanisms generally comprised of software automatically identify and prevent unethical behaviour from occurring on our cross-border e-commerce marketplace without human interaction. Secondly, there are manual processes that require human interaction to manage threats, to confirm that the rules of the platform are being followed, and that the trading environment is kept safe. Lastly, mechanisms supplied by third-party providers, which are comprised of both manual and automatic mechanisms, offer an additional degree of protection.

The main effect of standards and regulations based on Trust and Safety on SMEs who trade on relevant platforms has been resoundingly positive. Just like in regular business, the reputation of brands determines their success, and business conducted through cross-border e-commerce is the same. If sellers provide high quality products, a good buyer experience, and support an ethical trading environment, then they will succeed because the new system is designed for their success, which is how all modern digital marketplaces work.

area for pesticides and other hazardous chemicals. Furthermore, the storage must<sup>14</sup>:

- Be locked and accessible only to trained and authorized personnel;
- Be ventilated to avoid a concentration of toxic vapours;
- Have equipment, such as absorbent materials, to handle accidents and spills;
- Not contain food;
- Have clear labelling on hazardous materials indicating contents, warnings, and intended uses, preferably in the original container when possible;
- Contain information on proper handling (safety sheets).

The points to take into consideration when storing products are many. They range from product-specific regulations to health and safety standards, sustainability requirements for warehouses and more.

For many firms, these activities are not at the core of their business. As a result, outsourcing to 3 Party Logistic (3PL) and even 4 Party Logistic (4PL) services is increasingly popular. Such companies work with shipping firms to manage the logistics and distribution activities for clients.

While 3PL companies focus on a single function, 4PL companies generally manage the entire process, and can even manage a 3PL.

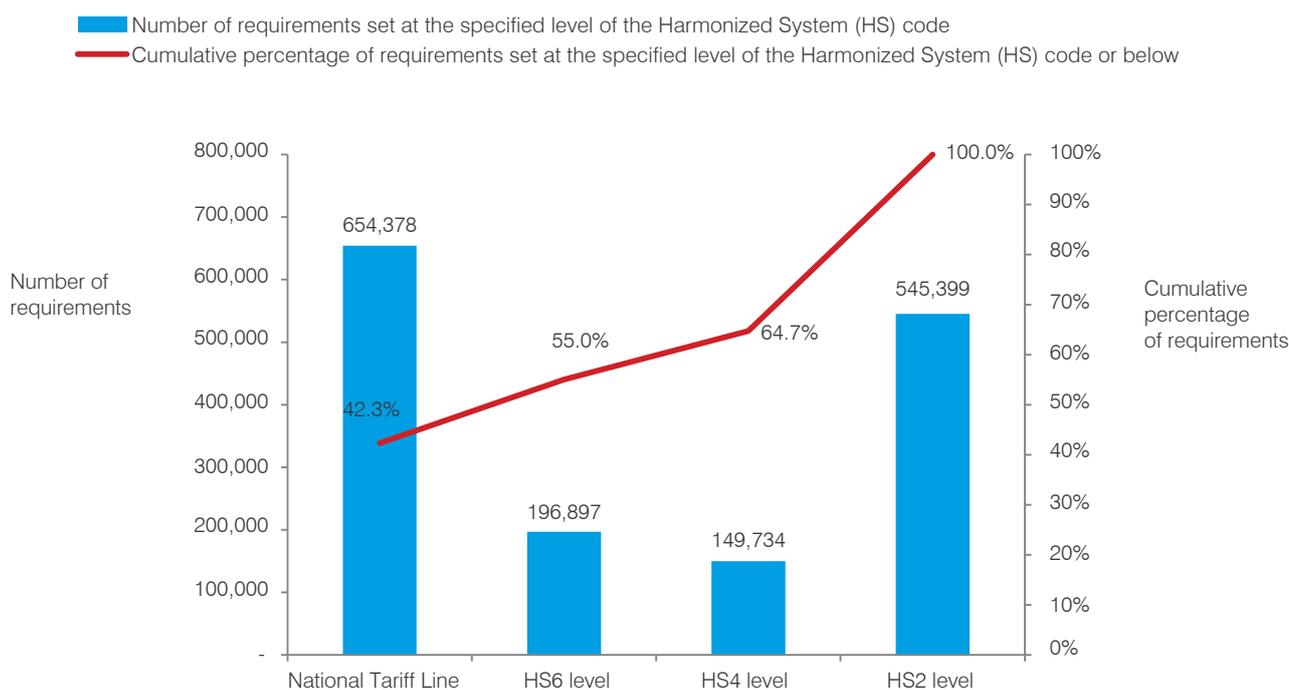
**Operations: Product and sector-specificity**

Operations-level standards and regulations tend to be sector or product specific. For example, food safety restrictions affect fruits and vegetables. Manufacturing products may have to abide by safety measures (e.g. fire resistance) or compatibility standards (plugs and sockets). Financial services providers have to meet prudential regulation. Digital trade is subject to data privacy regulation.

This indicates that standards and regulations differ substantially across sectors. A closer look at the data suggests that standards and regulations also vary significantly within sectors and across tariff lines.

Figure 10 shows that 42% of technical regulations applied to imported goods by 46 countries are highly product specific, because they are defined at the highest level of disaggregation: the level of national tariff lines.<sup>15</sup> The texts of these technical regulations specifically mention the disaggregated product. Almost 65% of technical regulations mention at least one product specific to the 4-digit level of the Harmonized System (HS) Classification,

**FIGURE 10** Level of specificity of technical regulations in national import legislation



Source: Multi-agency regulatory database on NTMs accessed through Market Access Map. See Endnote 16 for further information on the Harmonized System (HS) code.

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which is very detailed, including products like green tea or insulated wires.<sup>16</sup> (The next chapter provides a flavour of how multifaceted the world of standards and regulations at the operational level is, by describing those relevant for a selected number of goods and services.)

Meeting such standards, and monitoring compliance, entails product and sector-specific technical infrastructure and capabilities. This can be challenging for countries where resources are restricted. For producers in such countries, sector-specific standards can make it harder to compete internationally.

### ***Marketing and sales: Protecting consumers***

Consumer protection is a crucial aspect of marketing and selling goods and services. As marketing and sales technologies evolve, methods to protect consumers have to evolve, too.

Information and communications technology (ICT) over recent decades has changed profoundly the way companies market and sell their products. E-commerce has become an important way to select and reach new markets. However, e-commerce is accompanied by security issues and threats. Commercial fraud and weak Internet security make customers reluctant to provide sensitive information such as personal data or credit card information.

Unlike the offline environment – where consumers visit a store, inspect potential purchases, and have face-to-face contact with the seller – consumers buying online know little about the seller to whom they entrust their personal information.

Online payments, which are initiated, processed and received electronically, are becoming increasingly important for firms to be competitive. E-payments are either account-based or electronic currency systems. The former allows payment through an existing personalized account using credit cards, mediators such as PayPal, mobile phones or online banking. The latter includes smart cards and online cash payments, such as software-only electronic money instruments or prepaid cards.<sup>17</sup> For all payment systems, confidentiality is key.

This is why consumer protection is crucial when offering, marketing and selling goods and services online. Marketing personnel must understand the consumer's need for data protection, secured payment and product safety – all of which influence buying decisions.

Any organization that uses a website to receive, process, collect, store, or display confidential or sensitive information may want to signal its trustiness by obtaining a digital certificate, known as a Secure Sockets Layer (SSL) certificate (Box 3). SSL involves a global standard security technology that enables encrypted communication between a web browser and a web server.<sup>18</sup>

### **BOX 3: Digital certification authorities**

Most web browsers and computers that support SSL have a list of certification authorities (CAs) whose certificates they automatically accept. The longer the CA has been operational, the more browsers and devices will trust the certificates it issues. There are relatively few authorized CAs, including private companies and governments.

Worldwide, the certification authority business is fragmented. National or regional providers dominate their home market. This is because digital certificates are often linked to local law regulations and accreditation schemes.

Apart from commercial CAs, some authorities issue digital certificates to the public for no charge -- a notable example is CAcert. Large institutions or government bodies may have their own public key infrastructure, with their own CAs. Any entity that issues self-signed certificates acts as its own CA.

Prior to issuing a digital certificate, CAs conduct a number of checks to verify a digital entity's identity on the Internet. CAs may prove their credibility and preserve the integrity of their digital certificate by undergoing an annual performance audit, called WebTrust. This ensures that CAs conform to the technical, security, and procedural steps for e-commerce transactions, public key infrastructure and cryptography.

The WebTrust seal is awarded to websites that adhere to business standards established by the Canadian Institute of Chartered Accountants and the American Institute of Chartered Public Accountants. CAs display the seal on their websites. Most CAs in the United States follow the WebTrust standards, but CAs in other countries may have to meet the equivalent European Telecommunications Standards Institute standards. Major browsers and applications enforce compliance with these audit standards and ensure that the audit is completed annually.

**Sources:** Websites of CA Security Council, GlobalSign and Ubuntu.<sup>19</sup>

SSL certification signals a high standard of business practice and instils more confidence in customers. Developed by Netscape Communications Corporation in 1994 to secure web-based transactions, it decreases the risk of theft of sensitive information, such as personal data, legal documents, medical records and passwords. In addition to data encryption, an SSL certificate provides authentication, ensuring data is only transmitted between the intended parties.

### ***Post-sale services: Warranties are regulated***

Pre-sale and post-sale activities reflect the growing role of services in the world economy. Aftersales services include conducting repairs, installing upgrades and reconditioning equipment, carrying out inspections and day-to-day maintenance, or offering technical support, consulting and training.<sup>20</sup>

Most of these activities are related to the warranty a firm issues to other businesses (B2B) or to the final customer (B2C) on the product it sells. From an economic perspective, warranties allow firms to reduce the information gaps between themselves and their customers.<sup>21</sup> This is particularly true for products and services that consumers find hard to put a value on before consuming them, sometimes known as 'experience goods'. By issuing a warranty on such goods, the producer or seller can signal quality to consumers. A long-lasting warranty is a signal that the producer itself is

confident that its product is of good quality and will not need to be replaced or repaired any time soon.

In addition to minimum guaranteed warranties, firms can offer extended warranties, also known as extended service plans or contracts. Normally, firms propose and sell such contracts at the moment consumers make their purchase. This creates a 'situational monopoly' in which competition from other potential sellers becomes irrelevant because the consumer has no time to compare.

Extended warranties are very common in specific industries such as automobile original equipment manufacturers, automobile parts, computers, etc.

Yet the value of these extra warranty services is not always clear, hindering the ability of consumers, buying such services, to take informed decisions – hence, the need for rigorous regulations to protect consumers.<sup>21</sup> Legislation passed in the United Kingdom (Box 4) in 2005 shows how regulation can tackle negative externalities such as a situational monopoly, unfair sales tactics and price discrimination.

As the legal framework for consumer protection and warranties differs from country to country, firms adjust their post-sale services to the relevant market. In the EU, for instance, consumers have the right to a minimum two-year guarantee at no cost. In the United States, a one-year guarantee is more common. Extended warranties are also regulated very differently across countries, as well as across sectors.

## **BOX 4: UK consumer warranties for electrical appliances**

The United Kingdom has legislation to address issues linked to the sale of extended warranties on electric appliances. 'The Supply of Extended Warranties on Domestic Electrical Goods Order' (2005) introduced significant regulatory standards/mechanisms to mitigate problems such as the information gap between buyers and sellers.

The legislation aims to:

- Freely provide pricing information to the customer through an online 'extended warranties exchange'.
- Require the retailer to offer an extended warranty that does not have to be bought at the time of sale but rather within 30 days after the purchase. This allows the consumer time to look for information or other options.
- Provide the option to cancel warranties with full refund during the first 30 days and on a pro-rata basis for the rest of the warranty period.
- Require the retailer to provide an information booklet at the time of sale that explains how to get an extended warranty from an independent third-party provider.<sup>22</sup>

**Source:** The Supply of Extended Warranties on Domestic Electrical Goods Order 2005 of the United Kingdom.

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## Knowing your core business is not enough

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Standards and regulations are often associated with the core operations of an enterprise. Food safety standards are expected to matter for enterprises active in agriculture or food processing, financial regulations for banks and container standards for logistics companies.

In modern enterprises, however, this simple analogy does not hold. Standards relevant for the firms' operations are indeed crucial for success. But standards affecting support activities – for example accounting and management – and other primary activities – such as logistics – are equally important, in particular for enterprises competing in regional or global markets. Many of those standards are services-related.

For SMEs, being an expert on all of these standards is a formidable challenge.

## CHAPTER 3

## Zeroing in on sectors and products

A firm's goods or services are determined at the level of its operations. Though operations are one of several stages within a firm's value chain, they represent the core stage. Operations are specific to a sector or product, and so are the standards and regulations applied in this stage.

Governments intervene in markets with regulatory tools to meet public policy or political economy objectives.<sup>22</sup> The former are often driven by equity concerns or a desire to address failures in the functioning of markets. Although those market failures can be categorized into a few types (summarized in Box 5), they differ in form and require tailored solutions.

Private standards often intervene in the same areas as government regulations. Where markets do not function well, it is in the interest of firms to substitute missing government regulations or go beyond such regulation in order to differentiate their products or services from those of competitors.<sup>23</sup> Firms may also be interested in preempting regulatory developments.

Standards also play an important role in managing the transaction costs and risks associated with supply chains. The internationalization of markets has added a new dimension to the complex picture of standards and regulations. Though they remain inherently specific to a

**BOX 5: Market failures shape standards and regulations**

There are three main categories of market failures that motivate standards and regulations: information asymmetry, negative externalities and network externalities.

**Information asymmetries** occur when one of the parties to a transaction has more information about the transaction and has no economic interest in sharing it with the other party. This can create situations in which markets do not function properly. 'Lemons', or cars that turn out to be defective, are a well-known example set out by economist George A. Akerlof. Sellers of used low-quality cars do not share detailed information about the state of their car with potential buyers, in order to receive a higher price. This creates mistrust in potential buyers and lowers the price of all used cars, which in turn hurts sellers of higher-quality used cars. It also hurts the market in general if sellers of higher-quality cars decide not to put their car on the market, which then becomes dominated by low-quality cars. Without an external intervention to improve the information flow, such as a warranty, the market may ultimately disappear.

**Negative externalities** occur when consumer and/or producer choices damage a third party, or a community. This damage is often unintentional. There are many examples. For instance, car drivers might not take into account that they cause traffic congestion and pollution. Given that car users are likely to pursue their own interest, public intervention can reduce the adverse impact. Such moves include car performance standards and mandated technologies.

**Network externalities** occur when consumer benefits of using a product or service increase with the number of other people using the same product or service. The benefit of using a plug depends on whether it fits within available sockets; the benefit of using a mobile phone network depends on whether it is compatible with other mobile phone networks; and software use depends on compatibility with relevant hardware or other software. One way to solve the market failure associated with competing networks is by making them compatible, which can be achieved by creating common standards.

**Source:** Coates, D. (2001). *The Microeconomics of Market Failures*.

FIGURE 11 The international value chain system



Source: ITC.

sector, subsector, product or firm, internationalization has brought demand for cross-border compatibility, coherence or mutual recognition of standards and regulations.

### Standards in international value chains

A firm's IVC can be part of a larger IVC system (Figure 11). This includes the value chains of upstream suppliers and downstream channels (distributors) and customers. Such international fragmentation of production is becoming the standard operational framework for the majority of firms in most countries. It is the objective of most small firms to become part of such chains, either directly or indirectly.

#### *Lead firms influence requirements*

International production has led to complex cross-border flows of goods, know-how, investment, services and people.<sup>24</sup> It makes the challenge of complying with standards and regulations more complicated for exporters, who have to deal with a variety of standards and regulations in other markets as well as regulations at home.

Where trade takes place within an IVC, lead firms tend to play a role in determining standards that apply to the chain and in monitoring implementation. They do this to ensure efficiency of production within the IVC and to protect their brand.

For efficient production, a supplier's intermediary inputs need to be compatible with the operational requirements of the next actor in the value chain (see in Box 5 'network externality'). The need for brand protection reflects the fact that the brand and reputation of an IVC are often associated with the lead firm. It is also often the lead firm that obtains licences from regulators to conduct business or to sell final products.

#### *Greater collective efficiency*

Three key factors determine the way in which value chains are governed:<sup>25</sup>

- Complexity of transactions
- Codifiability of information
- Capability of suppliers.

The more complex the knowledge transfer, the more challenging it is to outsource. Technical standards address the challenge by reducing variation and unifying specifications.

Standardized inputs make it easy for suppliers of parts and components to find a customer, and vice versa. This is particularly true if standards are harmonized across countries and multiple inputs can be fitted together without in-house adjustment.

The more vertically integrated the value chain is, the more important standards and regulations become. Compatibility standards, in particular, can significantly reduce production costs and the cost of searching for products and services. Such standards allow firms to benefit from network externalities and producers to coordinate their activities along the value chain system more efficiently.

#### *Quality along the chain*

Outsourcing can lead to product quality problems. For example, the massive pet food recalls in the United States and Canada in 2007 highlighted the hazards of outsourcing, because key ingredients outsourced to domestic suppliers compromised pet food quality. This problem can be mitigated by proper contract enforcement to determine product quality.<sup>26</sup>

Standards within the value chain facilitate monitoring for lead firms. A lead firm may follow a globally established standard and/or its own standard to set the quality requirements along the value chain. All inputs along the value chain need to be aligned with regulatory requirements or brand expectations.

To gain access to an IVC, suppliers are increasingly expected to signal whether their operation and production system meet internationally recognized or private standards. Meeting standards associated with the lead firm improves the flow of information on the quality of the firm's inputs, processes, products and services. This increases the probability of suppliers being selected by lead firms.<sup>27</sup>

Corporate social responsibility-related standards are prominent in addressing reputation and brand expectations. A lead firm that outsources is not usually legally accountable for whether suppliers adhere to regulations in their home country. Yet lead firms can be held accountable by the general public, as happened in the case of the 2013 Rana Plaza disaster in Bangladesh.

In reaction to this incident, ILO is promoting an initiative to reinforce application of ILO standards on occupational safety and health, and fundamental principles and rights at work in global supply chains. Known as the Vision Zero Fund, this Group of Seven (G7) initiative aims to reduce serious work-related injuries in global supply chains to

close to zero. Vision Zero builds on ILO's experience from Better Work, a joint initiative of ILO and the International Finance Corporation (IFC) aimed at upholding labour laws and standards in the garment industry (Box 6).<sup>28</sup>

## Specificity, diversity

Standards and regulations affecting primary activities within firms are inherently sector-specific – or even product or firm specific. Specificity stems from the need to meet an objective such as consumer protection and environmental sustainability, while not unduly hampering production. Striking this balance usually calls for tailoring the standard or regulation to operational specificities.

This translates into countless, varied and growing numbers of regulations and standards across sectors. The internationalization of production further complicates the picture and multiplies the number of standards and regulations.

The nature of operations (for example, goods or services, economies of scale or not) and the market structure (for example, many small or few large producers) also determines the institutional set-ups to transfer knowledge, monitoring and certification. As a result, those set-ups also differ significantly across economic activities. To provide a flavour of the abundance and variety of standards, regulations and institutional set-ups, this section illustrates

### BOX 6: The Vision Zero Fund and Better Work

Under the Vision Zero Fund, countries committed to minimum labour, environmental and safety standards can benefit from financial support to improve practices, structures and institutions. The Fund's financial support is open to producing countries with the status of Official Development Assistance recipient (up to the category of lower-middle income countries and territories).

Launched in 2015, the Fund is based at the ILO. It aims to strengthen occupational safety and health systems, encourage independent labour inspections and set up national work-related injury insurance schemes.

Potential beneficiaries include trade union and employer organizations, workers and management, NGOs, supplier companies, national and local administrations and – where suitable – private initiatives. At the firm level, the Fund promotes management and worker training on safety procedures and standards, auditing requirements and health and safety committees.

Better Work, an IFC/ILO joint initiative, is aimed at the garment industry. Its goal is for the rights of garment workers to be realized and for factories that uphold labour laws and standards to be profitable and productive. Better Work seeks to provoke lasting changes in factories as well as the global supply chains. It does this by probing the root causes of why various labour laws and standards are not met and addressing entrenched workplace attitudes and practices.

Better Work covers the areas of child labour, discrimination, forced labour, freedom of association and collective bargaining. It also covers national labour law regulations on compensation, contract and workplace relations, occupational safety and health, working hours and more. Its work consists of building knowledge, skills and systems within factories with a focus on helping employers and workers come together to resolve challenges themselves.

**Source:** International Labour Organization (2015). Vision Zero Fund.

**TABLE 1** Standard's complexity and diversity:  
Sector-specific examples

Sector number	Sector title	Sectoral examples
0	Agriculture, forestry and fishery products	Agriculture and Forestry: Safety and sustainability
		Fishery: From eco-labels to human rights
1	Ores and minerals; electricity, gas and water	Responsible gold mining
2	Food products, beverages and tobacco; textiles, apparel and leather products	Food products: From consumer safety to quality certification
		Textiles: From labour standards to textile care labels
3	Other transportable goods, except metal products, machinery and equipment	A toy story: Standards to reduce hazards
4	Metal products, machinery and equipment	Metal and machinery industry: Chain as its weakest link
		Compatibility in electronics
5	Construction and construction services	Construction: From safety regulation to procurement
6	Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services	Tourism: Guaranteeing safety and signalling quality
7	Financial and related services; real estate services; and rental and leasing services	Prudential regulation in finance
8	Business and production services	Protecting privacy in a connected world
9	Community, social and personal services	Medical industry

**Note:** Sectors are based on the exhaustive UN Central Product Classification.  
**Source:** United Nations (2015). Central Product Classification (CPC) Ver.2.1.

how they affect firms in various sectors at the operational level. It structures examples following the United Nations' Central Product Classification (CPC, Version 2.1),<sup>29</sup> which has the advantage of covering both goods and services.

It is beyond the scope of this report to achieve full coverage of all existing standards and regulations. Instead, it provides one or two examples for each sector, together with a description of the market failure that the standard or regulation addresses. It then addresses how this affects the operations of firms in the sector (Table 1).

## Agriculture and forestry: Safety and sustainability

Agriculture is one of the most regulated sectors because of its direct impact on human health and well-being. A very common market failure in the sector relates to asymmetric information between producers and consumers. Even though consumers can assess many product characteristics through smell and taste, certain ones remain difficult to assess, both at purchase and consumption.

These include whether products are safe for consumers and whether they are environmentally sustainable. One contentious example of such invisible characteristics is the level of hormones in beef.

### *Regulation and certification addresses food safety concerns*

The dispute between the WTO and the then-European Community and the United States over hormones in beef began in 1996 and concluded with a negotiated settlement in 2009.<sup>30</sup> The EU has maintained the ban on imports of hormone-treated beef, while the EU's quotas on hormone-free beef imports have grown. For the accord to work smoothly, United States producers must prove that the beef is hormone free to the satisfaction of European consumers.

The Non-Hormone-Treated Cattle (NHTC) Program of the United States Department of Agriculture (USDA) has provided a way for the country's farmers to export their beef products to the EU. The NHTC is a Quality Systems Assessment programme that certifies the processes and procedures of beef farming and processing based on three principles:

- Cattle must be raised in approved farms or feedlots and delivered to the slaughterhouse with a signed producer affidavit certifying that the animals have never been treated with hormonal growth promoters.
- Non-treated cattle and beef are segregated at the slaughterhouse and handled so as to ensure they are not in contact with other animals or meat.
- Tissue samples from non-hormone treated cattle are collected at slaughter and analysed by accredited independent laboratories for residual levels of restricted compounds.

Each phase of production, from birth through slaughter, must receive third-party verification prior to USDA's Food Safety and Inspection Service certifying NHTC to the EU.

Each shipment must contain a health certificate and a certificate of authenticity issued by USDA's Food Safety and Inspection Service.

### ***Consumers seek sustainable products***

In many countries, consumers are also increasingly interested in the social and environmental sustainability of their purchasing decisions in agriculture and forestry. Such changing consumer attitudes have prompted measures to show how producers take labour, environment and social conditions into account. These often take the form of VSS, which are growing rapidly.

In forestry, two of the most prominent sustainable forestry labels are the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).<sup>31</sup> In agriculture, an increasingly popular tool to measure carbon emissions is the Product Carbon Footprint (PCF). PCF helps to reduce the information asymmetries between producers and consumers regarding the carbon footprint of a product, which consumers cannot assess through taste and smell.

Producers that adjust their operations and calculate their PCF can become certified for international standards, such as the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard developed by the World Resources Institute and the World Business Council for Sustainable Development, as well as ISO 14067. They may also apply for certification by the Carbon Reduction Label which major retailers, such as Tesco, require. Calculating PCFs is a six-step process that may require producers to revisit previous steps based on findings during a later stage of the calculations.

### **Fishery: From eco-labels to human rights**

Discussions of international standards and sustainability issues in the fishery sector tend to focus on measures to protect fish stocks and consumer safety. The sector is subject to a complex set of eco-labels and food safety, and quality certifications aimed at solving two major market failures: negative externalities and asymmetric information.

Yet there are other types of less evident market failures in the sector. Power asymmetry between fishers and fishing companies combined with lack of or inadequate enforcement of legislation have allowed misconduct and breach of human rights in the workplace. Recently there

has been growing evidence of forced labour and human trafficking in the fishery value chain with many workers on board fishing vessels – especially migrants – subjected to extreme abuses.<sup>32</sup>

### ***Grey boundaries allow misconduct***

Fishing and fish trade are among the earliest globalized economic activities, assuring the livelihoods of 10%–12% of the world's population. They are of particular importance to developing countries.<sup>33</sup>

Demand for fish is increasing, but a large number of the world's fish stocks are currently depleted.<sup>34</sup> The reduction of fish stocks has pushed fishing operators further out to sea to find abundant fishing grounds. Long-distance fishing operations imply an increase in crew costs, which are cut by employing migrant workers on low wages. The decrease in fish stocks also has promoted fiercer competition and an increase in the application of fisheries management policies, which may undermine the safety of fishers as they create incentives for fishers to make risky choices.<sup>35</sup>

Finally, globalization has facilitated the restructuring of long-distance fishing operators into transnational corporations, both legally and illegally. Evidence has shown that some of these transnational fishing operators make use of secrecy jurisdictions and register their vessels in open international registers to avoid law enforcement measures.<sup>36</sup>

### ***Legal instruments***

In response to this challenge, ILO and the International Maritime Organization (IMO) have established a number of instruments that aim to improve the safety and working conditions of fishers. For example, there are legally binding initiatives, such as the Work in Fishing Convention (No. 188), the Torremolinos Protocol, the Convention on Standards of Trading, and the Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F). Complementing these are various non-binding recommendations and codes developed jointly between ILO, IMO and the Food and Agriculture Organization of the United Nations (FAO).

However, with the exception of STCW-F, few of the binding legal instruments are in force. In combination with the slow pace of ratification of conventions, this impedes effective control of safety and labour standards as well as investigation and prosecution of other crimes in the fisheries sector.

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## Responsible gold mining

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The mining sector is an extractive industry involving the exploitation of natural resources. Mining is often associated with unfavourable working conditions that go beyond the intrinsic dangers of working in a mine. Mines are often in remote locations where the extractive company is the principal source of employment and few other sources of income are available to the local residents. The lack of alternatives can create a situation of power asymmetry in which the employer imposes unfavourable working conditions and employees are not able to react.

Mining also is often seen as an industry that exploits and destroys nature. Campaigns by civil society have raised awareness of these market failures, and consumers have reacted by using purchasing decisions to press for better practices. To allow consumers to take informed decisions at the time of purchasing goods derived from mining, labelling is fundamental.

### *Labels signal good practices*

The Fairtrade Standard for Gold and Precious Metals allows artisanal and small-scale mining organizations to alert consumers about the way their gold is extracted and produced. To gain the label, gold must be responsibly mined and miners must receive a Fairtrade Minimum Price and Premium, which assists social, environmental and economic development in their communities. The Fairtrade Mark signals that:

- Miners form groups that help to increase their bargaining power with traders, get a fairer return for their gold, and gain greater control over the jewellery supply chain. They are required to participate in the social development of their communities.
- Child labour is not employed. No one under 15 years old must be contracted to work in the mining organization. Those under 18 must not work in hazardous or dangerous conditions.
- Working conditions are improved through mandatory use of protective gear and health and safety training for all miners.
- Freedom of association and collective bargaining are respected through the right to establish and join trade unions and collectively negotiate their working conditions.
- Chemicals are used responsibly. Miners must use safe and responsible practices for management of toxic chemicals, such as mercury and cyanide, in gold

recovery. Chemicals have to be reduced to a minimum and where possible eliminated over an agreed time period.

Access to international markets on Fairtrade terms supports miners to tackle development needs: environmental damage (notably mercury and cyanide use), poor health and safety, labour conditions, child labour, gender discrimination, production efficiency and livelihood diversification.<sup>37</sup>

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## Food products: From consumer safety to quality certification

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Consumer satisfaction is a key priority of food producers. However, the concepts of quality and consequent satisfaction only come into play once product safety is ensured. As a result, different food products are subject to different controls, depending on the risk of negative externalities, the way they are produced and the market they are sold to.

### *International food safety systems*

The Hazard Analysis and Critical Control Point (HACCP) is one of the most widely used systems to identify and prevent hazards in the food industry, recognized by countries and international organizations such as the World Health Organization (WHO) and FAO. The approach is comprehensive, covering all stages of production including input of materials, the production process and final products. It also covers the facilities and personnel at critical control points.

HACCP is based on two main components: hazard analysis and the control measure of the critical limit. The first is the process of identifying and evaluating hazards that could endanger food safety, while the second aims to prevent hazards or reduce them to a minimal, acceptable level.

### *Requirements vary across countries*

There is broad consensus that it is sometimes necessary to set limits on certain food additives to guarantee consumer safety. Yet, there are often disagreements over which additives to regulate and what thresholds to adopt.<sup>38</sup>

Aflatoxin offers an example of how food regulations can vary by country. Aflatoxins are toxins naturally produced by certain moulds. They are caused by, and regularly found, in improperly stored staples, including peanuts, corn, rice and wheat. There is extensive evidence that they induce liver cancer.<sup>39</sup> Consequently, aflatoxin contamination is a

major negative externality resulting from negligent or uninformed producers. Several countries, notably industrialized countries, already have enacted specific technical regulations on aflatoxins. However, opinions on the required design of those regulations diverge between producing and consuming countries.<sup>40</sup>

### Minimum quality standards

Once a product is deemed safe to enter its intended market, producers have to compete with other products of similar or different quality. Standards can help producers to access markets and differentiate their products.

Coffee is a case in point. While coffee comes in different intensities and flavours, there are two main types of coffee beans in the world:

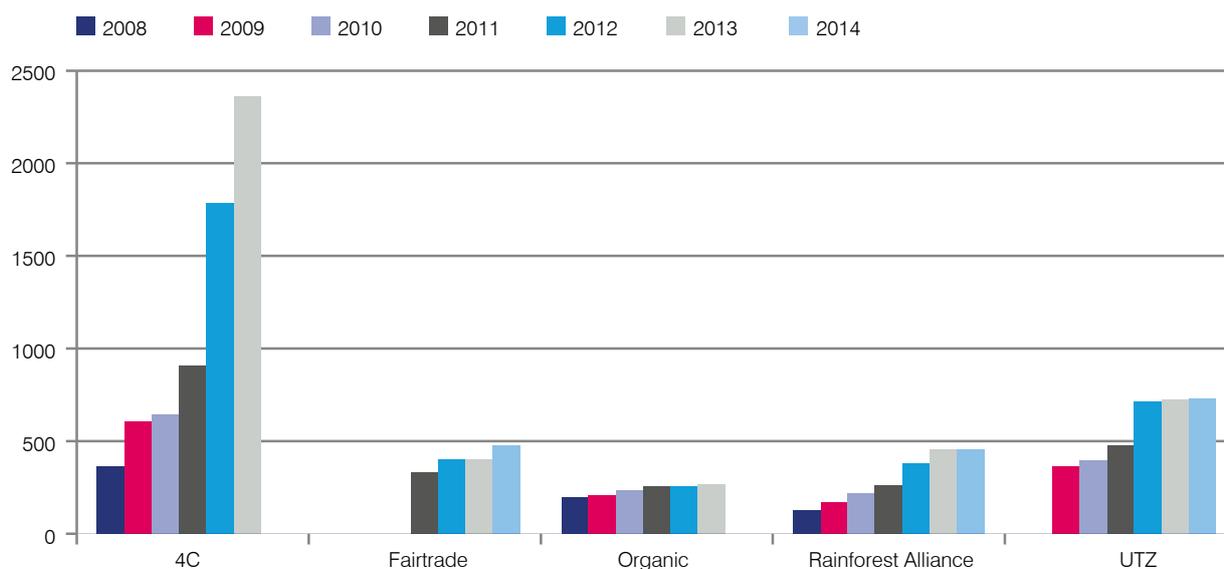
- Arabica, associated with more pleasing flavours and aromatic properties.
- Robusta, of a lower intensity, easier to grow and maintain, more disease resistant and producing a higher yield.

Within these two main species, coffee can be further differentiated according to the quality of the beans. This characteristic allows standard setters or producers to establish minimum quality standards to target specific market niches.

To differentiate their products, high-quality producers increasingly adjust their operations to comply with VSS. A recent survey<sup>41</sup> shows that the major coffee certifiers – 4C Association, Fairtrade International, Organic, Rainforest Alliance/SAN and UTZ – certified about 2.7 million hectares of the 10 million hectares of coffee grown worldwide. Figure 12 shows that demand for private certification has risen constantly in recent years.

Whether a coffee producer decides to comply with mandatory regulations alone or go further to obtain private certification, operations will have to be adjusted. Tailoring operations to comply with SPS, HACCP and/or VSS comes at a cost. However, it also opens the door to new markets and market segments. UNECE develops global agricultural quality standards to facilitate international trade. They cover a wide spectrum of agricultural products, are freely available online and have been widely used. For example, 70% of fruits and vegetables in the world are traded according to UNECE agricultural standards.

FIGURE 12 Coffee production volume under voluntary sustainability standards, 2008–2014



**Note:** The organic production volume estimated by the Research Institute of Organic Agriculture is based on estimated yields, as actual data is not available for most countries.

**Source:** ITC (2016). Voluntary Sustainability Standards.



## CASE STUDY

# Improving quality in Sri Lankan fruit and vegetables

In Sri Lanka, as in other developing countries, small producers often find it difficult to comply with standards on agricultural goods. Failure to meet such sanitary and phytosanitary (SPS) measures prevents these producers from exporting to world markets.

These problems were reflected in an ITC survey on non-tariff measures (NTMs) in Sri Lanka in 2010, which found that 69.7% of exporting firms and 70.4% of importing firms reported burdensome trade barriers.

### *Agriculture heavily affected*

Respondents highlighted NTMs related to technical requirements and conformity assessments, and said that 30% of burdensome NTMs experienced while exporting goods were SPS measures and technical barriers to trade (TBT). These particularly hamper raw and processed agricultural exports. Exporters in the fresh food sector were most affected by burdensome NTMs, followed by processed agricultural commodities and the manufacturing export sector.

Small producers had more difficulty complying with SPS regulations than larger companies. A key obstacle was lack of information about technical measures, and there was a need for improved quality awareness and a strengthened domestic inspection regime.

In response to such needs, and at the request of the Ceylon Chamber of Commerce, the Improving the Safety and Quality of Sri Lankan Fruits and Vegetables project was launched. The project's aim was to enable farmers to improve the quality of their produce and comply with SPS standards in target markets.

Contributors to the project were ITC, the Ceylon Chambers of Commerce, the Standards and Trade Development Facility (STDF) of the World Trade Organization (WTO), the Department of Agriculture (DOA), the Ministry of Health, the National Agribusiness Council (NAC), the Sri Lanka Fruit and Vegetables Producers Processors and Exporters Association (LFVPPEA) and relevant private and public stakeholders in Sri Lanka.

### *Training for quarantine officers*

In autumn 2013, 20 plant quarantine officers participated in an intensive, 10-day, four-module course covering international and European Union (EU) SPS standards, plant pest surveillance, phytosanitary treatments and pest risk analysis. These participants then went on to train field-level plant quarantine officers.

Ihala Gedara Tilakaratne, Director at the Department of Agriculture, said that lack of awareness meant farmers had applied higher dosages of pesticides more frequently than necessary. 'This malpractice has resulted in fruits and vegetables with pesticide residues exceeding maximum levels,' he explained.



‘As a result of the capacity-building, the quality and safety of our produce will be improved. Sri Lankan fruits and vegetables will be able to find more market opportunities globally, regionally and nationally in the future.

Dawn Austin, Director of Nidro Supply Ltd, one of the country’s largest exporters of fruit and vegetables, agreed that exports could be ‘pushed up exponentially’ if smallholder farmers were trained in proper growing protocols that meet international standards.

Nidro works with clusters of smallholder farmers. Nidro’s employees regularly inspect the company’s operations to ensure protocols are followed. ‘The potential in this country is amazing. We have the perfect climate. Success will depend on training farmers working with one-half or one acre. They need to participate in a quality and food safety training programme,’ Austin said.

### ***Project increases awareness and accessibility***

The project provided training for more than 50 staff of the DOA National Plant Quarantine Service and more than 200 master trainers, field level trainers, and field level extension officers of the extension division. As a result, they understand SPS standards and know how to comply with them. DOA officers are now training farmers.

Information on SPS standards has been made available on paper and online. Training materials covering key SPS related areas have been released in three languages – English, as well as Sinhala and Tamil, the two national languages. This information is actively spread. For example, brochures developed by master trainers are distributed to provincial directors of agriculture. They are also provided to other organizations, such as the Food and Agriculture Organization of the United Nations (FAO) to be distributed among farmers under their projects.

In February 2015, the Food and Veterinary Office underwent an official audit with trained staff of DOA. This showed that the number of notifications of non-compliance in the EU has been reduced. Farmers also receive better prices as they supply higher quality, safe fruits and vegetables, meeting both local and international demand.

**Source:** ITC NTM Series Sri Lanka: Company Perspectives; ITC Annual Report 2013; STDF 354 newsletter, issue 1, June 2015; <http://spssrilanka.lk/>.



## CASE STUDY

# Kenya's tea sector adapts to climate change, gets certification

Many of the 2 million tea farmers across Kenya are struggling to cope with the higher temperatures and more erratic rainfall brought about by climate change.

'When I started tea farming, harvests were bountiful, but over the years the quantity has dwindled,' said Joyce Njeri Muchina, a tea farmer in Makomboki, 90 kilometers north of Nairobi. In hot weather, 'when the mist falls on the tea, it burns the leaves.'

While Kenya is the world's largest exporter of black tea, lower yields due to rising temperatures are threatening the industry and the livelihoods of the three million people whose jobs rely on the sector.

An ITC project is helping farmers to adapt to climate change and reduce greenhouse gas emissions along the value chain. The work is funded by the Governments of Denmark and Norway and implemented jointly with the Ethical Tea Partnership (ETP) and the Kenya Tea Development Agency (KTDA).

As a result of her involvement in the project, which started in 2012, Muchina has increased her annual income from tea by more than 20% while also reducing fuel costs. 'I could keep my children in school, I buy clothes more regularly than before and I have bought a dairy cow,' she said.

### *New techniques help farmers cope*

Muchina was one of 5,600 farmers who benefitted from ITC training programmes. Many of the participants were community leaders who subsequently worked with other farmers in their villages, transmitting the knowledge and techniques acquired through ITC training.

'I have been taught about climate change. We have also learned what we can do to ensure we are food secure and how to practice sustainable tea farming,' she reported.

Techniques acquired include the identification of new pests migrating to the area as a result of the warmer weather and mulching – the covering of topsoil with dead plant material to retain the soil's moisture content and fight heat-resistant weeds. Participants also learned composting methods as well as techniques to improve the quality and water retention capacity of the soil by de-compacting hardpans, dense layers of soil that can impede root growth. They also learned techniques in drip irrigation, which requires as much as 70% less water than traditional methods.

Mary Njenga, a bio-energy and environmental scientist who comes from a tea-growing family in the region, spoke approvingly of the ITC-backed training work.



'[ITC] is doing a good job in working with tea factories to enhance their energy use efficiency, which will not only contribute to mitigating and adapting to climate change but will also improve farmers' benefits,' she said.

### ***Reducing greenhouse gas emissions to obtain certification***

The ITC project has also fostered capacity-building in implementing climate change mitigation strategies, reducing the carbon footprint associated with tea production.

Buyers in Western markets are increasingly demanding sustainably sourced tea. As a result, what was formerly viewed as a purely environmental issue is also becoming a market requirement. In order to maintain and expand their export markets, Kenyan tea factories need to demonstrate and eventually get certified for environmental sustainability, including a reduced carbon footprint.

Factories and the farmers who supply them have taken action based on energy audits prepared under the project, and obtained certification from respected authorities enabling them to target lucrative niche markets. The Makomboki Tea Factory, for instance, has been certified by both the Rainforest Alliance and Flo-Cert following the implementation of the audit's recommendations.

'On climate change mitigation, we have established what we are calling firewood sheds, so that we can dry our firewood before it goes to the boiler,' said factory services coordinator Humphrey Maina Chiuri. Much of the firewood Makomboki and other tea factories buy is moist, leading to significant energy waste during the combustion process. They have also installed more energy efficient stoves and solar lamps.

'Our factory is now certified ... and we are able to access the international markets,' he added. Coordinator Chiuri observed that the programme extends to the thousands of farmers who supply the factory.

**Source:** ITC Annual Report 2014.

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## Textiles: From labour standards to textile care labels

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The textiles and garments sector is the backbone of the economy in many developing countries, particularly in South and South-East Asia. Competition in this sector is largely price-based, leading many countries to fear that increased labour and social standards could raise costs and reduce productivity and competitiveness.

The major market failure that has allowed misconduct by some factory managers in the sector relates to information imbalances. The factory manager can propose low wages and bad working conditions to workers with limited employment experience (often young, female, or illiterate workers).<sup>42</sup> This, in combination with lack of legal knowledge, has prevented many countries from improving working conditions in textiles and garment production.<sup>43</sup>

### ***Accidents raise pressure on employers***

The disastrous Rana Plaza collapse in Bangladesh in 2013 has forced decision makers to revisit their positions, both in the public and private sector. Tragedies like the Rana Plaza have also raised consumer awareness of working conditions in other developing countries, putting pressure on international buyers, who have started to demand assurances on labour and social standards.

As a result, standards and regulations covering working conditions have gained importance in this sector. These include national labour regulations, ILO's international labour standards and private initiatives, such as the Fair Labor Association. Compliance with international standards is often necessary to operate efficiently and jointly with partners; lead firms are concerned that suppliers along the value chain meet labour standards and regulations. Furthermore, national regulations often set minimum standards that do not allow firms to distinguish themselves from competitors.

### ***Standards can increase product lifetime***

Other standards in the textile industry have entirely different purposes, such as protecting clothing from inappropriate machine washing programmes. The increasing variety of fibres, materials and finishes used in clothing production, combined with developments in cleaning and care products, have made it difficult for customers to judge how to care for a textile item simply by looking at it. As a result, producers use standardized care labels to provide guidance on how to maximize product

lifetime and ensure that customers treat their purchases appropriately to limit producer liability in case of inappropriate treatment.

The International Association for Textile Care Labelling (GINETEX), founded in 1963, has devised an internationally applicable system that shows care symbols, fibre content, size and identification of origin. Anyone who has washed, bleached, dried, ironed or dry-cleaned a textile item has probably come across one of the five pictograms used to inform consumers and companies. In 1991 the symbols became an international standard, ISO 3758. Today the symbols present a de facto industry standard.

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## A toy story: Standards to reduce hazards

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Standards and regulations affect the toy industry heavily, as its goal of entertaining children is conditional on their safety. A major market failure in the sector is linked to the inability of consumers to observe certain attributes in toys that may be relevant for toy safety. This is further complicated by the globalized production of most toys, as shown by the example of Barbie.

The popular doll is designed, moulded, painted and quality tested in the United States. It is assembled in Indonesia and Malaysia with body material from Chinese Taipei, nylon hair from Japan and clothing from China. To help such a complex supply chain function smoothly, Barbie's producer, Mattel, has developed its own Responsible Supply Chain Standards. These cover management commitment, ethics, labour practices, worker health and safety, and environmental protection along the supply network.

Not all producers have the resources or willingness to produce their own standards. This means that globalized production can raise public health concerns, as recent reports of lead paint in some toys attest.

The International Council for Toys Industry (ICTI) reports on all the international and national standards governing toys and children's products throughout the world.<sup>44</sup> The information from ICTI shows that while standards and technical regulation deal mainly with safety, they also cover age guidelines for children's use of toys, waste regulations and labelling. In the European toy industry, the main consumer standards refer to toy safety,<sup>45</sup> where the most important piece of European legislation is the Toy Safety Directive (Directive 2009/48/EC).

### *Higher costs*

Administrative burdens have increased due to the Toy Safety Directive, according to interviews in a 2013 study for the European Commission by the European Competitiveness and Sustainable Industrial Policy (ECSIP) consortium.<sup>46</sup> Under the directive, manufacturers, importers and suppliers of toys must ensure that their products meet mechanical, physical and chemical requirements in toy safety.

The key safety requirements cover the way toys are built, and aim at avoiding hazards such as sharp edges, hot parts, risks of entrapment, and toxic substances such as heavy metals, harmful chemicals and allergenic fragrances. Before products are placed on the market, they must go through a conformity assessment procedure. Once products are marketed, the manufacturer must include a European Commission declaration of conformity. The last two steps imply considerable testing and administrative costs for producers.<sup>47</sup>

These costs do not strongly affect competition between European and non-European producers, but they are considered to affect negatively European SMEs compared to large European firms. SMEs lack the resources to provide the required documentation and testing, and consequently outsource such expertise, which raises costs. European SMEs appear especially concerned by continuous changes in toy safety regulation, which oblige manufacturers to invest in staff education.<sup>48</sup>

The Toy Safety Directive is also thought to affect the competitiveness of European toy exporters to non-EU countries, especially given multiple local safety requirements in those countries. An additional burden is the need for local testing, which is considered an important barrier to trade for the EU toy industry.

### *Metal and machinery: The chain as strong as weakest link*

The metal and machinery sector is one of the most vertically integrated industries, with hundreds or thousands of components combining to make the final product. An average car, for instance, has about 30,000 parts supplied to the car manufacturer by a large number of firms spread around the world. This globalized production chain has led to the creation of technical regulations and compatibility standards to allow it to function smoothly.

Compatibility standards reduce potential market failures and represent a way for firms at the top of the value chain to reap benefits and reduce risks linked to this production

system. Vertical integration helps to cut production costs and raise the quality of final products built with inputs from specialized suppliers.

Nevertheless, in addition to being accountable for the quality of the final product, the lead firm becomes indirectly accountable for the quality of each embedded input.

There are many examples of how a single malfunctioning component can jeopardize the functioning or reputation of the final product – ranging from the Challenger space shuttle disaster in 1986 to Dieselsegate in 2015.

### *General versus specific*

To minimize such risks, lead firms increasingly require their suppliers to comply with a number of quality and compatibility standards. The firm may choose a general industry standard, such as ISO braking system standards for road vehicles under ICS 43.040.40. This way, the buyer firm can select a supplier from a large number of brake producers, reducing the risk of low-quality parts and the cost of switching suppliers.

Alternatively, the firm may seek to prevent its suppliers from supplying others, and impose a buyer-specific, proprietary standard. This is particularly common for parts that are crucial to a buyer's strategies for differentiating its products and segmenting the market.

Volkswagen, for instance, has its own standard for brake fluids (VW\_Norm 501 14) that complies with, but differs from, ISO 4925:2005. A supplier that decides to produce this specific brake fluid for Volkswagen may face less direct competition from other suppliers. However, the supplier can also find itself in a situation where it is reliant on one buyer with significant bargaining power.

### *Compatibility in electronics*

The electronics industry is heavily globalized with decentralized production. The predominance of global production chains in the industry has entailed development of technical regulations and compatibility standards to prevent the inefficient over-supply of incompatible technologies.

The ICT sector, in particular, exhibits network externalities. Its products have little value when consumed in isolation but generate value when used with other products. This is as true for software products as for accessories.

For example, to use Apple's FaceTime application, consumers require mobile devices that run on iOS or

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Macintosh computers that run Mac OS X 10.6.6 onwards. To every user, the value of having a FaceTime enabled Apple device increases with any additional user who also has access to FaceTime. This is a network effect.

### ***Economies of scale***

On the one hand, being compatible with industry standards connects products to a large network and customer base. The Universal Serial Bus (USB), for instance, was initially developed in 1994 by Compaq, DEC, IBM, Intel, Microsoft, NEC, and Nortel. When Apple later adopted the standard, USB eventually became the industry standard.

It allows consumers to connect their devices – keyboards, printers, cameras and phones – regardless of brand, creating network effects through compatibility. USB also reduces the production costs for suppliers of other devices as these only have to be compatible with one standard.

### ***Market power***

On the other hand, producing a product that is not compatible with other products and services can segment the market and provide additional market power. Users have fewer incentives to change brands when they face switching costs.

One example is the compatibility between different electrical devices needed to connect a laptop to a screen or a projector with some type of connectors. High-Definition Multimedia Interface (HDMI), developed in 2002 by Hitachi, Panasonic, Philips, Silicon Image, Sony, Thomson, RCA and Toshiba, is a common connector in game consoles, Blu-ray players, PC laptops and televisions. Thunderbolt, in contrast, is a connector developed by Intel and Apple in 2009, and until recently was rarely used outside of Apple products.

The different standards governing HDMI or Thunderbolt can increase costs for producers of other devices up and down the value chain and lead to product segmentation. A projector maker must decide whether to produce a type of projector for either HDMI or Thunderbolt, or for both. Both standards allow firms to segment the market, cement customer loyalty and promote their own compatible devices. By gaining a critical mass of users, either standard may become the new, de facto, industry standard.

## **Construction: From safety to procurement**

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The construction sector is crucial for all countries, playing a key role in the functioning of economies, employment and providing infrastructure for other industries. Even though a few large contractors dominate the international market for these services, the sector is characterized by a large number of small firms. For example, in 2007 95% of EU construction companies were SMEs with fewer than 20 employees.<sup>49</sup>

A variety of regulations affect construction services, including building and product standards. Moreover, restrictions on establishment and the movement of personnel have an impact on trade in such services. Safety and environmental regulations aim to reduce a number of market failures and negative externalities. Safety regulations seek to ensure the safety of the objects constructed, with building regulations and technical requirements playing a key role. Regular inspections of plants and machinery for conformity with technical specifications and standards are mandatory.

### ***Thousands of standards***

In 2006, a government-industry report cited the presence of at least 3,500 standards relevant to construction activity in the United Kingdom alone.<sup>50</sup>

The ISO technical committee ISO/TC 59 on buildings and civil engineering works has developed 109 International Standards since its creation in 1947. Standards cover a range of topics. These include: terminology; organization of IT in building and civil engineering processes; geometric requirements for buildings; building elements and components including modular coordination; general rules for joints, tolerances and fit; and performance requirements. As the construction industry has the potential to produce much waste and pollution, ISO standards also address sustainability.

### ***Fair competition***

Procurement standards are also extremely important in the construction industry. They are central to international trade, as they provide the framework for public, private and international policymakers to develop procurement systems and improve competition by reducing the risk of abuse and increasing predictable outcomes. The ISO working group ISO/TC 59/WG 2 on construction procurement aims to develop standards regarding processes, procedures and methods that are fair, equitable, transparent, competitive and cost effective.<sup>51</sup>

## Tourism: Guaranteeing tourist safety and signalling quality

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A combination of national regulations and private standards influence the tourism sector. The sector sells what are known as experience goods – the product is bought unseen. Regulations reflect the need to protect the safety and health of consumers, when sitting at a restaurant table as much as while swimming in a pool or exploring a forest. There are specific regulations for different actors in the industry, including hotels and tour operators. Standards, for example through star ratings, along with customer reviews can reduce information asymmetry by signalling the quality of services provided.<sup>52</sup>

### *Food safety*

One potential health risk for tourists comes from restaurant food, where the chance of food poisoning increases if food handling and storage is inappropriate. National standards and regulations can mitigate such risks and encourage precautionary steps such as checking cooking and refrigeration temperatures and assuring proper handling.

International standards play a role as well. The ISO 22000 family of food safety management standards, integrating principles of the HACCP system, provides guidance on food manufacturing and packing. It also is specific to catering, including hotels, restaurants and other food services. The ISO standard requires record-keeping, training procedures and follow-up checks to ensure that restaurant, kitchen and management staff are in keeping with the standards.

### *Building trust*

Tourists also want to be reassured that the tour guide leading their safari knows what to do in case of danger, and that the bus taking them to a far destination has been properly checked and maintained. Accreditation can help offer such guarantees.

In South Africa, for instance, tour guides must attend specialized professional and first aid courses from accredited institutions, as well as register with provincial offices in the area from which they seek to operate. A transport services provider in the tourism industry is usually required to obtain a permit from the Department of Transport and liaise with tour operators.

Providers of accommodation in the country have to prove that they meet national health, safety and environmental standards. These range from food safety and sanitation to security and disaster planning, among others. To open up

a hotel or restaurant, a business also usually must apply for site inspection from the Department of Health before becoming operational.

### *Stars provide ranking*

Hotel classification systems are used to rank accommodation, signalling to consumers the standards found in individual establishments. The most commonly used method rates hotels using a symbol that certifies a quality category. The symbol is usually a star, or a diamond, and the scale 1 to 5, with one star indicating basic facilities and standards of comfort and five stars standing for luxury in both facilities and services.<sup>53</sup> This system aims to help match customer expectations with actual services and prevent misrepresentation or false advertising by service providers.

Nonetheless, establishing a common classification system for tourism accommodation is challenging, given the variety of accommodation types as well as cultural, environmental and economic contexts. Due to diversity of situations, conditions and geography, there is no universal best way for an official classification system.<sup>54</sup> Different systems have been implemented (Table 2), including:

- At national level by private companies, as in Australia or the United States, Canada, Mexico and the Caribbean.
- At regional level, as in Italy and Spain, which means there is no harmonized national system. However, in these cases star ratings are set by the central government and the rankings are defined by laws.

## Prudential regulation in finance

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The financial sector is prone to market imperfections due to information asymmetries, which can easily result in moral hazard. For example, individuals entrust their savings to a bank without usually knowing the riskiness of loans that the bank makes using their deposits. As a consequence, they do not know whether the bank is putting their savings at risk.

Prudential regulation, including minimum capital requirements for banks, is designed to address such issues. Financial regulators set capital requirements, which are also known as regulatory capital or capital adequacy, for banks and other financial institutions.

**TABLE 2: Hotel classification systems**

Example	Implementing organization	Ranking system	Criteria	Geographic area
Star Ratings Australia <sup>55</sup>	Private company – implemented by Australian Auto Clubs	1 to 5 stars	The criteria were updated in 2013 and comprise 216 criteria over five key areas: facilities, services, cleanliness, quality and condition.	Australia
HotelStars System <sup>56</sup>	Under HOTREC – the umbrella association of Hotels, restaurants and cafes in Europe – the Hotelstars union is implementing the system	1 to 5 stars with a plus of 'superior' in the nomenclature	270 criteria, some of which are mandatory with emphasis on: quality management, wellness, sleeping, accommodation.	16 countries in Europe: Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Greece, Hungary, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Sweden, Switzerland
AAA Diamond Ratings <sup>57</sup>	Private company – American Automobile Association	1 to 5 diamonds	199 criteria revised in 2013 to reflect evolving industry trends and guest expectations. Approval granted first, then assessed for Diamond rating.	United States, Canada, Mexico, and the Caribbean
Quality tourism <sup>58</sup>	National tourist boards: Visit England, Visit Wales, the Scottish Tourist Board and the Northern Ireland Tourist Board	1 to 5 stars	498 criteria.	United Kingdom
Italian regional authorities system	Statutory – mandatory system	1 to 5 stars, plus 5 stars L for Deluxe	55 criteria (National reference)	Italy
Spanish regional governments	Statutory – mandatory system	1 to 5 stars deluxe	261 criteria	Spain
Hotel Star System <sup>59</sup>	Tourism Council of Bhutan	1 to 5 stars	Based on an exhaustive set of criteria that permits to classify establishments	Bhutan
Tourism Grading Council of South Africa's Grading Criteria <sup>60</sup>	Tourism Grading Council of South Africa	1 to 5 stars	947 criteria	South Africa
Hotel rating system in Ethiopia <sup>61</sup>	Ministry of Culture and Tourism and Ethiopian Standard Agency	1 to 5 stars	12 categories/criteria and each criterion has its own score. The 12 categories are classified into two sections – accommodation and category-specific standards. <sup>62</sup>	Ethiopia

**Source:** Adapted from World Tourism Organization (2015). Hotel Classification Systems.

### ***Basel sets capital requirements***

The main international effort to establish rules on capital requirements have been the Basel Accords, published by the Basel Committee on Banking Supervision housed at the Bank for International Settlements. These set a framework for how banks and deposit institutions calculate their capital adequacy ratio, which measures an institution's capital in relation to its risk-weighted assets. The capital adequacy ratio allows for the assessment of financial stability of the institution.

In 1988, the Committee decided to introduce a capital measurement system commonly referred to as Basel I. In June 2004 this framework was replaced by a significantly

more complex capital adequacy framework commonly known as Basel II. Following the financial crisis of 2007–08, Basel II was replaced by Basel III, which will be gradually phased in between 2013 and 2019.

### ***Standards guarantee e-payments***

Modern payment systems, such as online banking and shopping, face other types of risk. Criminal behaviour can result in theft of personal bank information. Security and standardization of payment channels can prevent such abuses. The Payment Card Industry Data Security Standard (PCI DSS) has been established to handle branded credit cards. The standard is a proprietary

information security standard, and includes companies such as Visa, MasterCard, American Express, Discover, and JCB.

The aim of PCI DSS is to increase controls on cardholder data and, therefore, decrease the amount of credit card fraud. There is annual validation of compliance, either by an external Qualified Security Assessor that creates a Report on Compliance for organizations handling large volumes of transactions, or by a Self-Assessment Questionnaire for companies handling smaller volumes.

Currently, both Visa and MasterCard require merchants and service providers to be validated according to PCI DSS. Smaller merchants and service providers are not required to validate compliance explicitly with each of the controls prescribed by PCI DSS, but these organizations must still implement all controls if they are to avoid liability in the event of fraud associated with theft of cardholder data.

## Protecting privacy in a connected world

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As the use of ICT services grows, the boundaries between life online and offline are increasingly blurred. Smart devices open countless opportunities for people to connect and integrate social and economic activities, whether public or private.

New services and products are created on the basis of their capacity to bridge the physical and virtual worlds, scaling the Internet of Things (IoT) exponentially.<sup>63</sup> Adoption of IoT worldwide, however, poses security risks, with billions of connected devices handling information on our everyday lives. Reinforcing privacy standards can help address such risks and market failures.

### **Standardization reduces risk**

Given the global nature of this sector, international coordination on standards can enhance effectiveness. The International Telecommunication Union Standardization Sector (ITU-T) Study Group 20 is working to address the standardization requirements of IoT technologies, with an initial focus on applications in smart cities and communities. The group is working on standardizing end-to-end architectures for IoT, and mechanisms for the interoperability of IoT applications and datasets employed by various industry sectors.

As the world becomes more connected, mobile communications also play an increasingly vital role for individuals, communities and businesses. There were more than seven billion mobile cellular subscriptions

worldwide in 2015, almost as many as the Earth's population. Mobile broadband is the most dynamic market segment – its global penetration rate reached 47% in 2015, 12 times higher than the rate in 2007.<sup>64</sup> From the early mobile generation (1G) to the more recent fourth generation (4G), there has been rapid evolution in new services and better mobile broadband experiences.

### **Standards must keep up**

Fourth generation technology provides global wireless broadband access for mobile devices and serves as a platform on which to build the next generation of interactive mobile services, or 5G technology. Following the success of the International Mobile Telecommunications (IMT) 2000 3G systems, the ITU Radiocommunication Sector, which is responsible for defining the generations of global wireless technologies, launched a set of standards and requirements that networks must meet in order to be considered 4G, known as the IMT Advanced specification.<sup>65</sup> There is now a programme to develop 'IMT for 2020 and beyond'<sup>66</sup> reflecting that movement towards the next generation of mobile technology is well underway and standards will have to be updated.

## Medical industry

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The global health industry has experienced sensational growth in recent decades. Health tourism encompasses both medical tourism, based on western medicines, and wellness tourism, based on traditional therapies, such as Ayurveda. Top emerging destinations include Asia (India, Malaysia, Singapore, Thailand and the Republic of Korea), South Africa, Latin America (Brazil, Costa Rica, Mexico, Cuba) and the Middle East (especially the United Arab Emirates).

The sector is characterized by the presence of information asymmetries, with patients unlikely to be able to judge in advance the quality and safety of the treatment on offer. Information failures can be even more problematic when patients decide to be treated away from their home country, where language and legal frameworks may differ from their own country. Trust, in these cases, can be built through international accreditation.

### **Signalling credibility**

Given that reputation matters significantly in the medical industry, health-care facilities have sought international accreditation, particularly if they are pursuing business from international customers. While there are various

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accreditation institutions, the most well-known, and often highly coveted, is the Joint Commission International (JCI). This is an international affiliate agency of the United States-based Joint Commission (JC), which accredits hospitals in the United States.

JCI follows the same standards for accrediting hospitals outside the United States as it does for those at home. As a result, certification by JCI allows a hospital elsewhere in the world to signal to customers that its health services are of the same quality as those offered in the United States.

In Asia, some countries have been particularly quick to realize the importance of obtaining international certification. Together with JCI, the human resources management teams of health-care organizations train their employees on evidence-based quality and safety practices which, in turn, improve the reputation of the medical service staff and the hospital as a whole.<sup>67</sup>

In 2011, Thailand had 22 JCI accredited hospitals, India 19, Malaysia seven and the Philippines five. Today, Thailand has 53 JCI accredited hospitals, India 27, Malaysia 13 and the Philippines six. Figures on medical tourism reflect this. Thailand recorded \$4.31 billion in revenue from medical tourism in 2013, after averaging 15% increases a year in the previous decade. India is currently receiving nearly half a million medical tourists annually. The number of medical tourists in Malaysia increased by 32% in 2011–2013, and in the Philippines the number grew by 9% between 2012 and 2015.<sup>68</sup>

## Common threads, complex picture

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This section shows how the nature and purpose of standards and regulations related to primary activities differ substantially across sectors like food, cars, electric appliances, drugs, telecommunications, finance or tourism. They also differ substantially within sectors. In the textile industry, for instance, the application of the GINITEX textile care labelling system fulfils an entirely different purpose than the application of ILO labour standards.

Yet there are a number of common features.

Consumer protection regulation appears common to most economic activities, although their design and stringency differ. Strictness of regulations is likely to differ according to whether a product or service affects consumers' physical well-being (e.g. food additives, surgical intervention) or their economic well-being (e.g. financial products). Where consumers' physical well-being is at

stake, government regulation is frequent and often takes the form of mandatory requirements. Consumer protection regulation in agriculture and manufacturing often specifies product characteristics, while in the services sector it often targets supplier characteristics.

Sustainability standards also cover most economic activities. These are frequently non-governmental initiatives. Whether the focus is on social or environmental sustainability differs across sectors. Economic sustainability is not often targeted by sustainability standards.

Compatibility standards feature prominently in sectors where there are network activities, as would be expected. They are also found in sectors with extensive international outsourcing. The textile, electronics and machinery industries are examples.

Standards and regulations for primary activities are tailored to operational specificities and therefore specific to sectors, products or firms. As a consequence, industry specialists need to be involved in setting standards so as to meet objectives, such as consumer protection and environmental sustainability, without unduly hampering production processes. This raises questions regarding the role of the private sector in standard setting, regulatory, monitoring and certification bodies, as will be discussed later in this report.

## CHAPTER 4

# The impact on competitiveness

Investing in standards and regulations is often worth the effort, and can make a firm more competitive, despite the costs.

Entrepreneurs and economists tend to highlight the costs inherent in implementing standards or regulations, and in demonstrating compliance. A closer inspection, however, shows that there is much more at play.

When competitiveness is defined in relation to a firm's chosen business line, it becomes clear that standards and regulations affect basic business decisions. One can assess the relation between costs and successful performance in a business line using this definition of competitiveness:<sup>69</sup>

**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 environment, and achieving a sustainable return to the resources employed.**

The impact of standards and regulations on an individual firm ultimately depends on managerial decisions and their implementation. It is managerial actions that determine whether increased costs will be accompanied by increased opportunities, for instance, because compliance with a standard allows firms to move into niche markets or up the value chain. The next chapter looks in depth at the managerial decisions involved in this process.

This chapter, instead, focuses on how firms perceive standards and regulations, and on what econometric analysis has to say about the effect of standards and regulations on firm performance, especially for SMEs in international trade.

### A variety of costs

Costs can take different forms, as illustrated in Figure 13 for the case of technical regulations.

Acquiring information about relevant standards and regulations is an initial cost to managers, even if this is only an opportunity cost. Such opportunity costs can be significant for SME managers who are not surrounded by

FIGURE 13 Implementation entails different types of costs



Source: ITC.

a senior management team. In these cases, gathering information about standards or regulations is likely to use up time that would otherwise be dedicated to running the daily business.

Deciding to implement a standard or regulation is also time-consuming. It may involve gathering additional information to assess costs and benefits. Implementation is often costly, as it may engender new investments or more expensive production methods. Moreover, compliance has to be certified, which usually involves a third organization that needs to be paid.

For companies that export, costs may occur at the border or behind the border in the destination country. In the case of goods, those costs typically take the form of procedural costs and include paperwork to prove compliance occurring when the company interacts with a third party for compliance and certification.

The nature and size of costs mainly depend on the business line in question. Whereas one standard or regulation may only require a firm to adjust its marketing and sales, another may require a complete overhaul of the firm's operations. Costs are often fixed – they do not occur with every unit of production, but rather at specific moments in the process, such as the stage of investing in implementation or certifying a production process.

Both fixed and variable costs ultimately lead to an increase in the product price and a restrained access to foreign markets.<sup>70</sup> Price increases are likely to be even greater when there are several layers of regulations or standards applied at various production stages in an IVC.<sup>71</sup>

### Information costs matter

Little is known about the relative importance of these types of costs for companies. In a recent survey, when explicitly asked about trade costs, firms listed access to information about processes and regulations as the third most important bottleneck to trade. Both SMEs and large firms highlighted such costs more frequently than the cost of actually overcoming regulatory burdens (Figure 14).

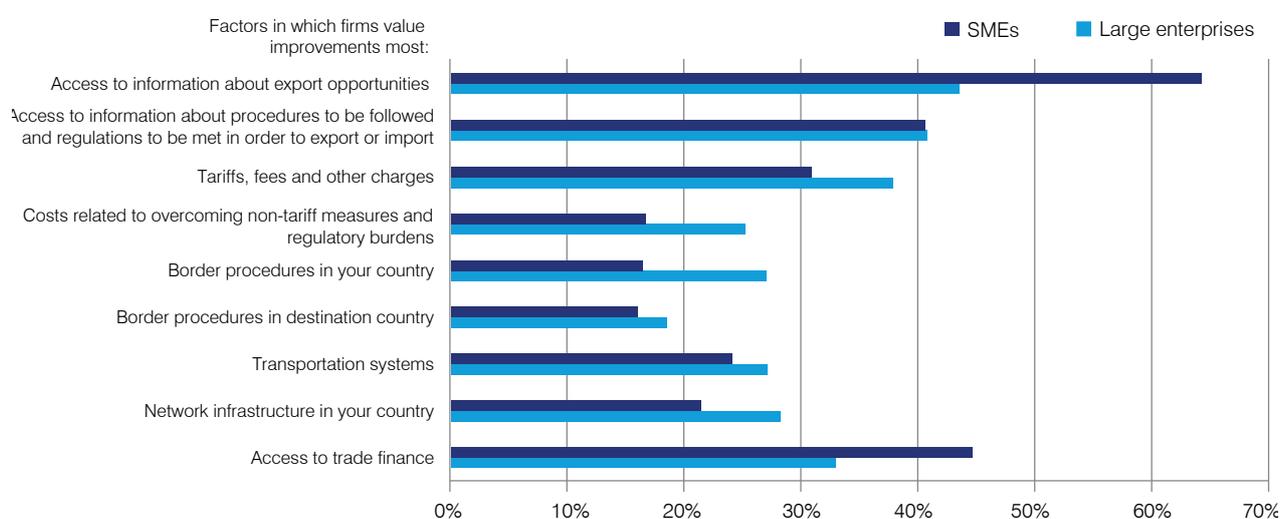
### Compliance and certification costs

Standards and regulations have the potential to increase fixed and marginal trade and/or production costs. To comply, companies often must invest in new technology, production processes or logistical processes. Costs also occur at the certification stage, when firms have to prove that they have implemented a standard or a regulation.

Exporters in developing countries are particularly concerned with SPS measures and TBT, and the related procedural obstacles applied by developed countries.<sup>72</sup> Exporters in environment-related manufacturing and services, for instance, cite constraints in both developed and developing countries due to environmental compliance regulations.<sup>73</sup> Most producers in developing countries consider certification costs as too high, as demonstrated in the case of SPS measures on the Egyptian potato and ground nut industry.<sup>74</sup>

Moreover, upgrading costs come on top of certification fees. The latter can reach more than €3,000 to €4,000 in initial payments and annual fees.<sup>75</sup> These high costs

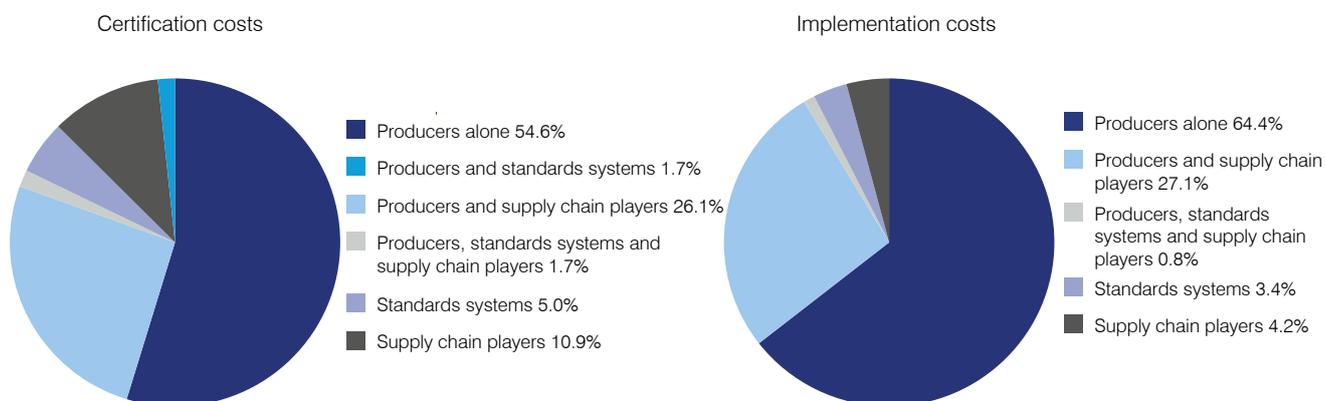
FIGURE 14 Costs where firms value improvements



**Note:** SMEs are defined as firms with fewer than 250 employees. The chart reflects responses of 418 SMEs and 103 large firms to the question: What are the three factors in which you would most value improvements?

**Source:** OECD and WTO (2015) based on ITC Monitoring Survey (2015).

FIGURE 15 Who pays for voluntary sustainability standards?



Source: ITC and EUI (2016), based on ITC Standards Map database.

particularly affect developing markets subject to volatile exchange rates, terms of trade and inflation.<sup>76</sup>

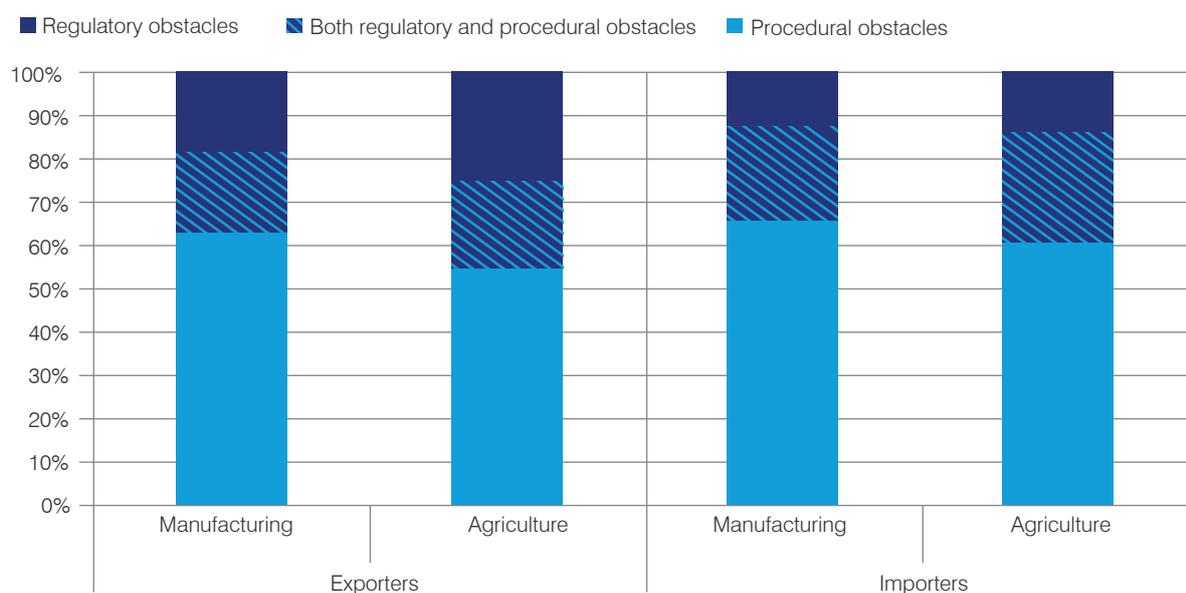
Producers tend to bear the bulk of such costs, though others contribute. For VSS, producers usually incur the costs of implementing standards and proving compliance (certification costs), according to information from the ITC Standards Map (Figure 15). For some VSS, costs are borne by many different players along the supply chain. Overall, however, producers alone bear certification costs in 55% of the cases and they bear implementation costs alone in 64% of the cases.

**Procedural obstacles matter**

Procedural obstacles relate to how standards or regulations are implemented, rather than their requirements per se. For example, a maximum residue level for pesticides is a requirement. The associated paper work, waiting period and interactions with officials are procedures. Procedural obstacles and costs occur at various stages and places (Figure 13) and with various bodies, such as ministries, customs authorities and laboratories.

Standards and regulations can be a barrier to trade either because of the requirements they impose or because of

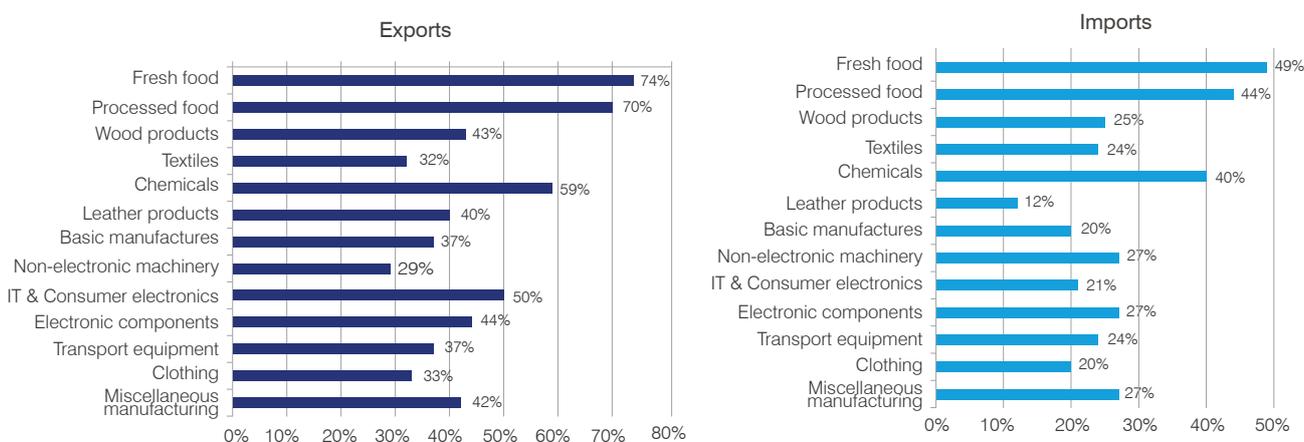
FIGURE 16 Procedural obstacles – an important part of the problem



Note: Survey company responses constitute 100%. All 100% are various problems. Problems partly stem from the strict requirements of the regulation and to a large extent from the presence of procedural obstacles.

Source: ITC calculations based on ITC Business Survey on NTMs (2016).

FIGURE 17 Burden of procedures depends on the sector



Source: ITC calculations based on ITC Business Survey on NTMs (2016).

the associated procedural obstacles. Procedural obstacles affect how standards and regulations are perceived by exporters or importers. They can influence strongly decisions on whether to export, as evidenced in a study on ASEAN countries.<sup>77</sup>

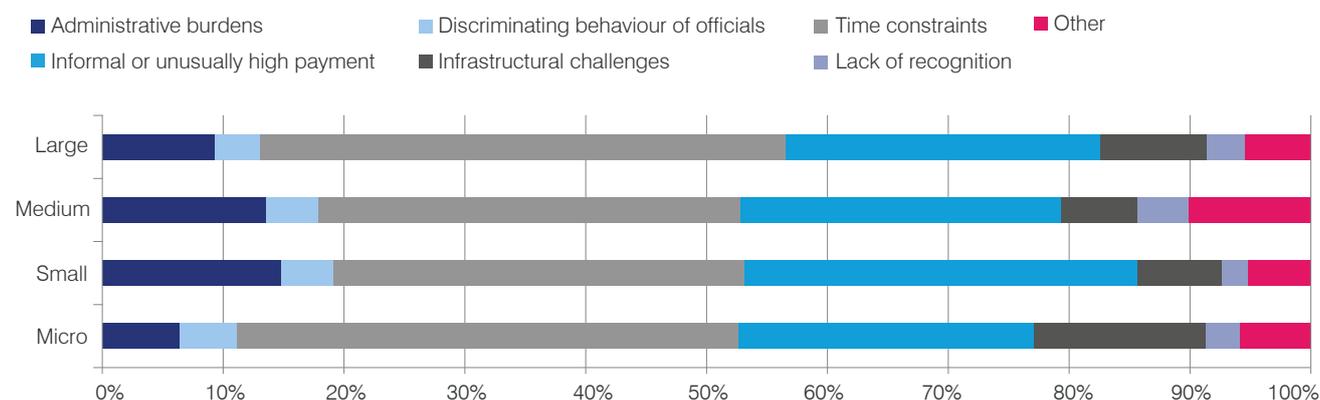
Data from the ITC Business Surveys on NTMs show the overwhelming importance of procedures associated with technical regulations, for both exporting and importing companies. Of problems reported by agricultural exporters, 70% make reference to procedural obstacles; for manufacturing exporters, the share of procedure-related problems is even higher, reaching 80% (Figure 16).<sup>78</sup>

Procedural obstacles associated with technical regulations pose burdens that vary by sector (Figure 17). The burden is high for exporters/importers of fresh and processed food, and of chemicals, as well as for IT and consumer electronics exporters.

Most procedural obstacles for technical regulations fall into the categories of 'time constraints' and 'informal or high payments'. This is the case regardless of firm size (Figure 18). For example, one interviewee from the ITC Business Surveys on NTMs reports: 'All exports of milk-based products [...] require a health certificate issued by the Ministry of Agriculture. There is always at least a five-day delay in getting the certificate due to inefficiencies in the system'.

On average, micro firms report a lower share of 'administrative burdens' than do firms of other sizes, and a higher share of 'infrastructural challenges'. The latter is probably due to insufficient testing facilities. Moreover, the lack of testing facilities means exporting companies have 'to cater for the accommodation and transportation of inspection officers' (interviewee from the ITC Business Surveys on NTMs), which can be a big obstacle for resource-constrained micro firms.

FIGURE 18 Procedural obstacles, by firm size



Source: ITC calculations based on ITC Business Survey on NTMs (2016).

## Firms perceive burden

Smaller and less productive firms find it harder to cover fixed costs to comply with standards and regulations. This is particularly a problem in developing countries, where firms tend to be smaller and less productive than in developed countries (Figure 19). In least developed countries (LDCs), there is a high concentration of very small firms with fewer than 10 employees.

In addition, as shown in the figure, the number of firms in LDCs falls as the number of employees increases. These results are broadly in line with development research showing that LDCs have a very high number of micro and small firms, while developed countries have a more even distribution of firms.<sup>79</sup>

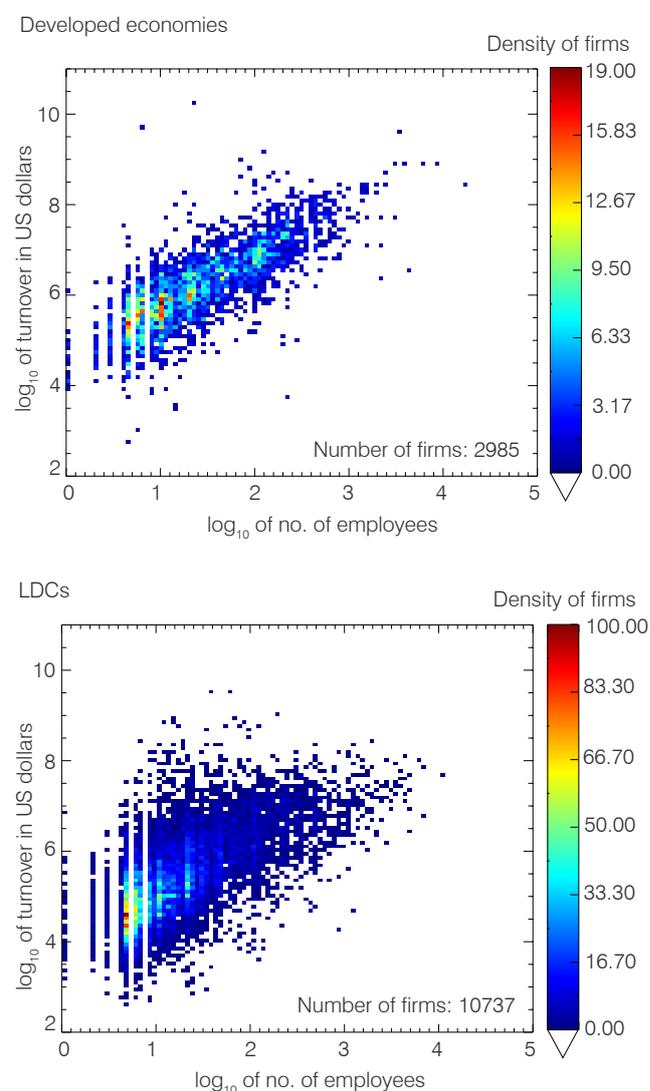
For developed countries, the relationship between the number of employees and turnover is much tighter. This means that for any given firm size, the revenue figures are spread over a much smaller range than that for developing countries or LDCs. Furthermore, in developed countries, firm turnovers are systematically higher than in developing countries and LDCs, implying higher revenue per employee. This trend holds even after adjusting the turnover figures for purchasing power.

Because of their smaller size and lower revenue per employee, firms in poorer countries would therefore be expected to consider standards and regulations more burdensome than their larger counterparts in developed countries. The same requirement represents a bigger obstacle to a small firm in a developing country, which is likely to have lower capacity to comply. It may also face a more challenging immediate business environment, because necessary testing facilities and logistics infrastructure are more likely to be lacking.

Evidence collected through ITC NTM Business Surveys confirms that firms located in poorer countries are more likely to complain about regulatory or procedural obstacles to trade than firms in richer countries (Figure 20). More exporting and importing firms report having difficulty with regulatory or procedural obstacles, where GDP per capita is lower. For example, exporting and importing firms from Malawi report, on average, a higher share of markets where they face burdensome regulatory or procedural obstacles to trade, compared to exporting and importing firms from Mauritius.

For SMEs in some developing economies, complying with technical requirements imposed abroad takes more effort because of a challenging institutional environment and associated barriers.<sup>80</sup> As one interviewee from the NTM

FIGURE 19 Small firms with low turnover predominate in LDCs



Source: ITC (2015). SME Competitiveness Outlook.

Business Surveys said, '[exporting] products need to be tested, but proper equipment is needed, for testing and facilities in our country are limited' and 'the Ministry of Health takes time to deliver health certificates [required to export] and the Ministry of Fisheries takes too long to issue the export authorization'.

### Technical regulations affect SMEs more

The effect of regulations and standards on exporting firms depends on size, productivity, and previous exporter status.<sup>81</sup> Small domestic companies without foreign funding are usually more affected by high costs of compliance with food safety regulation, which may exclude

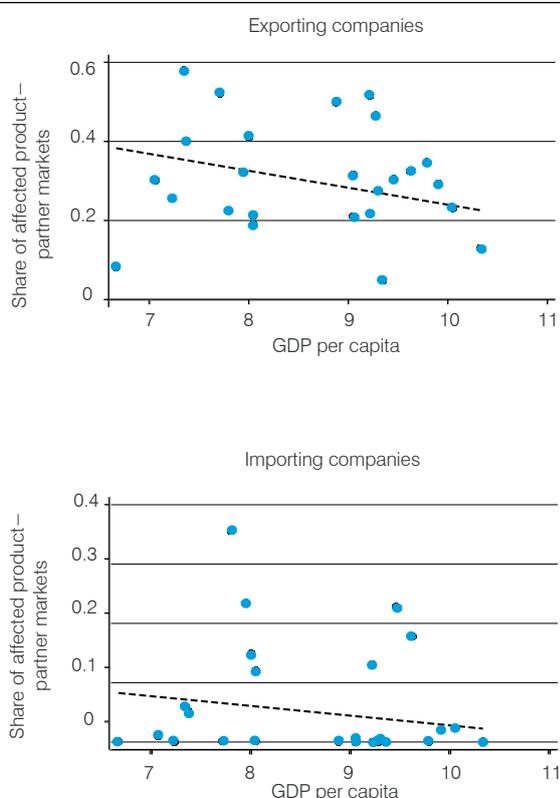
them from foreign market activities. Firms situated closest to the 'efficiency' frontier, instead, are more likely to be able to comply with NTMs and to benefit from it.<sup>82</sup> Those firms tend to be larger and more productive.

The introduction of legislation on environment standards in India illustrates this. The legislation encouraged investment in new production technologies and imports of higher-quality inputs and raw materials. Although average export earnings for Indian textile firms subsequently improved, there was a negative effect on small firms.<sup>83</sup>

Similar findings come from a study on the effect of TBT on export performance of top-50 Pakistani exporters,<sup>84</sup> which shows that TBT measures have a positive impact on the most productive firms. Firm-level evidence also confirms that stringent standards are more discouraging for smaller exporters than larger exporters in terms of their decision to enter or exit from exporting.<sup>85</sup>

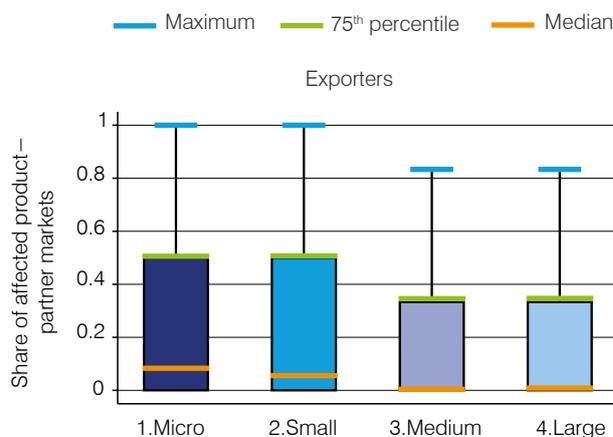
Company-level data from the ITC NTM Business Surveys confirm that technical regulations affect micro and small

**FIGURE 20** Firms from poorer countries find it harder to meet standards



**Note:** The 'share of product-partner markets' is used as a proxy for the likelihood of countries' firms (exporters and importers) to face regulatory or procedural burdens, averaged by exporting/importing country. The reported GDP per capita is defined in the natural logarithm.  
**Source:** ITC calculations based on ITC Business Survey on NTMs (2016) and World Development Indicators (2016).

**FIGURE 21** Small exporters are more affected by technical regulations



**Note:** The box plot shows the distribution of the share of affected markets, by quartiles. The smallest values are included in the first quartile, up to the 25th percentile, while the largest values are included in the upper quartile. In this particular plot, the fact that the 25th is situated at 0 means that for all firm sizes, one quarter of firms consider none of their markets to be negatively affected by technical regulations.

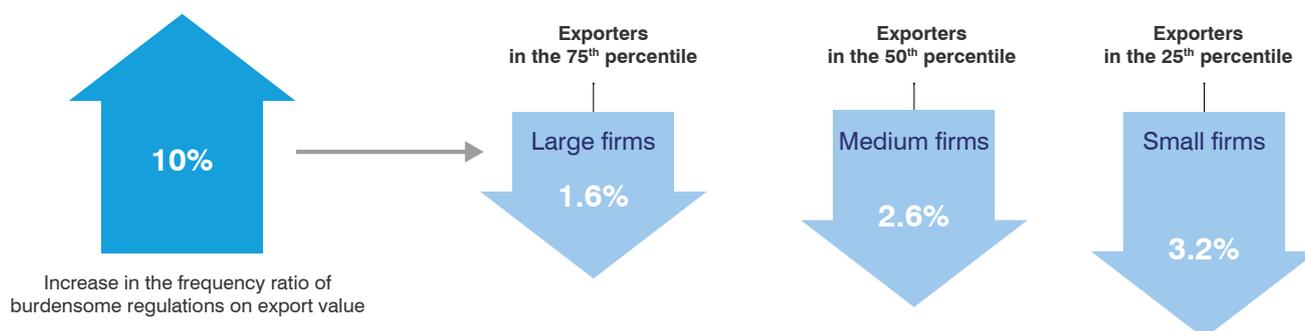
**Source:** ITC calculations based on ITC Business Survey on NTMs (2016).

firms more than larger firms. The 25% most affected micro and small firms report that 50% or more of their export markets are negatively affected by exposure to technical regulations, as reflected in the response of the 75th percentile firms in Figure 21. Among large firms, instead, the 25% most affected firms report that approximately 35%–80% of their markets are negatively affected by exposure to technical regulations.

An interviewed firm from the ITC NTM Business Surveys illustrates the problems small firms encounter: 'The partner country requires that companies exporting agricultural products be registered with the Food and Drug Authority before they can export. This registration is done online and is sometimes difficult because of the detail required, especially for a small company.'

Burdensome technical regulations can stymie exports values, particularly those of smaller firms, according to ITC preliminary econometric analysis based on the ITC NTM Business Surveys. The value of exports per firm (a proxy for the intensive margins), averaged across firms, declines as the frequency of encountering burdensome regulations rises, according to the research.<sup>86</sup> This frequency ratio is calculated within a sector-partner market, so that it can be related to sector-partner indicators from the World Bank Exporters Dynamics Dataset.<sup>87</sup> Overall, a 10% increase in the frequency ratio is associated with a 2% decrease in value of exports.

FIGURE 22 Effects of increases in the regulatory burden on firms' export values



Source: Rollo (2016) calculations based on ITC NTM Surveys and World Bank Exporter Dynamics Dataset.

Interestingly, the magnitude and the statistical significance of the decline is found to decrease as the size of the firm increases (Figure 22). A 10% increase in the frequency ratio of small, medium and large firms is associated, respectively, with a 3.2%, 2.6% and 1.6% decrease in the export value.<sup>88</sup> In other words, small exporters are found to be more negatively affected by technical regulations.<sup>89</sup>

### Meeting standards can raise prices

While complying with standards or regulations is likely to induce costs, it also gives access to new markets or market segments. For example, adopting private standards may prompt production upgrading<sup>90</sup> and hence increase sales in foreign markets.<sup>91</sup> Standards can, in fact, catalyse the modernization of production and supply systems, and consequently improve the competitive capacity of the complying producer. The upgrading of production is mainly due to the increase in productivity and quality, which in turn attracts customers and increases their incomes.

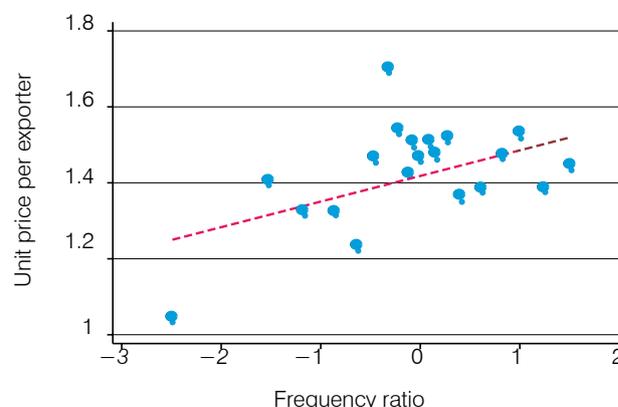
Investment prompted by standards to improve the health, safety and environmental aspects of a product, often linked to use of higher-quality materials, can bolster consumer perceptions and increase demand. It also can lead to technological upgrades and innovation, and prompt structural changes in production processes.

In both cases, the introduction of standards and regulations is likely to raise prices. Additionally, compliance with specific standards, especially private ones, can do more than improve the image of a company; it may decrease trade costs due to facilitated custom controls.<sup>92</sup>

In the agricultural sector, positive price effects have notably been identified in the case of specialty goods. One can differentiate specialty goods by quality, production practices, seeds and geographical locations of production, SPS measures and food safety requirements.<sup>93</sup> Certification of specialty goods can improve the market position of producers, particularly when they are able to meet sustainability requirements.

The finding that regulations are positively associated with higher prices is also confirmed in a cross-country analysis conducted by ITC. The more regulations are perceived as burdensome, the higher the export prices, according to preliminary empirical analysis by ITC with firm-level data, using the frequency ratio defined above (see also Figure 23) and the World Bank Exporters Dynamics Dataset. The frequency ratio is positively correlated with the average unit price in the same market, controlling for sector-fixed effects.<sup>94</sup>

FIGURE 23 Technical regulation compliance can increase export prices



Note: The relationship between the two variables is the result of a binned scatterplot, using sector-fixed effects. The reported variables are defined in the natural logarithm.

Source: Rollo (2016) calculations based on ITC NTM Surveys and World Bank Exporter Dynamics Dataset.

## Impact on firm performance and market structure

### *New entrants face bigger burden*

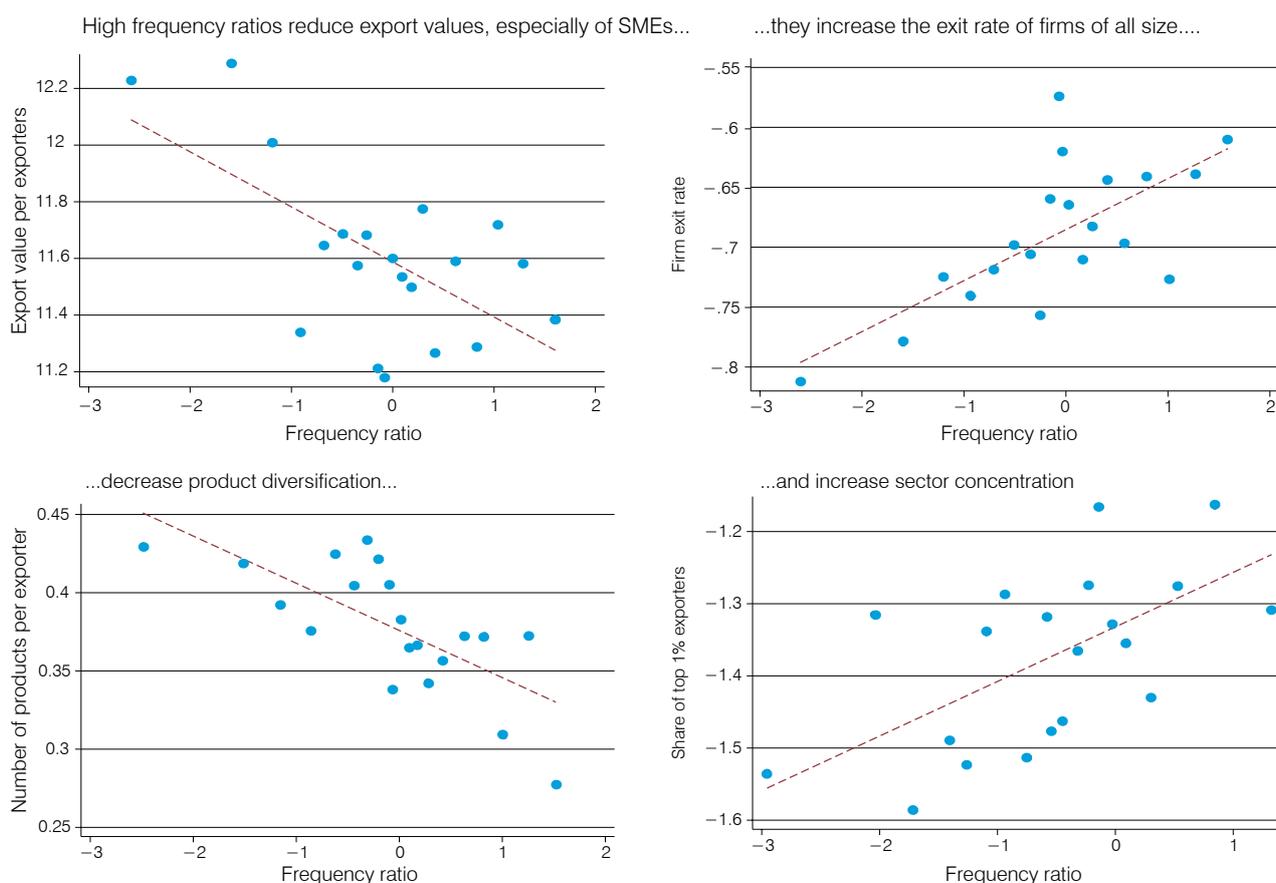
New entrants in a market (firms that did not export the previous year) drive the higher prices linked to more burdensome technical regulations.<sup>95</sup> New entrants cannot internalize the cost of compliance with technical regulations, probably because meeting the regulations entails an increase in fixed production costs, such as new technology and production systems.

That the frequency ratio of technical regulations does not affect the unit price of existing exporters indicates that these firms have already paid the costs associated with compliance. Consequently, technical regulations no longer have an impact on their prices.

Qualitative information from the ITC Business Surveys on NTMs supports these findings. In comments about specific private standards, one interviewee said: 'Complying with the standards is not difficult and causes only small additional costs for labour, and slightly weaker yields due to lower fertilizer use. The accreditation procedure, however, requires that auditors need to be invited from abroad at the full expense of our company. This causes high fixed costs, especially for new entrants in private standards.'

Costs associated with technical regulations affect the capacity of firms to compete (Figure 24). A higher frequency of technical regulations is associated with a decline in the average value of firms' exports (within the same sector-partner market, controlling for sector-fixed effects).

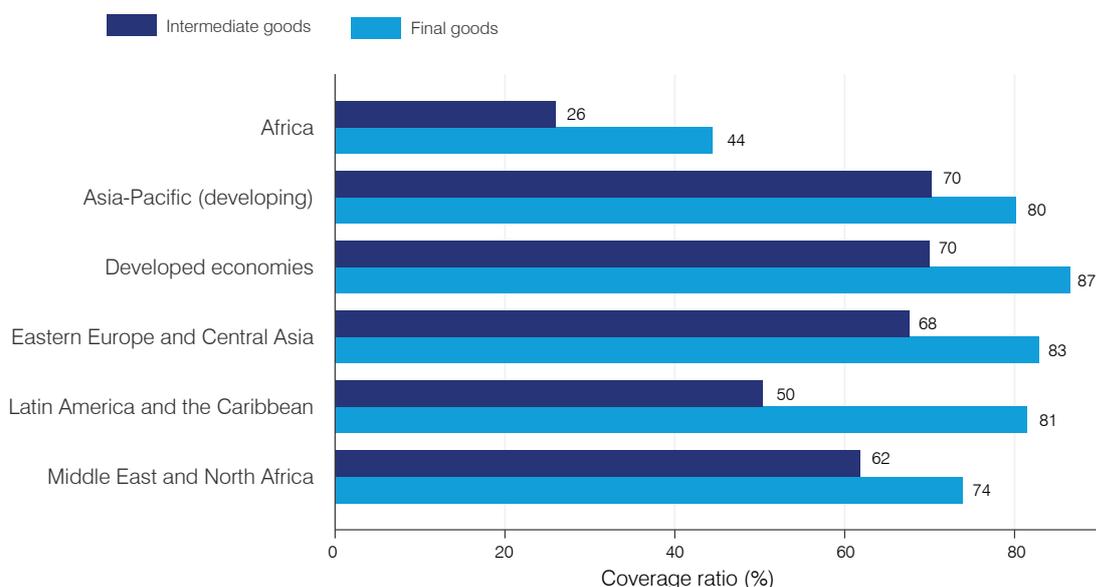
**FIGURE 24** Regulations favour productive firms, increase sector concentration



**Note:** The relationship between the two variables is the result of a binned scatterplot, using sector-fixed effects. The reported variables are defined in the natural logarithm.

**Source:** Rollo (2016) calculations based on ITC NTM Surveys and World Bank Exporter Dynamics Dataset.

FIGURE 25 Share of trade subject to technical regulation, intermediate vs final goods



**Note:** The length of the bars indicates the share of trade subject to regulation.

**Source:** Franssen and Solleder (2016), based on the multi-agency regulatory database on NTMs accessed through Market Access Map.

There does not appear to be a link between frequency of regulations and the rate of entry of exporters into a market. However, there is a link to departure from markets – a higher frequency rate is associated with a higher exit rate.

Greater frequency of burdensome regulations also is linked to less product diversification. In fact, procedures related to conformity assessment decrease both product and geographic diversification.<sup>96</sup> This is more of the case when requirements differ in each country, and harmonization is not under way.

Lack of harmonization can be costly, as an interviewee notes from the ITC Business Surveys on NTMs: 'Requirements when testing for disease in scallops are not harmonized, making compliance with different provisions difficult for exporters.'

Interestingly, the frequency ratio is also positively and significantly correlated with the market share of the top 1% exporters (a proxy for market power), and negatively and significantly correlated with the number of exporters per product (a proxy for the degree of competition).

### *Only the fittest survive*

The findings in Figure 24 indicate that technical regulation costs may discourage the least performing firms and push them out of the market, while strengthening the most competitive firms. This may contribute to an increase in concentration and a consequent decrease of domestic competition in the sector.

Other ITC research shows that firms' survival rate after two or three years is higher, the higher the frequency ratio of regulations.<sup>97</sup> In other words, in markets with a stronger regulation presence, the firms surviving in their first year of existence are more likely to also survive in their second and third year. This could indicate that once the fixed costs of compliance have been paid and the firm has managed to survive, the increasing demand brought by complying with the regulation prevails over the costs.

This is also in line with a study on agricultural and food trade flows, which were positively affected by SPS measures, conditional on market entry.<sup>98</sup> The study found that SPS measures related to a product's characteristics increased bilateral trade flows, conditional on meeting the requirements. However, SPS measures related to conformity assessment hampered market entry.

### Non-tariff measures on imports affect firm performance

Value chains include both imports and exports, with participants importing intermediate inputs and exporting produced output.<sup>99</sup> Hence, technical regulations on imported intermediate goods potentially influence both imports of intermediates and the subsequent exports of products made with these intermediates.<sup>100</sup>

The data shown in Figure 25 highlight the importance of regulations for intermediate imports.<sup>101</sup> The coverage ratio or share of trade subject to at least one technical

regulation for intermediate imports is slightly lower than for imports of final goods, and ranges from 26% in Africa to 70% in the developed economies. Prevalence scores, which are the average number of requirements per product, exhibit similar features. (See country profiles for country-specific coverage ratios and prevalence scores.)

The effect of regulations may differ considerably depending on whether the firm is engaged in importing, exporting or both. Evidence is scarce on the impact of technical regulations on importing firms in published empirical research, especially for developing countries. The research that does exist reports neutral or positive impact at the aggregate level. For example, NTMs regulating Tunisian imports seem to be positively linked with Tunisian import values.<sup>102</sup> At the firm level, empirical evidence shows that harmonization of NTMs with the EU has raised profits and labour productivity of Moroccan firms.<sup>103</sup>

Empirical work on Tunisia commissioned by ITC provides additional insights.<sup>104</sup> The results show that firms with a higher NTM coverage ratio are more productive and profitable. The findings are based on regressions combining Tunisian firm-level data and the International NTM database<sup>105</sup> with the NTM coverage ratio defined as the percentage of imports of a given firm that are subject to one or more regulation.

The positive link between NTM coverage and firms' productivity and profitability grows with firm size (Figure 26). This indicates that larger firms have a greater ability to benefit from technology transfer induced by regulations: they have better absorptive capacities. The findings also highlight that lack of capital and technical abilities impede small firms from fully taking advantage of regulations.

## Role of preferential trade agreements

Preferential trade agreements (PTAs) increasingly refer to and include standards and regulations in their texts (Figure 27), further confirming the importance of such measures.

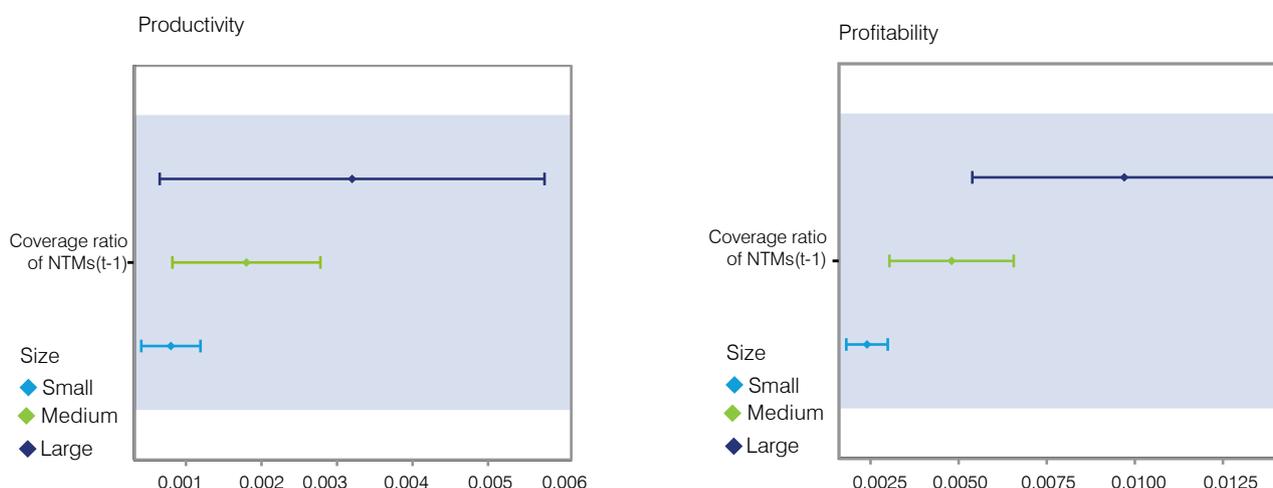
However, membership in trade agreements does not insulate firms from trade barriers associated with standards and regulations. ITC Business Surveys on NTMs show that 53% of product-partner markets where exporting firms report a technical regulation obstacle are in countries which share trade agreements with the surveyed country.

Figure 28 focuses on differences in the regulatory environment of developed and developing countries and shows the share of burdensome cases due to regulations or procedures occurring with trade partners within and outside OECD. Some countries experience most burdensome technical standards and regulations when exporting to OECD countries, such as Jamaica, Senegal and Morocco, while other countries, such as Trinidad and Tobago and the United Republic of Tanzania, face more issues when exporting outside of OECD countries.

There is no consistent link with the importance of the partner in terms of share of total exports, which indicates that technical regulations are not consistently associated with a lower/higher share in exports.

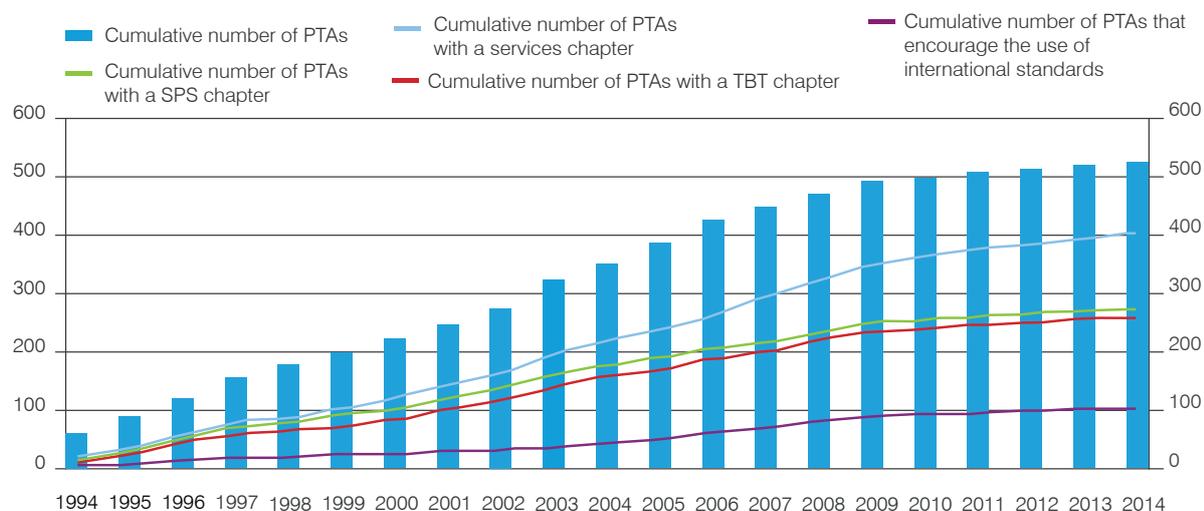
For example, in 2014 Rwanda sold 80% of its exports (in terms of value) to partners outside OECD, where its exporting firms face burdensome regulations or procedures in only 30% of markets they serve. On the other hand, the United Republic of Tanzania sold approximately 70% of its exports outside of OECD, but its exporters also report that the majority of obstacles are located in countries outside of

**FIGURE 26** Regulations positively affect productivity and profitability of Tunisian importing firms



**Source:** Baghdadi et al. (2016), based on calculations from Tunisian firm-level data and the multi-agency regulatory database on NTMs accessed through Market Access Map.

FIGURE 27 Growing numbers of preferential trade agreements with standard and regulation provisions



Source: ITC calculations based on Design of Trade Agreements Database.

OECD. The results may be driven by the composition of the export basket of each surveyed country because regulations are very sector specific.

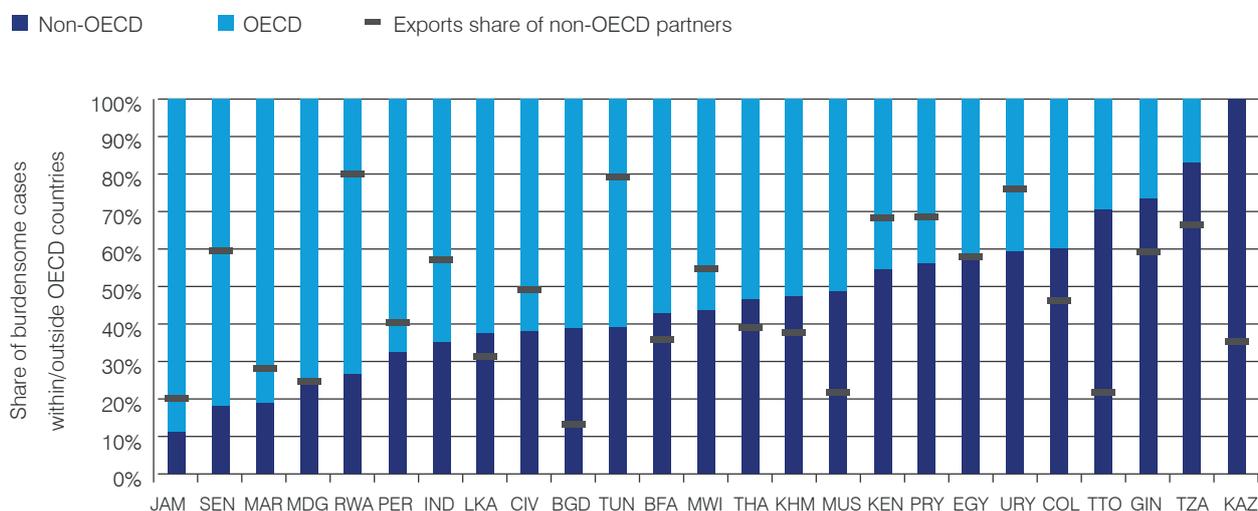
### Procedural obstacles: The impact on women

Female-owned enterprises tend to differ from male-owned enterprises when it comes to trade. Fewer women export and import, and only one-in-five exporting firms is led by a female entrepreneur. Women and men own and manage companies in different export sectors.<sup>106</sup> Little is known about whether any of these differences is related to standards or regulations.

The difference between the productivity of exporting and non-exporting female-owned firms is smaller than the difference between exporting and non-exporting male-owned firms. This is especially true for large firms, which have higher absorptive capacities and are able to learn more by exporting.

Something impedes female-owned firms from fully implementing these lessons. This results in a narrower gap and a smaller productivity premium from exports between exporting and non-exporting female-owned firms. This interpretation is in line with other literature that finds that exporting cost in the home country (a proxy for NTMs) is particularly burdensome to female-owned firms, which require an even larger export productivity premium to find it profitable to export.<sup>107</sup>

FIGURE 28 Share of problems encountered in partner regions



Source: ITC calculations based on ITC Business Survey on NTMs (2016) and Trade Map (2016).

Both findings contribute to a rather sparse literature on the relation between NTMs and gender discrimination due to lack of data.

### ***Regulations do not necessarily discriminate***

While ITC Business Surveys on NTMs provide information about the gender of the firm owner or manager, the sampling methodology in selecting firms for the surveys does not use gender to stratify the sample. As a consequence, even if it is possible to compare firms' perceptions about regulatory and procedural trade obstacles by the owner's or manager's gender, interpreting differences requires assuming that the sample is representative of the gender breakdown for all firms.

With this caveat in mind, Figure 29 shows the share of importing and exporting firms reporting an NTM among firms that were interviewed at the phone screen stage. The share of affected firms varies considerably among countries, independently of gender and firm size. In line with expectations, the share of firms facing burdensome NTMs is inversely related with firm size because small firms usually lack the necessary resources for compliance with regulations. The share of affectedness is not higher for female-owned firms, a first indication that regulations do not necessarily discriminate gender.

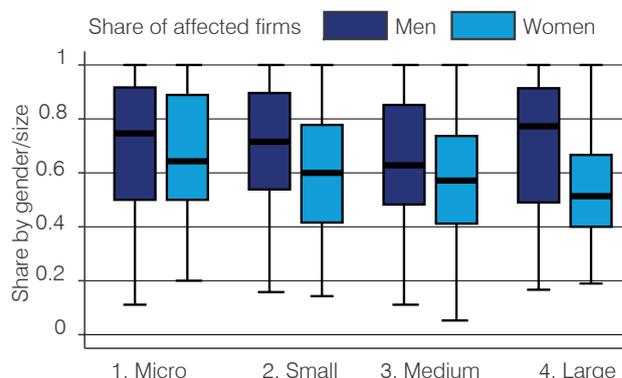
### ***Procedural obstacles may discriminate***

Discrimination may arise when trying to comply with a standard or regulation, a step that often requires personal interaction of firm managers and owners with national officials. When exporting is subject to a licence, for example, a female applicant can face discrimination in countries where cultural barriers are gender biased. This can take the form of demand for a bribe or a delay in processing the application.

ITC Business Surveys on NTMs confirm these concerns. Figure 30 focuses solely on cases where firms report the NTM to be due exclusively to the procedural obstacle associated with the regulation. The share of cases due to procedural obstacles occurring in the home country is higher than the share of cases occurring in the partner country. However, in both cases, the median value is higher for female-owned exporting firms.

A closer look at the procedural obstacles associated with regulations from the ITC Business Surveys on NTM further confirms some discrimination (Figure 31). The share of cases associated with 'information and transparency issues' is higher among female-owned firms than among male-owned firms. Significantly, female-owned micro firms (associated with lower absorptive capacities and

**FIGURE 29** Share of firms affected by NTMs, by gender



**Note:** The box plot shows the distribution of the affected firms' share in terms of quartiles.

**Source:** ITC calculations based on ITC Business Survey on NTMs (2016).

considered more vulnerable) report a higher share of procedural obstacles due to 'information and transparency issues', 'informal or high payments' and 'discriminatory behaviour' than male-owned micro firms.

Even though the differences in the reported shares are small, they provide a preliminary indication that firms owned or managed by women are more likely to face specific procedural obstacles. Micro firms are often one-person enterprises. It is plausible that the owner or manager of the firm is also responsible for the administrative process needed to comply with regulations and consequently more likely to interact with officials.

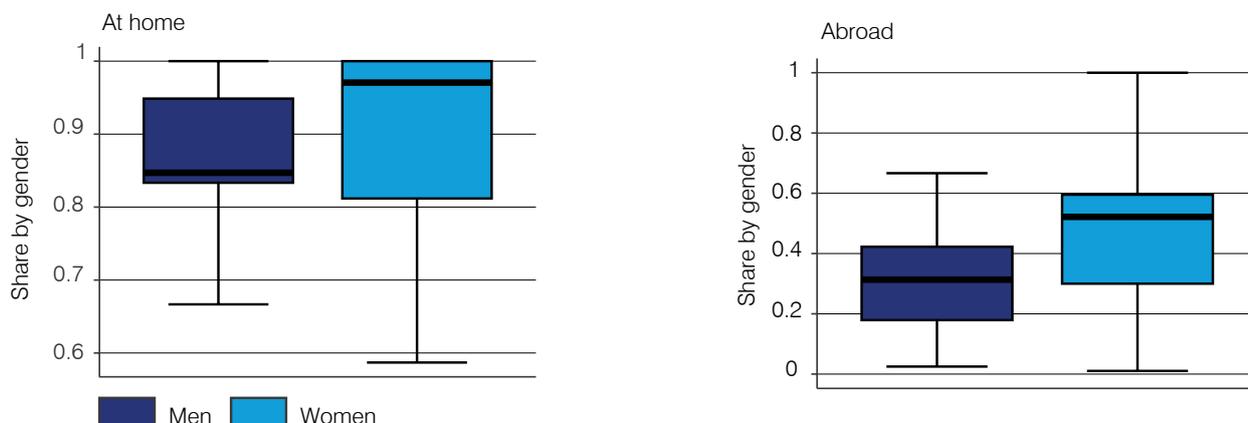
Female-owned exporting enterprises experience better sales and profitability when trading with far-off destinations than when trading just across the border of their home country. This is because women often face specific barriers related to cross-border activities, where they have a personal interaction with custom officials or clients.<sup>108</sup> Electronic procedures and single windows, as promoted under the WTO Trade Facilitation Agreement, can help to reduce the number of face-to-face interactions and thus the potential bias against female exporters.

### ***Investing in standards can pay off***

Certification requires a certain level of investment to upgrade production and alter management practices, bringing additional costs and affecting profit margins.<sup>109</sup>

Technical regulations in destination countries mean that would-be exporters have to consciously decide whether to export, given that access depends on meeting such government-imposed regulations.

FIGURE 30 Share of procedural obstacles at home and abroad, by gender



**Note:** The box plot shows the distribution of the share of burdensome procedural obstacles in terms of quartiles at home and by the partner country. A transaction is a firm–product–partner combination.  
**Source:** ITC calculations based on ITC Business Survey on NTMs (2016).

### Reduced diversification

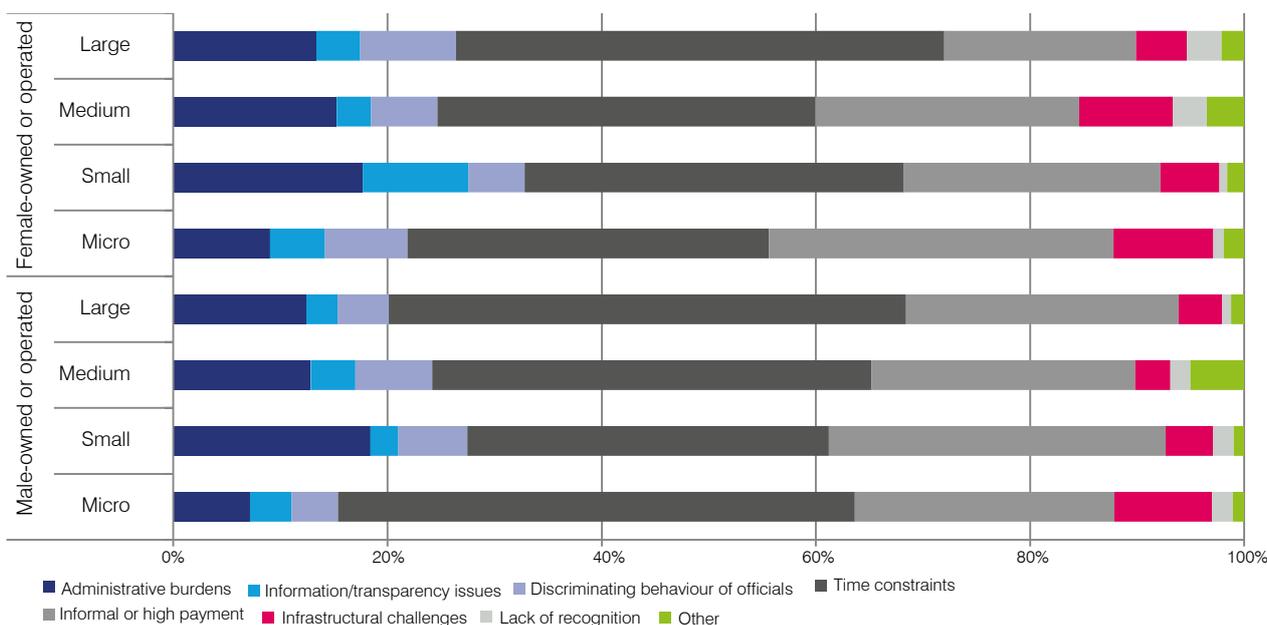
Procedures related to conformity assessment – testing, certification, labelling, inspections and approval – decrease the likelihood of entry in the protected markets<sup>110</sup> and lead to a decline in product and geographic diversification.<sup>111</sup> This is because compliance increases fixed and variable costs, and alters trade patterns and competition.<sup>112</sup> Testing requirements may also add to the associated costs.

Differences in standards and regulations across countries cause diseconomies of scale for exporting firms and affect decisions about whether to export to new markets, as

there is a fixed cost of entry into each market.<sup>113</sup> Consequently, country-specific standards and regulations increase specialization and market segmentation and discourage diversification, because firms do not find it profitable to diversify into a large number of markets.

Exporting firms also take into account differences in the restrictiveness of a standard or regulation between exporting and importing countries. More restrictive standards in destination countries lower export values and quantities of exporting firms, as well as their probability of exporting and entering those markets. They also lead to higher exit rates from those markets.<sup>114</sup>

FIGURE 31 Share of NTM cases affected by procedural obstacles, by type



**Source:** ITC calculations based on ITC Business Survey on NTMs (2016).

### Regulations can seek to protect against imports

When regulations are designed to protect against imports, such problems are aggravated. A recent study in the services sector looks into the impact of regulatory policy measures, with a focus on whether these were intentionally designed to protect domestic industry.<sup>115</sup> It shows that regulations significantly affect competition, at both industry and firm level, across countries. Domestic service providers favoured by import-protective policy measures gain market power, translating into higher domestic prices for consumers.

Meanwhile, tighter regulations have a negative impact on the profitability of transnational and exporting service providers, the study finds. Protective regulations related to competition and labour markets affect profit margins more than regulations on transparency, administrative requirements, foreign ownership rules, market access restrictions, and other discriminatory measures. These include the difference between national and international regulations.

### Positive impact – quality standards and labelling

In contrast, quality standards and labelling requirements appear linked to improvements in firms' intensive and extensive margins, according to a study based on a World Bank survey. The survey covered firms' compliance with TBT and firm participation in export markets.<sup>116</sup> This suggests that quality standards and labelling requirements provide a return to firms – in higher prices or sales – that can exceed the costs of meeting the additional requirements.

There were also positive effects when firms in Viet Nam complied with national labour legislation. Vietnamese garment factories with higher labour standard compliance also have greater labour productivity, which translates into better wages for workers and increased profits for firms.<sup>117</sup>

### Integrating into international value chains helps

Similar benefits were found for firms integrated in IVCs. For example, Vietnamese firms in supply chains perceive adoption of environmental standards as less problematic, compared with independent exporting firms.<sup>118</sup>

Multinational firms and firms in IVCs have better export performance when meeting regulations. They are better able to absorb the additional cost involved, which rises less steeply.<sup>119</sup>

Exporters investing in upgrading technological processes – as required by certain standards – experience higher export sales than non-complying firms. This positive impact is even greater for those entering the market later, possibly indicating that complying with standards boosts credibility, as in the case of Pakistani firms in the textile, leather, agri-food and fisheries sectors.<sup>120</sup>

One reason why compliance with standards is more likely to be beneficial for suppliers within an IVC than for those not integrated in one is because the former have privileged access to the value chain and thus to buyers. Compensation for investing in compliance is therefore tangible.

When it comes to meeting standards, there are other potential gains, according to data analysis from the ITC Standards Map. When standards are set by for-profit organizations (firms), producers and other stakeholders

FIGURE 32 The governance of standards affects supplier costs

Probability of shared costs among suppliers, standards and supply chain players

If standard setters ...	Shared implementation costs	Shared certification costs
involve buyers in standards management	 +23%	 +24%
are full ISEAL Alliance members	 +52%	 +37%
have headquarters only in the OECD countries	 +23%	 +21%
are businesses, rather than non-profit organizations	 +36%	 +41%

**Note:** Percentages reflect the change in probability of shared costs when a standard's design is changed (based on a binomial profit regression model).

**Source:** ITC and EUI (2016), based on data from ITC Standards Map.

(such as buyers in the supply chain) are more likely to share implementation and certification costs.

In other words, the costs associated with VSS may be reduced for IVC participants. The involvement of buyers in the board or management of the standards is also an important predictor of shared costs (Figure 32).

### ***Not all firms can enter international value chains***

Not all firms have access to IVCs. Only the most productive players can successfully integrate into such chains, with lead firms having an incentive to look for the most suitable suppliers before entering into a commercial relationship with them.

Moreover, not all firms have the capacity to meet standards. Evidence from lychee producers in Madagascar reveals that certified firms tend to be bigger, with more sales, independent transportation and negotiation skills. This is the case for lychee producers in Madagascar complying with GlobalGap certification, which mainly focuses on post-harvesting practices oriented for exporters, and not pre-farm technology improvements.<sup>121</sup>

In the case of small farmers in horticulture in Thailand, GlobalGap certification is more likely to happen where farmers have higher level of education, greater experience, possess better technology, information and extension services, and have female family labour.<sup>122</sup> The factors that most influence transition to GlobalGAP certification include farming training, assets and land resources. Therefore, credits for the acquisition of assets prove to be crucial.

New ITC–EUI research, based on 180 VSS worldwide, corroborates these case study findings. Strong positive

connections exist between the number of standards operating in a country and its GDP, institutional quality and logistics performance. A country's SME competitiveness – as measured by ITC – is also a strong predictor of standards' availability.<sup>123</sup>

Among factors explaining competitiveness, firm-level capability is the variable most strongly associated with the number of standards operating in a country. An increase of one unit in the ITC firm-level capabilities score is associated with 0.4 unit increase in the number of available standards (Figure 33).

Firms need sufficient capacity before they meet standards. This may explain the scarce evidence that certification alone has positive, sustainable effects on household incomes. Instead, higher incomes are often associated with participation in cooperatives and the ability to integrate in supply chain networks.

Fairtrade certification is positively linked to increase in household living standards and poverty reduction, while no significant effect is found for Organic and UTZ certification.<sup>124</sup> An interviewee in ITC Business Surveys on NTMs confirms that Fairtrade and Rainforest Alliance are 'an asset which slightly improves profits' and a 'benefit for our employees'.

In addition, the GlobalGap certification seems to have promoted premium market access for smallholders producing French beans in Kenya.<sup>125</sup> A modest long-run income effect of certification is reinforced by the positive impact of certification on non-certified producers, who tend to imitate neighbour practices.<sup>126</sup>

**FIGURE 33** Standards availability and competitiveness go hand-in-hand



**Note:** Coefficients are based on a linear model explaining standard availability controlling for GDP and income level (only coefficients significant at 10% level are reported).

**Source:** Fiorini et al. (2016), based on ITC Standards Map database.

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## Benefits: Not immediate, not for all

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Increasingly, suppliers are expected to meet standards and regulations imposed by governments, NGOs or lead firms in supply chains. This has complex effects on suppliers, as well as for the sectors and countries in which they operate.

Only the fittest survive. This is the message that emerges from the literature and from new evidence in this chapter. The most competitive firms will be able to invest in standards or comply with regulations, and will see their chances of survival increase and their exports expand. Others run the risk of exiting the market, even after making costly investments; or will find it wiser to not even target markets where new standards or regulations are required.

For the home country, this implies that sector concentration is likely to increase and product diversification is likely to decrease, to the extent that domestic producers are exposed to standards or regulations abroad.

Smaller firms are less likely to take advantage of standards and regulations than medium-sized or large firms.

Given the predominance of small firms in developing countries and the overall lower productivity of SMEs in developing countries – when compared to developed countries – poorer economies find it harder to take advantage of standards and regulations.

Firms that are part of IVCs are more likely to benefit from standards, because integration in the IVC gives privileged access to buyers. In addition – as shown by new evidence in this report – suppliers are less likely to bear the full burden of implementation and certification costs of standards if they are part of an IVC, specifically if standard setters are businesses, or involve buyers in standards management.

Procedural obstacles have often been neglected in the policy debate around standards and regulations, but they are highly relevant. Female-owned businesses are those most likely to benefit from lower procedural obstacles, as highlighted by new evidence in this chapter.

## CHAPTER 5

# The manager's perspective

Management decisions are crucial for export success. Better managed firms are not only more likely to be exporters, they also produce higher quality products and services, generate greater revenues and export a wider range of products and services to more destinations than poorly managed firms.<sup>127</sup>

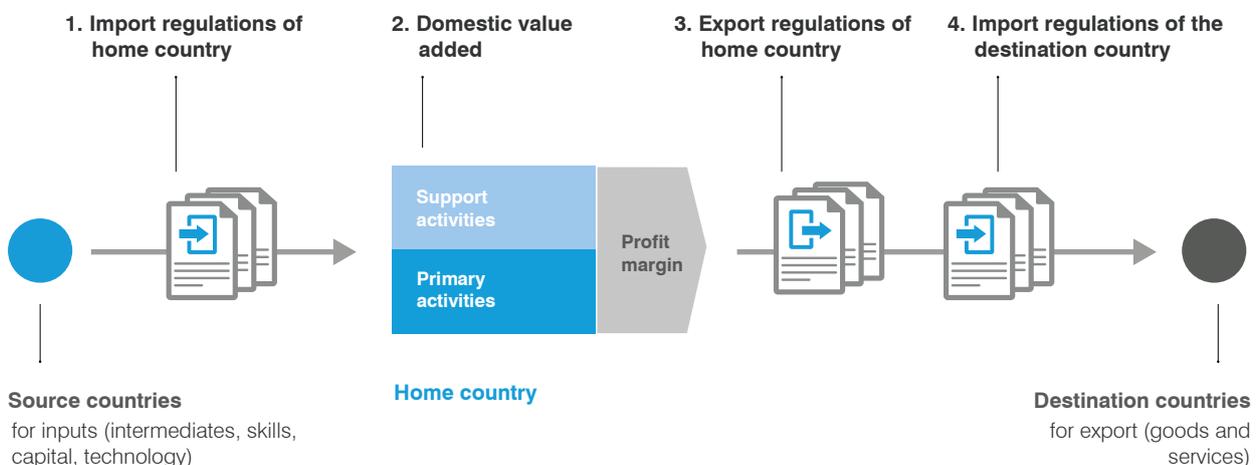
Navigating the complex world of regulations and standards is one of the challenges managers meet. For those running a firm that exports and/or imports, this challenge is more complex.

Business managers can take practical steps to make standards and regulations work for the firm, instead of against it. This chapter steers a firm through what is often known as regulatory turbulence – the combined effect firms face due to regulatory distance and regulatory

fluctuation. Regulatory distance captures the stringency of standards and regulations in the country in which the firm operates. Regulatory fluctuation indicates how these change over time.<sup>128</sup>

Compliance with standards and regulations is an integral part of production, provision, import and export of goods and services. Figure 34 describes this process. From the point of view of an exporting company, standards and regulations affect every stage of goods production and services provision, from importing inputs to delivering the final product or service to the consumer. Navigating this complex sea of requirements efficiently is key to the competitiveness of any company because standards and regulations are so pervasive (see the Nigerian case study on shea butter).

FIGURE 34 Regulations from the exporter's perspective



Source: ITC.



## CASE STUDY

# Improved quality leads to exports for Nigerian shea butter

A Nigerian shea butter cooperative has sold some 200 metric tons of its product to major cosmetics companies in Nigeria and the United States. The company has secured orders for a further 500 metric tons, after implementing a quality improvement programme through the Nigerian Export Promotion Council (NEPC) with ITC assistance.

The sales by the Ifedawapo Sheabutter Cooperative, based in Saki in Nigeria's Oyo state, were enabled by its working relationship with Shea Origin Nigeria Limited, as part of the agreement signed under the project.

'Considerable progress has been made in enabling rural communities to increase their economic contributions and improve their standard of living,' said Mobola Sagoe, CEO of Shea Origin Nigeria Limited. 'Through the various skills, knowledge transfer and capacity-building initiatives, Saki, a small town in the southwestern part of Nigeria, is set to appear on the global shea map,' she said.

Extracted from the nuts of the African shea tree, shea butter has been used for cosmetic purposes for thousands of years. Today, it is widely used in the global cosmetics industry to make skin moisturizers and hair-care products. It is also used in confectionery, mainly as a substitute for cocoa butter in chocolates.

To meet the demands of international buyers, however, shea butter needs to conform to stringent purity and consumer safety standards.

### ***Project combined equipment, training and investment***

Under the project, the lead funder Standards and Trade Development Facility financed the purchase of modern equipment for extracting butter from shea nuts. It also provided support for analysis and capacity-building on improving product quality and safety. The community in Saki gave access to land, the local government provided some infrastructure, and NEPC as the implementing agency for the project contributed the shelter for processing equipment. ITC backed up NEPC with expertise in safety and quality improvement as well as project management.

NEPC realized that the local cooperative that owned the facility lacked the capital, technical experience and know-how to manage it sustainably. To fill this gap, it brought in domestic investors from the shea butter sector with proven track records of working with rural producers. Producers were educated in safety management processes to minimize fungus and aflatoxin levels, and in the importance of complying with sanitary and phytosanitary (SPS) measures.



### *Project delivers improved quality*

Thanks to the programme, the 120 small-scale shea nut buyers and processors belonging to the Ifedawapo Sheabutter Cooperative had their shea butter samples certified by Nigeria's regulatory body, the National Agency for Food and Drug Administration and Control, as well as by internationally accredited laboratories in Ghana operated by SGS, the Swiss-based certification services company.

'Another 130 shea nut processors, mostly women, are looking to join the Ifedawapo Sheabutter Cooperative to meet the SPS measures required to exporting to the United States,' said Afolabi Bello, Assistant Chief Trade Promotion Officer at NEPC and the project's Secretary. A second shea butter production facility set up along similar lines in Babagi in Niger State became operational and is managed by a women's cooperative, while two more facilities are expected to become operational in 2016.

'The project has been of significant value to us,' said Olusegun Awolowo, Executive Director and CEO of NEPC. 'Until now, Nigeria has been unable to convert its comparative advantage as the world's largest shea producer into a competitive edge in global marketing, largely due to quality restraints.'

Awolowo adds: 'Thanks to the successful implementation of the project resulting in improved adherence and compliance to SPS measures, we are poised to become the global leader in shea exports.'

**Source:** ITC (2015), Connecting Markets.

## What my company needs to know

Although the complexity and pervasiveness of standards and regulations initially appear to be a challenge to export managers, they also provide some certainty. Recent business literature suggests that two forces drive export decision-making: planning and improvising.<sup>129</sup>

Firms and their managers need to be able to improvise and react when the business environment changes, for instance through demand fluctuations or unexpected new competitors. Standards and regulations tend to change more slowly and allow for long-term planning.

Standards and regulations offer managers a relatively set structure that allows for planning and optimizes the resources allocated to competitive improvisation.

### **Compliance priorities: Regulations vs standards**

Factors in the decision-making process are not necessarily the same in the cases of regulations and standards. The government imposes regulations, which must be met to access a market, unless the manager wants to risk being fined and potentially banned from the market. Standards are not legally binding. Non-compliance therefore does not necessarily lead to fines.

Yet, failing to comply with standards can de facto block access to a market. This is the case if a standard is applied by most stakeholders, notably buyers. For instance, brands and retailers often require compliance with so-called buyer codes of conduct.

If a brand or a retailer dominates a given market, the standard defined in its code of conduct is in effect binding. For managers, such standards are similar to regulations in that they must be met to have access to a market.

A key challenge for managers of exporting companies is that access to information on regulations and on such de facto binding standards is not organized in the same way at the international level.

In the case of other standards, managers can choose whether to comply without jeopardizing access to a market per se. Compliance in these cases often determines which market niche an exporter can access.

Many supermarkets, for instance, sell apples labelled as organic alongside those that are not. While both types of apples are available to consumers, those meeting the relevant standard for organic products attract a different clientele.

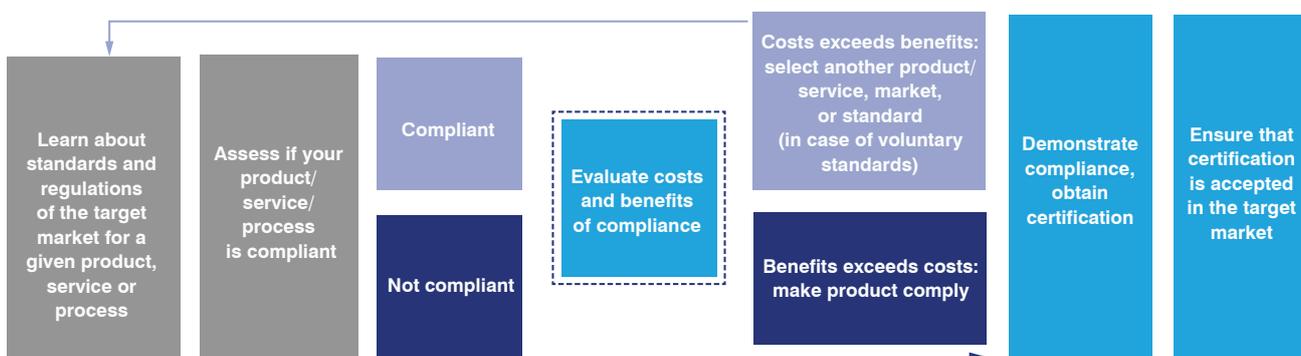
Often different market niches command different prices. When considering whether to apply a certain standard, managers thus must consider the size of the market niche and the price that products meeting the standard can command.

### **Getting compliant goods and services to the market**

Once the decision is taken to target a certain market or market niche, the firm must bring its offering into compliance with relevant standards and regulations. The process, however, does not stop here, as it is also necessary to demonstrate compliance before bringing the goods or services to the market.

Simplified, Figure 35 reflects the full decision-making and implementation process from the perspective of an export manager. The figure implies that managers decide about compliance once a standard or regulation exists. Managers can also decide to move towards compliance in anticipation of potential future product or services

FIGURE 35 Decision-making process of an export manager



Source: ITC.

requirements. Such proactive behaviour can give firms the advantage of a head start but also carries some risk.

Managers can decide to be even more proactive by developing a code of conduct and issuing externally verified certificates in anticipation of buyers' demands. An offensive and proactive strategy not only makes the supplier more attractive to new buyers, but also facilitates a quick reaction to current buyers' demands.<sup>130</sup>

The ability of export managers to fine-tune the most suitable strategy is vital to the firm's export performance and competitive advantage – particularly because most managers do not succeed in doing this.<sup>131</sup>

The following subsections discuss each step in the decision-making process of managers.

## Where to get information

The sheer amount of standards and regulations affecting business performance can translate into an avalanche of information for export managers. To handle this, managers can increase their level of information discipline by the following five steps:<sup>132</sup>

- **Focus on key factors.** Export managers do not need to know all standards and regulations – only the relevant ones for their specific business.
- **Differentiate opinion from facts.** Export managers need to learn from trusted and official sources about the standards or regulations with which the business should or must comply.
- **Examine trends and patterns.** Company-specific standards, such as buyer codes of conduct, can quickly become de facto industry standards or regulation. Export managers need to be aware of such trends and steer the business accordingly.
- **Periodically look at the immediate business and national environment.** How are the industry's and the firm's product or service developing? Which policies are peers or sector leaders applying? A changing national ecosystem may entail newly relevant standards and regulations that export managers need be aware of.
- **Use information as a basis for dialogue.** Identifying and complying with relevant standards and regulations can be a challenging task that requires export managers to set up a team and consult with it continuously.

## Collect information at various levels

Information on technical regulations can be obtained from national sources, international and regional institutions, and buyers and partners in the value chain. Several major online sources of information and their scope are listed below, including sources for technical regulations for goods (Table 3), services regulations (Table 4), international standard-setting organizations and voluntary standards for goods, services and processes (Table 5).

National institutions that can provide information and help include TISIs, SME/enterprise development agencies, national standard-setting organizations, government ministries and foreign representations.<sup>133</sup>

Determining which ministries to contact depends on the sector of operations. For example, for a seafood exporter, the fisheries department can be useful. Generally, ministries of economy and industry, agriculture and public health play a role in regulating imports and exports, in combination with the ministry of trade.

Companies can check whether their country has a diplomatic representation in the target market, which may have an economic section or a commercial attaché. Commercial attachés are good sources of information as they are based in the country and often speak local languages.

Some countries have very comprehensive online resources, disseminating information from all relevant national sources through a single portal. Two examples, from Malaysia and Mauritius, are provided in Table 3. Furthermore, Table 3 contains links to the contacts of all SPS and TBT focal points (established by WTO Members in compliance with SPS and TBT agreements), and national standards bodies, members of ISO.

## Technical regulations

Table 3 is not exhaustive. It shows examples of online resources publicly available in English. It does not include resources that are provided commercially, such as fee-based portals of shipping and logistics companies and banks.

## Services regulations

Two useful resources on regulations covering services trade are available from the OECD Services Trade Restrictiveness Index and the WTO-World Bank I-TiP Services. The former compares services trade restrictiveness across 18 sectors in 42 OECD and partner countries. The latter provides important information on the distinction between the schedules of General Agreement

**TABLE 3: Compulsory regulations for goods: Selected sources**

Institution	Title and web link	Coverage with regard to technical regulations	Countries and sectors covered
<b>International and cross-country sources</b>			
ITC	Market Access Map (MAcMap) <a href="http://www.macmap.org">www.macmap.org</a>	Exhaustive coverage of regulations mapped to the International Classification of NTMs and Harmonized System (HS) Classification	Over 90 countries (see Technical Annex); all products
World Bank	World Integrated Trade Solution (WITS) <a href="http://wits.worldbank.org">http://wits.worldbank.org</a>		
WTO	Integrated Trade Intelligence Portal (I-TIP) <a href="http://i-tip.wto.org/goods">http://i-tip.wto.org/goods</a>	SPS and TBT notifications and Specific Trade Concerns raised by members at WTO committee meetings	WTO member countries; all products
WTO	SPS Information Management System (SPS IMS) <a href="http://spsims.wto.org">http://spsims.wto.org</a>	SPS-related documents circulated at the WTO, Member governments' SPS Enquiry Points and Notification Authorities, and the membership of the WTO, Codex, the International Plant Protection Convention (IPPC), and the World Organisation for Animal Health (OIE)	WTO member countries; all products
WTO	TBT Information Management System (TBT IMS) <a href="http://tbtims.wto.org">http://tbtims.wto.org</a>	Notifications of technical regulations and conformity assessment procedures; notifications of agreements between Members on TBT measures; notifications from standardizing bodies; TBT Enquiry Points and Notification Authorities	WTO member countries; all products
<b>Regional</b>			
Centre for the Promotion of Imports from developing countries (CBI)	Market information <a href="https://www.cbi.eu/market-information/">https://www.cbi.eu/market-information/</a>	Exhaustive coverage of EU regulations, tips and explanations for exporters from developing countries	EU countries; 27 sectors
European Commission	EU Export Helpdesk <a href="http://exporthelp.europa.eu">http://exporthelp.europa.eu</a>	Exhaustive coverage of EU regulations, tips and explanations	EU countries, all products
ITC	Euro-Mediterranean Trade and Investment Mechanism (TIFM) <a href="http://euromed.macmap.org">http://euromed.macmap.org</a>	Exhaustive coverage regulations and related customs formalities of southern Mediterranean countries, including summaries in English and French	Southern Mediterranean countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, State of Palestine, Tunisia and Turkey; all products
UNCTAD and The Economic Research Institute for ASEAN and East Asia (ERIA)	I-TIP official NTMs: Integrated analysis and retrieval of collected NTMs based on official regulations <a href="http://asean.i-tip.org">http://asean.i-tip.org</a>	Exhaustive coverage of regulations mapped to the International Classification of NTMs and HS Classification	ASEAN countries (Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam); all products
<b>National</b>			
Malaysia National Single Window/ The Official Portal for Trade Facilitation	MyTRADELINK <a href="http://www.mytradelink.gov.my/tariff-code">http://www.mytradelink.gov.my/tariff-code</a>	Exhaustive coverage of requirements applied by Malaysia, searchable by HS code	Malaysia; all products
Mauritius, the Ministry of Foreign Affairs, Regional Integration and International Trade	Mauritius Trade Easy <a href="http://www.mauritiustrade.mu/">http://www.mauritiustrade.mu/</a>	Import requirements and procedures applied by Mauritius to all products	Mauritius; all products

**TABLE 4: Services regulations: Selected sources**

Institution	Title and web link	Content related to services regulations	Countries and sectors
OECD	The Service Trade Restrictions Index (STRI) regulatory database <a href="http://www.oecd.org/tad/services-trade/regulatory-database-services-trade-restrictiveness-index.htm">http://www.oecd.org/tad/services-trade/regulatory-database-services-trade-restrictiveness-index.htm</a>	The detailed information that built the STRI index, along with sources and comments.	40 countries, 18 sectors: computer services, construction, professional services, telecommunications, distribution, audiovisual services, transport, courier, financial services, logistics services
WTO and World Bank	Integrated Trade Intelligence Portal (I-TIP) <a href="http://i-tip.wto.org/services">http://i-tip.wto.org/services</a>	Commitments under the WTO's General Agreement on Trade in Services (GATS), services commitments in regional trade agreements and applied regimes	WTO member countries

TABLE 5: International Standards: Selected sources

Institution	Title and web link	Scope
International standard-setting organizations		
IEC	International Electrotechnical Commission: Standards <a href="http://www.iec.ch/about/activities/standards.htm">www.iec.ch/about/activities/standards.htm</a>	International Standards for electrical, electronic and related technologies
ILO	International Labour Organization <a href="http://www.ilo.org/global/standards/lang--en/index.htm">http://www.ilo.org/global/standards/lang--en/index.htm</a>	International labour standards
IPPC	International Plant Protection Convention: <a href="http://www.ippc.int/en/core-activities/standards-setting/ispms">www.ippc.int/en/core-activities/standards-setting/ispms</a>	International standards for phytosanitary measures
ISO	International Organization for Standardization: Online Browsing Platform <a href="http://www.iso.org/obp/ui">www.iso.org/obp/ui</a>	Over 21,000 International standards
ITU	International Telecommunication Union: ITU-T Recommendations <a href="http://www.itu.int/ITU-T/recommendations/index.aspx">www.itu.int/ITU-T/recommendations/index.aspx</a>	Standards defining how telecommunication networks operate and interwork
OECD	Organisation for Economic Co-operation and Development: Agricultural Codes and Schemes <a href="http://www.oecd.org/tad/code">www.oecd.org/tad/code</a>	International certification standards for agricultural seeds, forest reproductive materials, fruit and vegetables and tractors
OIE	The World Organisation for Animal Health: International Standards <a href="http://www.oie.int/international-standard-setting/overview">www.oie.int/international-standard-setting/overview</a>	Standards relating to animal health and zoonoses
UN FAO and WHO	The Codex Alimentarius Commission (Codex) standards <a href="http://www.fao.org/fao-who-codexalimentarius">www.fao.org/fao-who-codexalimentarius</a>	International food standards
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) <a href="http://www.unece.org/cefact.html">www.unece.org/cefact.html</a>	Electronic business standards and trade facilitation recommendations
UNECE	UN Economic Commission for Europe: Working Party on Agricultural Quality <a href="http://www.unece.org/trade/agr">www.unece.org/trade/agr</a>	Fresh fruit and vegetables, dry and dried produce, seed potatoes, meat, eggs, cut flowers
UNECE	UN Economic Commission for Europe: Vehicle Regulations <a href="http://www.unece.org/trans/main/welcwp29.html">www.unece.org/trans/main/welcwp29.html</a>	Rules, regulations and recommendations for vehicles

on Trade in Services (GATS) commitments (binding obligations) and applied regimes (actually applied regulations that can be more favourable than commitments).

Company managers can use GATS commitments in two ways. First, the presence of a commitment in a sector guarantees that national treatment and market access conditions will decrease to the level specified by the commitment. Second, the GATS schedules (and accession commitments<sup>134</sup>) can serve as a gateway to information on the applied regime, including relevant regulations. Managers usually need much more detailed information than the index and the GATS commitments, but they represent a good starting point.

### Standards

More than 150 countries publish national standards, which are far too numerous to list here. Typical of national standards are those of the American National Standards Institute, the Australian Standards, British Standards, the standards of the German Institute for Standardization, Indian Standards, Korean Industrial Standards and South African National Standards.

It is difficult to quantify the number of public standards in

the world, but Perinorm, a bibliographic database, has a list of more than 700,000 standards, covering only those most widely used. Hence, standards are everywhere in today's world, defining much of the way people, products and processes interact with each other and with their environment. Standards are available from national standards bodies. When they are turned into national law, information on them should also be accessible via the sources mentioned in Table 3.

Significant collaboration on standards exists at the regional and global level. Examples of regional standards are the harmonized standards of the EU, the State Standards of the states of the former Soviet Union and the East African Community standards. Table 5 contains a non-exhaustive list of international standard-setting organizations with global coverage active in different areas. Standards set by these institutions are rarely legally binding but often play a significant role in international trade, notably when they are applied by many players or when they are referred to in international legal instruments such as WTO Agreements or regional trade agreements.

Information on standards is available from national standard-setting bodies or directly from the international organizations mentioned above. Standards come as hard



**Zhang Xiaogang**

President,  
International Organization  
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*ISO International Standards can provide some practical solutions to many of the challenges faced by small enterprises in today's globalizing markets.*

*SMEs can benefit from the expert knowledge contained in standards and are less likely to make costly mistakes that could spell the difference between success and failure.*

## THOUGHT LEADER

# Unlocking trade opportunities for small businesses

Small businesses could claim to be the world's biggest business, as they make up the core of the economic fabric in most countries and employ a significant percentage of the global workforce. They are, on average, the businesses that are generating growth, creating jobs, growing faster and innovating more. Besides, they are a good deal less complicated (structurally) and more efficient and flexible than are large firms.

But it isn't easy for small and medium-sized enterprises (SMEs) to compete with larger organizations, on a national and especially international scale. Tools, guidance and support are most definitely needed.

ISO International Standards can provide some practical solutions to many of the challenges faced by small enterprises in today's globalizing markets. They bring a number of benefits to small business owners and managers, helping them to compete on a level playing field, fulfil their potential and unlock trade opportunities.

### **Credibility, efficiency**

One benefit of ISO standards is reputation building. Products that comply with International Standards have a competitive edge over products that don't – consumers know the difference. Products made to standards can have much more credibility, whether it's a bike helmet, baby capsule or complaints handling system. This credibility is recognizable throughout the world and can be particularly important for newer businesses that have yet to make a name for themselves in a certain sector. In addition, this credibility builds a long-lasting, positive reputation, which proves vital when moving into international markets.

ISO standards can also help small businesses increase their efficiency by helping drive down costs and save valuable time and money. SMEs can benefit from the expert knowledge contained in standards and are less likely to make costly mistakes that could spell the difference between success and failure.

Last and by no means least, International Standards help support exports and international trade. They ensure that products made in one country can be sold and used in another. For example, cars are still often designed in one country

*ISO International Standards reduce technical barriers to international trade, increase the size of potential markets and position small firms to compete in the world economy.*

and built from components manufactured in a number of other countries by a company based in a third country. International Standards reduce technical barriers to international trade, increase the size of potential markets and position small firms to compete in the world economy.

While SMEs dominate the global economy in terms of number of enterprises, employment and added value, they fall behind large companies in direct exports and have only a marginal role to play in this process. Selling in foreign markets is all too often seen as the preserve of vast corporations or multinationals. ISO standards are a useful tool for smaller businesses to move into this space.

ISO standards are the foundation, as well as the common technical language of international trade. This is why the World Trade Organization (WTO) expects its members to use International Standards, such as those developed by ISO, as a basis for national technical regulations to avoid technical barriers to trade.

### *Involve SMEs early*

While ISO standards can bring many benefits to small businesses the world over, we know that there are still many challenges. In order for standards to reflect the needs of SMEs, their voice needs to be heard at the development phase. This is not always easy when both resources and awareness about standardization is low. In addition, implementing a standard may be easier for larger companies, which have specific resources to do so, than for smaller structures where every minute is spent on core business goals.

*For standards to reflect the needs of SMEs, their voice needs to be heard at the development phase.*

This is why many of ISO's members – national standards bodies in over 160 countries – are investing heavily in supporting SME involvement in the development of standards. These efforts can make it much easier for SMEs to reap the benefits. From general information on the role of International Standards and conformity assessment to specific dedicated programmes, ISO members are providing an increasing number of solutions to assist small businesses in their countries.

### *ISO-ITC partnerships: Information for small firms*

In addition, ISO works with other international partners to help small businesses make the most out of International Standards. For example, over the past few years we have published a number of handbooks in partnership with ITC, specifically designed to help SMEs with some of our well-known standards such as ISO 50001 for energy management or ISO 31000 for risk management.

With SMEs being so essential to our economy, ISO and its members are leveraging all potential opportunities to help them get the promised benefits of international trade. Together, we continue to support innovation, facilitate trade and create opportunities so that businesses of all sizes – large or small – can benefit from International Standards. The advantages are far too important to ignore.

*With SMEs being so essential to our economy, ISO and its members are leveraging all potential opportunities to help them get the promised benefits of international trade.*

International Standards can help small businesses open new markets, and make their commercial trading processes easier. And with the global economy struggling to recover, investing in standards to help SMEs prosper, expand and create jobs means investing in the future of our economies.



## CASE STUDY

# Alerting Mauritian policymakers to trade obstacles

Small and medium-sized enterprises (SMEs) in developing countries often struggle to comply with international market regulations and trade procedures. Researching regulations and meeting requirements can be an obstacle to trade and affect companies' competitiveness.

Policymakers often are not fully aware of challenges faced by companies, and can be slow to put in place needed programmes and policies.

According to ITC Business Surveys on Non-Tariff Measures (NTMs):

- More than 50% of developing country exporters experience NTM-related obstacles.
- More than 60% of trading firms' problems with NTMs concern domestic efficiency and transparency.
- Small companies report more problems with NTMs than large companies.
- Exporting to developing countries is relatively more difficult than exporting to OECD countries.

For example, Ashley Vikesh, Custom Clerk at Compagnie Mauricienne de Textile Ltée, a leading Mauritian garment manufacturer said:

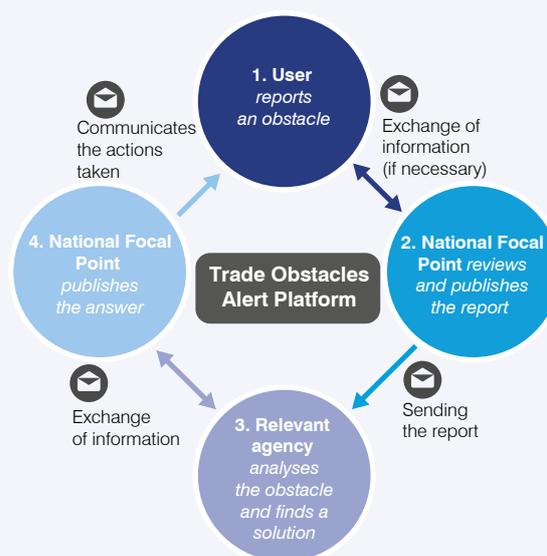
'Our consignments of polybags [polyethylene bags] from Madagascar were held at customs due to an import permit requirement. This law should have been in force in January 2016 but the authorities implemented it in September 2015.'

### Channelling business concerns

Channelling business concerns to relevant authorities is best done through an established process. ITC's business survey and trade obstacles alert mechanism provides detailed information on trade constraints faced by the private sector, and facilitates tailored policy actions.

By capturing the concerns of more than 400 Mauritian companies across sectors and company sizes, the 2011 NTM survey was able to facilitate the identification of key

### Setting up a trade obstacles alert



National Monitoring Committee supervises the mechanism



actions to resolve these concerns. As a direct follow-up, Mauritius, through its International Trade Division of the Ministry of Foreign Affairs, launched a trade obstacles alert mechanism in September 2015.

This mechanism allows Mauritian exporters and importers to alert local agencies about trade impediments they face so that they can be addressed in a timely and transparent manner. Other companies can learn from these reports.

### **Result: Fewer obstacles**

Mauritian buyers reported that delivery of import permits was a key challenge. After discussions at a NTM stakeholder meeting, and following further consultation among relevant agencies, the Mauritian authorities decided to revoke most of these permits, thus easing the burden on SMEs.

'A direct consequence of the survey and the workshop was the elimination of the need for Tea Board clearance of rooibos tea imports, resulting in reduced time for importing this product in Mauritius. Over the last three years, Mauritius has eliminated 28 permits related to imports and export,' according to H.E. Israhyananda Dhalladoo, Ambassador and Permanent Representative of Mauritius to the United Nations in Geneva and the World Trade Organization.

Since the launch of the alert mechanism, more than 80 companies have registered with the system and reported 25 obstacles. Fourteen were resolved, including the concern raised by Compagnie Mauricienne de Textile. The garment-trading firm had been facing difficulties in obtaining the required import permit to source polyethylene bags from Madagascar. Thanks to the

system, the company can now purchase inputs from Madagascar through a simpler process, and has improved its export competitiveness.

Other identified obstacles are being addressed by government agencies and trade and investment support institutions (TISIs), in accordance with a government protocol instructing them to use the alert mechanism.

'Mauritius is today the 20th most attractive country to do business in the world, according to the World Bank's *Doing Business* report. With the trade obstacles alert mechanism, we intend to improve even more the environment for exporters and importers to facilitate further trade and investment,' said Etienne Sinatambou, Minister of Foreign Affairs and International Trade, Mauritius.

### **Further information, similar initiatives**

SMEs can use this system to learn about company experiences with domestic and foreign regulations. For further information, see the trade obstacle alert mechanism in Mauritius ([www.tradeobstacles.org/mauritius](http://www.tradeobstacles.org/mauritius)) and Côte d'Ivoire ([www.tradeobstacles.org/cotedivoire](http://www.tradeobstacles.org/cotedivoire)).

A similar regional initiative is The Mechanism for Reporting, Monitoring & Eliminating Non-Tariff Barriers in the Grand Tripartite Free Trade Area including the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Southern African Development Community (SADC).

**Source:** Trade Barriers Alert; ITC (2015), *Invisible Barriers to Trade*; ITC (2014) Mauritius: *Company Perspectives*.

copies or electronically, either as a CD-ROM or as PDF files accessible online. Standards developed by ISO and IEC are subject to copyright, and have to be purchased.

This is also true for most national standards, even those adopted from international or regional standards. Other international standards, such as those from the Codex Alimentarius Commission, the International Organization of Legal Metrology and similar intergovernmental organizations, can be downloaded for free from their Internet sites.

Recent decades have seen the emergence of a significant number of standards designed by NGOs or private companies. These often fall under the heading of sustainability standards and specify criteria related to environmental or social sustainability. Cultural or ethical considerations also sometimes play a role.

Companies can obtain information on VSS for goods and services from the relevant standard-setting institution but also via multi-standard platforms, such as the ITC Standards Map, dedicated to making the growing number of VSS transparent, accessible and comparable (Table 6).

## Evaluating costs, benefits and risks

The decision on whether to comply with standards and regulations can be difficult for export managers. The costs and benefits, as well as potential risks of non-compliance, vary between standards and regulations, and among different standards. From a firm's perspective, compliance with a regulation is compulsory if it wishes to gain access to the relevant market.

Standards are in principle non-binding but may significantly decrease chances to access a market if the standard is a main industry standard or is applied by a dominant buyer in the market, e.g. a dominant retail chain. Standards may also make it possible to differentiate a product and access niche markets, potentially providing opportunities to benefit from higher prices.

The costs of implementing a regulation or standard are often immediate and tangible. They typically take the form of investments, such as machinery or new processes, increased labour costs and other investments, or additional administrative resources.<sup>135</sup> Compliance may also require improving management practices and staff development and training.<sup>136</sup>

Some of these investments have positive impacts on the firm's immediate business environment. If firm managers are successful in communicating this to stakeholders outside their company, they may be able to externalize

**TABLE 6:** Voluntary sustainability standards

Institution	Title and web link	Scope
ITC	Standards Map <a href="http://www.standardsmap.org">www.standardsmap.org</a>	Over 200 voluntary sustainability standards
Big Room Inc.	Ecolabel <a href="http://www.ecolabelindex.com">www.ecolabelindex.com</a>	Over 460 eco-labels in 25 industries

some of the compliance costs associated with standards and regulations. As mentioned earlier, it is also sometimes possible to share compliance costs with buyers, notably for firms operating within an IVC.

Benefits of compliance take time to materialize and are not always easy to assess. Complying with a regulation in an export market does not automatically lead to export success. It only makes it legally possible to access the market. To assess the benefits of compliance, managers need to evaluate the probability of selling in the foreign market and to estimate expected gains from such sales.

A factor in such calculations is the possibility of a price premium due to improved quality related to standards. Higher prices combined with cost savings through greater efficiency and reduced waste are often sufficient to offset the adjustment and additional production and labour costs.<sup>137</sup> Effects can be long-lasting, with business literature suggesting that certification improves consumer perceptions of product and service quality, satisfaction and corporate image.<sup>138</sup> In addition, being able to prove the compliance of goods and services with standards is likely to facilitate access to finance.<sup>139</sup>

If the process is well thought through, managers often are able to implement standards in a way that enhances profit. Previous sections reported on the evidence, confirming higher prices after implementation of standards. Business research suggests that such positive effects often outweigh the negatives, as firms' export volumes increase after having obtained certification. ISO 9000 provides an example of this.<sup>140</sup>

## Implementing standards

Implementation differs depending on the specific standard or regulation and according to whether it covers a product or management system. The latter deals with the processes and procedures of the manufacturer, producer, supplier or service provider.

A management system can be assessed against the requirements of the relevant standard and, if found to conform, certified by a certification body. In this case, the manufacturer's ability to comply with customer

requirements is the subject of assessment, not the product or service quality itself.

The best known management certification system is based on ISO 9001, for which more than 1 million certificates have been issued worldwide since its introduction in the late 1980s. A number of other ISO and international standards are used for management system certification, as well as a growing number of private standards. Some relate to specific sectors of the economy; others are more general in their application.

Box 7 gives a step-by-step example of how to implement a quality management system, using ISO 9001 as an example.

## Proving compliance

### *Conformity assessment*

Once they have identified the applicable requirements, both voluntary and mandatory, and adapted the products, services and processes, export managers need to prove compliance. To do so, they may select from various accredited service providers that assess conformity. The manufacturer (first party), purchaser (second party), or a third-party organization can provide conformity assessment services.

Companies can consult a foreign certification organization if their country of operation lacks the necessary quality infrastructure. Weaknesses in the national quality infrastructure are raised frequently in ITC's Business Surveys on NTMs. For example, one respondent said: 'Our ministry of health is unable to test the products for genetically modified organisms and dioxin as required by the destination country. We overcome this problem by testing the products internally and authenticating the results with the chamber of commerce. This is only accepted because our company is ISO 22000 certified.'

There are several multinational inspection and certification organizations providing inspection, testing and certification services on a worldwide basis. The choice of a particular certification organization in a given foreign market may depend on the preference or advice of the buyer in question.

If the product or service falls within the scope of a technical regulation in the target country, then information should be obtained on preferred or designated certification organizations from the relevant authorities in that country. (See Table 3 for contact details of SPS and TBT focal points.)

### *International acceptance*

Public or private organizations can provide third-party conformity assessment. The main requirements are to demonstrate technical competency through internationally accepted accreditation, which enables their test reports and certificates to be recognized in target export markets.

The fact that a conformity assessment service provider is a government body, i.e. the national standards body or government laboratory, does not lead automatically to acceptance of its test reports or certificates. Sometimes the market or regulatory authorities abroad may not accept their test reports and certificates, even though they are accredited.

Choosing the conformity assessment service provider is therefore not always easy. The proximity of the service provider, its local level of service, its acceptance in the target market and the price of its services are all issues that have to be considered carefully. The ultimate goal is to have the product or service inspected, tested and certified only once, and then accepted everywhere.

## Using standards and regulations to enter markets

Certification does not guarantee sales, but can help to enter foreign markets. No certification alone, whether private or offered by a government certification organization, will guarantee sales or market access. A successful sale will depend on many factors, including price, delivery, support service, product design and quality.

First and foremost, products and services must comply with technical regulations. Without such compliance, there is no market access. Despite harmonization efforts, companies willing to sell abroad are confronted with requirements that vary from country to country. Furthermore, the exporter's home country may have an additional set of requirements for exports (exceeding those applied to goods sold domestically). Exporters, especially in landlocked countries also need to take the requirements of transit countries into account. Figure 36 summarizes the situation for exports of goods.

For services exporters, complexities make it difficult to capture the picture in one figure. Services can be exported in four modes; cross-border trade (Mode 1), consumption abroad (Mode 2), commercial presence (Mode 3) and movement of natural persons (Mode 4).

Requirements to set up a commercial presence (Mode 3), for instance, can entail lengthy bureaucratic procedures which vary across industries and countries, as they are

## **BOX 7: Setting up an ISO 9001 quality management system**

There are several steps involved for a firm to set up an ISO 9001 quality management system (QMS).

### **Step 1: Team nomination**

Management should appoint a small team consisting of a senior person from each of the firm's functions to develop the system. One member of the team should be the coordinator – the management representative could be given this role. A professional training organization should provide the team with awareness and documentation training on the ISO 9000 family of standards.

### **Step 2: Gap analysis**

For the gap analysis, the team should draw a flow chart, showing how information currently circulates, from customers' orders through to delivery of the product or service. From this overall diagram, a flow chart of activities in each department should be prepared. Next, the firm should use these diagrams to formulate a list of existing procedures and work instructions for the most relevant activities. Throughout this process, the firm may identify infrastructure gaps such as the need for:

- Additional building space, equipment and machines, utilities, facilities, support services or for revamping the current set-up.
- Adequate lighting, ventilation, temperature control, humidity control, proper noise and vibration levels, good hygienic practices (in food processing plants).
- Proper handling and storage of raw materials to avoid spoilage and mix-ups.
- Additional test facilities for routine testing of the product during production and before dispatch to customers.
- Periodic check-ups of measuring instruments and subsequent repair, maintenance or calibration.
- Adequate care of the product at all stages to avoid damage.

The firm should prepare a time-bound action plan to close the gaps identified during this exercise and take action as planned.

### **Step 3: Documentation**

Firms should prepare QMS-related documents such as quality policy, quality objectives, process performance parameters, skills requirements, quality manual, quality plans, and procedures and work instructions. It is good to involve all personnel concerned in developing the procedures and work instructions applicable to their areas. Documentation on procedures and work instructions should reflect current practice and not management's ideas of what should be implemented. Firms should create new forms and checklists if they help, but otherwise adopt existing ones as much as possible.

### **Step 4: Training and implementation**

Firms should train all employees in 'how to use your QMS'. The implementation phase should start at the same time as the system is developed (see step 3), with supporting evidence such as records, minutes of meetings and customer feedback data maintained.

### **Step 5: Internal audit and improvement**

A professional trainer should train some of the firm's managers and staff members to audit the QMS internally. A management representative may also carry out audit management activities. After the system has been in place for

about three months, trained auditors should conduct an internal audit. Management should correct any gaps the audit finds; carry out any required modifications in system documents; and take care of any need for additional awareness and skills training or improving infrastructure. Once the system stabilizes, there should be internal audits at planned intervals, once every six months for example, or as needed.

The firm should also use internal audits, customer feedback data, process and product monitoring data, evidence of the attainment or not of quality objectives, and corrective actions taken as resources for improving the system. Management should provide financial and other resources for improvement projects and monitor the progress of improvement.

### Step 6: Management review

Management should review internal audit results, customer feedback data, status of quality objectives, analysis of process performance, product conformity trends, and status of corrective and preventive actions. As a result of this review, management may decide to set new targets for quality objectives and to make the improvements needed in the QMS. Management reviews should be held at regular intervals, for example at least once every six months.

### Step 7: Certification

Certification to ISO 9001 is voluntary; therefore, it should be up to management to decide.

Once the system has been in operation for a few months and a firm has conducted at least one internal audit and one management review, management can consider making an application for certification.

The firm should prepare an action plan for developing QMS covering the above activities. This plan should define the responsibilities of team members and management and set target dates. A period of six to nine months is required to develop fully and implement the system. The table below provides an example of an action plan.

### ISO 9000 implementation action plan

Month	1	2	3	4	5	6	7	8	9	Responsibility
Team nomination										Management
Gap analysis										Team
Documentation										Team
Training and implementation										All
Internal audit/improvement										Audit manager
Management review										Management
Certification										Certification body

Source: ITC (2011), Export Quality Management.

based on national law. Furthermore, requirements depend on the type of commercial presence a foreign firm seeks to set up – a subsidiary, a branch office or a representative office.

Some general requirements that managers should take into account include restrictions on foreign equity participation and limits on the type of foreign suppliers. To establish a commercial presence and provide tourism-related services in Bhutan, for instance, a minimum foreign investment of \$500,000 is required and foreign investors can hold up to 70%.<sup>141</sup>

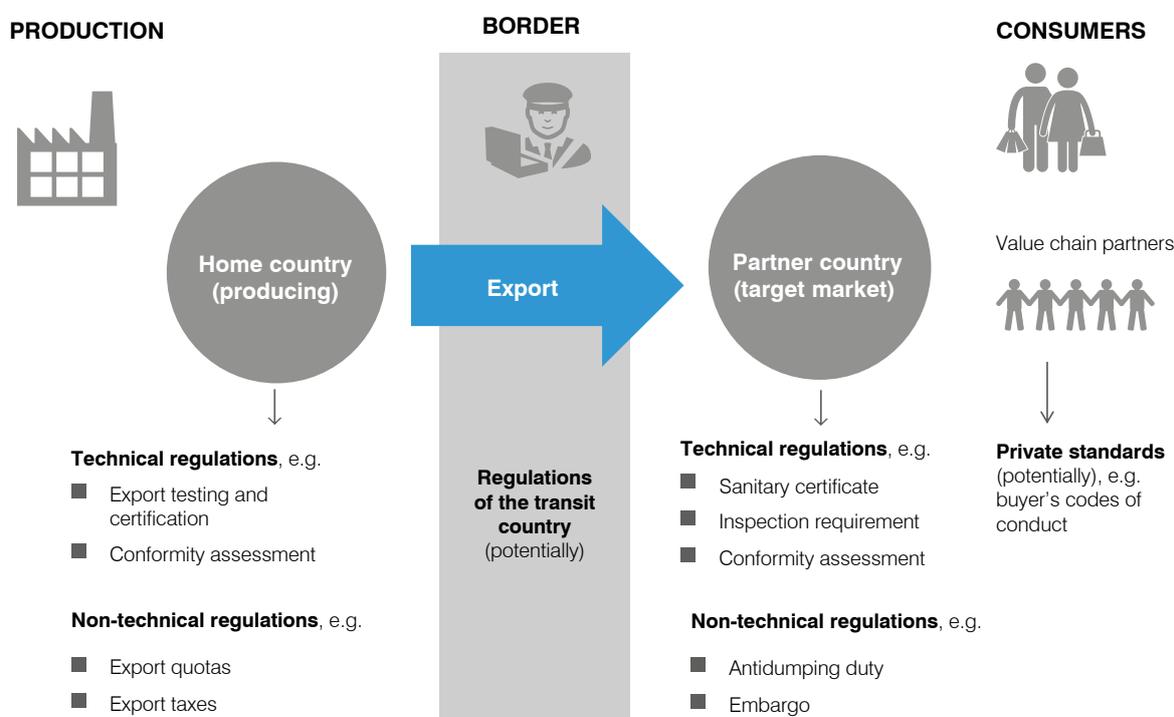
For Mode 4 exports (movement of natural persons), requirements and restrictions depend on the profession, national legislation in the exporting and importing country and the bilateral agreements the two countries have. Japan and Singapore, for example, signed an Economic Partnership Agreement in which Japan committed to accept a limited number of doctors and dentists on the condition that the professionals pass Japanese national examinations for medical practitioners in English and only treat non-Japanese patients.<sup>142</sup>

For exporters of both goods and services, certification can help to open doors and allow sales negotiations to start. Purchasers need some assurance that the supplier provides goods and services of quality and behaves with integrity. This is especially important for new relations, arm-length relations, and in cases where buyers do not trust institutions in partner countries.

The trust ensured by the certification is even more important for services. When customers buy a service, they are often purchasing the promise of a certain level of satisfaction that is unverifiable before the service has been consumed. This intangible nature of services makes it crucial to build credibility and thereby try to overcome information asymmetry, or the fact that the service provider is fully aware of the quality of the service while the consumer is in the dark.

Service providers can build their credibility through certifications, ideally international ones. For instance, ISO 9000-type certifications are used more by service providers seeking access to international markets than goods producers.

FIGURE 36 Requirements for exported goods



Source: ITC.

## Influencing global discussions

In addition to deciding whether to comply with a standard or regulation that allows access to a given market, managers have the option of seeking to influence the development of standards and regulations.<sup>143</sup> While challenging, this approach can give firms the advantage of a head start in the market.

### *Standards*

To quote one handbook for executives: 'Two reasons to be proactively participating in developing standards: One, to make sure that a standard is developed. Two, to make sure that it is not.'<sup>144</sup>

Export managers can become involved in standard development at any level of the hierarchy of standardization illustrated in Figure 37.

Company standards, such as sustainability standards, are intellectual property of the company and are developed internally to inform stakeholders up and down the value chain about product or service specifications. Even though managers may choose to consult with a number of stakeholders for reasons of transparency, development of company standards does not need to be an open process.

### *Be there, because competitors are*

The situation is different in the case of industry standards. Firms in a given industry share these standards and their development. Such firms may be members of a trade association or a firm consortium. Proactive participation in the development process of industry standards is particularly important for managers because other participants are likely to be their direct competitors.

Firms aim to develop the industry standard so that it is as close as possible to their own company standard to minimize potential adjustment costs. If this is not possible, they may try to prevent the development of standards that would cost them and give competitors an advantage.<sup>145</sup>

Whether firms decide to compete or cooperate in the standard-setting process often depends on their positioning in the market, their relative technological capabilities and prior investment in their product or service.<sup>146</sup>

The two most important success factors in negotiating specifications of a standard are substance and power of persuasion.<sup>147</sup> Managers should have the technical know-how to understand the objective of the standard in question so they can influence its design. As developing a

FIGURE 37 Hierarchy of standardization



Source: ASTM International (2007).

standard is often consensus-based, the ability of managers to convince their peers is also crucial.

Participation in the development of industry standards is also important because these often feed into national standards which, in turn, can shape international standards. The best possible scenario for a firm is that the international standard is identical to national, industry and company standards. While this occurs rarely, it underlines the stakes involved and the reason for managers to take a proactive approach to standard development and compliance.

Developing standards at national and international levels is based on principles that require an open, transparent, impartial, stakeholder-driven and consensus-based process. Managers should press their firm to take part in the working groups, subcommittees and technical committees of national and international standard-setting bodies. This can be a challenge for SMEs, particularly from developing countries, which tend to be underrepresented at standard-setting organizations such as ISO.<sup>148</sup>

### *Early information brings gains*

The payoffs of such involvement can be significant, as illustrated in a number of case studies in recent business literature.<sup>149</sup> Even if a firm is not able to significantly influence specifications in a national or international standard, being informed early is often enough to adjust business operations and be prepared for the new standard. This also can be the case for an entire industry.

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The Malaysian natural rubber industry, for instance, was able to forestall a ban on natural rubber surgical gloves during revision of the then-international standard. The industry came up with a new refining process that eliminated the problematic ingredient causing life-threatening allergic reactions in doctors and patients. This ensured the continued use of natural rubber in the manufacture of surgical gloves.<sup>150</sup>

### ***Technical regulations***

Many countries publish draft technical regulations for public comment long before implementation, usually in the official government gazette or in newspapers. Export managers need to keep track of such developments. Business and manufacturing associations can help by informing suppliers of any regulatory developments.

Once the draft is published, managers should use the opportunity to make comments; this corresponds to the 'reactive' strategic response by managers. In this vein, it is very useful if firms understand the main provisions of the WTO Agreements on TBT and SPS.

At the international level, technical regulations have to be notified to WTO at least 60 days before they are implemented. An early warning system usually run by national enquiry points is a useful means of keeping track of such international developments.<sup>151</sup>

When managers receive early notice information, they should submit comments or seek further clarifications with the enquiry point or the ministries responsible for the TBT Agreement (usually the trade ministry), which groups comments and forwards them to the relevant authority in the importing country.

If the technical regulation seems not to fulfil legitimate objectives, or is not justified under the WTO Agreement on TBT, then concerns can be raised with the WTO TBT Committee in Geneva. Similarly, the SPS agreement requires WTO Members to have advance notice of proposed new or revised measures and to submit comments that must be taken into account by the notifying country.

In conclusion, compliance with standards and regulations is a challenge that can determine success or failure of the firm's line of business. Export managers play a critical role in this process through complex decision-making that requires considerable information and deliberation.

Firms should avoid the dangerous path of 'learning by trying' to export goods and services, without prior analysis of the regulatory environment and standards.

## CHAPTER 6

# Supporting SMEs: Meeting the standard for trade

While standards are a gateway to trade, compliance can be time-consuming and costly. Whether costs are prohibitive largely depends on the support SMEs find in the immediate business environment, in national legislation and from national institutions.

Policymakers and TISIs can shape a supportive regulatory environment that simultaneously protects the public interest. This role is complex because an effective regulatory environment needs to be supported by a national technical environment that consists of numerous, interdependent institutions. Shortcomings in a single institution can trigger systemic problems.

Governments have a role to ensure that national technical infrastructure works for firms. Collaboration with the private sector – often through TISIs – increases the chance that regulation and implementation are business-friendly. Governments must strike a balance between public and private roles, however, to avoid industry capture.

Note that support measures can promote one sector over another, whether intentionally or not. These include investment decisions regarding technical infrastructure. Setting up a laboratory to test food additives, a crash-testing institute for vehicles or a financial sector regulatory institution, involve different types of expertise. Resource-constrained developing countries may not be in a position to build them all at the same time.

Any action by governments or TISIs which tips the cost-benefit analysis towards compliance will encourage firms to meet standards and technical regulations.

When firms consider adopting standards or compliance with technical regulations, they are likely to perform a cost-benefit analysis, as described in Chapter 5.

Compliance costs are tangible, immediate and relatively easy to identify. They include shifting existing employees to other tasks or hiring new workers; paying external bodies to supply compliance training and advice; and purchasing and maintaining new equipment.

Benefits are harder to identify and measure. Compliance can open access to new markets, generate price premiums and enhance reputation. Compliance also offers protection against fines and penalties related to regulations. These factors might ultimately translate into higher revenues.

### Make information accessible

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Companies wishing to export must first determine whether their product can be sold in international markets. To do this, companies need to identify the standards and technical regulations that apply to their products and whether they meet them.

This information is costly for firms, especially in unpredictable regulatory environments. Firms report that information is often unavailable, outdated and unreliable, or that processes are not transparent.<sup>152</sup> Costs for firms include searching and interpreting information, which can involve hiring competent persons or specialized agencies.<sup>153</sup> These are essentially fixed costs. They can be detrimental for small producers, since such fixed costs account for a higher share of unit costs in their case.



## CASE STUDY

# ITC's *Coffee Guide* at the service of exporters

*The Coffee Exporter's Guide* – now in its third edition – is an exhaustive, practical and neutral source of information on the international coffee trade published by ITC and funded by Switzerland.

Well-thumbed by newcomers and experienced trades people alike, the guide has become a standard industry reference. In addition to providing authoritative information on subjects such as logistics, risk management and quality control, the latest edition includes sections on climate change, the role of women in the coffee sector and comparisons of sustainability schemes.

It is used across the coffee industry by growers, traders, exporters, transportation companies, certifiers, associations, authorities and others in coffee-producing countries. First published as *Coffee – An Exporter's Guide* in 1992 and updated in 2002, the latest edition was published in 2012.

'This book sits on our trading desk,' said Chino Lizano, who works with the companies Nature's Best Coffee and Deli Café in San José, Costa Rica. 'We refer to it as our bible, which we check when any question or doubt arises in our business. This is a useful and handy tool that everyone in the coffee trade should have.'

'*The Coffee Exporter's Guide* is undoubtedly one of the most consulted publications in our library's extensive collection,' said Martin Wattam, who

manages the library of the International Coffee Organization in London. 'It provides a comprehensive yet concise source of practical information to the International Coffee Organization's diverse network of stakeholders across the global coffee sector.'

### ***Extending development impact***

In developing countries, the book is used as a tool to improve coffee quality and visibility in international markets. In October 2011, as part of the Netherlands Trust Fund (NTF) Phase II programme, Uganda's National Union of Coffee Agribusinesses and Farm Enterprises used *The Coffee Exporter's Guide* in an ITC training session for farmer associations. Two months later, participants were already improving the ways they store, dry and sort coffee.

Five of these farmer associations went on to win top prizes at the Taste of Harvest National Cupping Competition in January 2012, where an international expert panel judged the taste and quality of 35 Uganda Arabica coffees. The Ugandan winners, with the support from the NTF II programme, proceeded to the annual African Fine Coffee Conference, where international buyers and traders 'cupped' the best coffees from each country, in a regional competition.

In the Central American chapters of the International Women's Coffee Alliance, women in the coffee industry are benefiting from the guide as they team up with NGOs to reach international markets.



Project2Love is an American foundation, based in California, which sources coffees from women producers in Central America. Founders Mery Santos, owner of the El Dorado Roasting Company, and Renee Planje use *The Coffee Exporter's Guide* and the *Guide to Geographical Indications*, also published by ITC, as 'valuable tools to make people familiar with the industry.'

In Zambia, the book is shared with farmers through its national coffee association. 'Upon reading the guide, I immediately arranged to have copies for each of our large-scale farmers, who constitute the largest percentage of our productive membership,' said Joseph Taguma, General Manager of the Zambia Coffee Growers' Association.

He adds: 'As someone involved in teaching farmers and staff on coffee quality and trading matters, I still find that *The Coffee Exporter's Guide* is a valuable source for teaching materials. It is easy to follow and deals with the real issues of coffee quality and trading.'

'When I started as an independent coffee trader, I had no idea about the trading, milling or export process of this commodity,' said Faye Campos Walmsley, Chief Executive Officer of FC Trading, based in Alajuela, Costa Rica. 'Through *The Coffee Exporter's Guide*, I began to know the world of coffee. It took me through the entire process – production, process, quality control and especially everything related to marketing: negotiation, price fixing, shipping conditions and documents, insurance and all the necessary information to sell and export coffee. This book was the basis for developing my current experience.'

### ***An online, living network***

The companion website, [www.thecoffeeguide.org](http://www.thecoffeeguide.org), is a knowledge-sharing tool which uses the content of *The Coffee Exporter's Guide* as a basis to serve producers, exporters and those who support them in coffee-producing countries worldwide. There is a network of highly experienced volunteers who answer visitors' questions on the website's discussion board. The discussions influenced the content of the latest edition of the guide.

The book's greatest strength may be in the numbers. More than 100 industry experts, companies and institutions, in partnership with ITC, have worked to make the guide relevant, neutral and hands-on. Industry associations have played an important role in making sure the book is well used.

'Along with other directors, I ensured that *The Coffee Exporter's Guide* was part and parcel of each annual conference and exhibition,' said Taguma, who is also the former chairman of the Eastern African Fine Coffees Association. 'The guide was a high point of our last conference. As more farmers seeking to produce quality coffee still need to be reached, I hope the guide will be made available to them through such conferences for many years to come.'

**Source:** ITC Annual Report (2011).

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### **Centralized information points**

An obvious solution is to provide information as a public good – freely accessible or at very low cost. The challenge is how to collect, tailor and provide such information.

Exporters everywhere require information about regulations and standards applied in destination markets. It could make sense to pool that information at the destination market. Exporters, however, may also be interested in comparing requirements across destination markets, which would entail creating global data sources.

Companies today operate in highly specialized markets, and their information needs tend to be sectoral and specific. In addition, commercial pressures increase the desirability of quick access.

Such factors argue for information that is tailored to specific firm needs and provided proactively. This has led to a complex network of information sources for firms. Policymakers and TISIs have a key role to play in channelling that information to the private sector in the most effective way. Below are examples of models which they can draw upon.

#### **Information points in destination markets**

The WTO TBT and SPS Agreements require all WTO Members to establish national enquiry points for TBT and SPS issues. It is their role to provide information on technical regulations, SPS measures and standards and conformity assessment procedures to other WTO Members and interested parties. The WTO keeps an up-to-date list of the enquiry points established by its Members, available on the WTO website.<sup>154</sup>

Where regional trade is especially high or has great potential, a regional trade information portal could be highly valuable. Such a portal would be a forum to exchange information on market access conditions, technical and non-technical regulations, and related procedures. Contact details of national enquiry points could be shared among partners, in addition to the list available on the WTO website.

#### **Global data sources**

International efforts to collect and disseminate information on NTMs exist. A major international initiative led by a Multi-Agency Support Team (MAST) has led to the creation of an international taxonomy of NTMS referred to in this report as MAST Classification.

The initiative has facilitated the systematic collection of NTM data and their dissemination through databases like

the ITC Market Access Map, UNCTAD's Trade Analysis Information System (TRAINS) and the World Bank's World Integrated Trade Solution (WITS) database. These databases contain information on relevant national legislation, are publicly accessible and allow for comparison of requirements across countries (see also Chapter 5).

For VSS, ITC Standards Map provides comprehensive, online information for more than 190 standards.<sup>155</sup> This enables exporters to compare different sustainability standards and to assess the costs of complying with one or multiple standards.

#### **Tailoring NTM-related information to private sector needs at home**

Not all NTMs in a destination country are relevant for each exporter. For exporters, information costs are lowered even further if they can easily identify which NTMs are relevant for them rather than searching for relevant information in a database maintained abroad or at the global level. In addition, exporters appreciate having all export-related information relevant to them bundled within one data source. At the same time, many exporters prefer export relevant information to be accessible in their own language.

All of these are arguments in favour of tailored information sources provided at the national, regional or sectorial level. TISIs can play an important role in this context. They have several options when developing tailored information on standards and regulations.

Peru's national trade and investment support organization, PromPeru, developed the Integrated Information System on Foreign Trade. This web platform brings together product information, trade statistics, training information and technical guides to regulations.<sup>156</sup> As a result, Peruvian companies only need one website for most of their export information.

Depending on resources and the needs of businesses, TISIs may find it costly to provide relevant, tailored information. Instead, TISIs can identify the most relevant free sources of information, and serve as gateways that provide access to their members.

If TISIs realize that existing sources do not fulfil the needs of their clients, they could collect and publish missing information, and inform users and other institutions of their efforts via their TISI network.

### ***Reaching out to exporters***

Companies and businesses benefit when information on NTMs relevant for their business is directly provided to them by TISIs or through international trade facilitation initiatives. ITC Surveys on NTMs find a lack of awareness among companies on quality requirements for international trade. This results in failure to meet standards and technical regulations and the production of goods that will be blocked at the border because they cannot be exported.

Time also matters. Exporters ideally need to be aware of any changes in regulations in destination markets before they send the next batch of products to that market. To this end, ITC, the United Nations Department of Economic and Social Affairs (UNDESA) and WTO are working to create an alert system for SPS and TBT notifications that would feed relevant information on regulatory change directly to potentially interested and affected exporters.

Firms also need the capacity to access and process information. Good ICT skills are important. Appropriate languages for regulatory texts and supporting guidelines are crucial. Guides available only in the national language may prevent foreign firms from understanding requirements, excluding them from the market.

Translating these guides into all relevant business languages is one way to generate higher impact. Even when such guides are in all relevant languages, coaching and training may be required to help firms absorb the information. TISIs are well placed to provide such trainings or to introduce firms to knowledgeable counterparts. Many TISIs are indeed active in this area.

### **Strengthen firm capacity**

Once companies know the requirements they must meet, they need to adapt their products and processes. Due to the sector-specific nature of standards and technical regulations and the increasing complexity of their requirements, government action can play an important role in enhancing local capacity to comply.

#### ***Develop and disseminate step-by-step guides***

Small firms often do not have the in-house capacity and relevant equipment to meet regulatory requirements or VSS on their own. They may need technical assistance to do so.<sup>157</sup>

Several international institutions develop guides that specifically help SMEs to meet requirements imposed by

standards. ISO, UNIDO and ITC together have prepared guides on ISO standards such as ISO 14001, ISO 22000, ISO 31000 and ISO 50001.<sup>158</sup> These handbooks have a question-and-answer format, and guide users in a step-by-step process on implementing management systems, such as for energy or food. They are designed to be used in conjunction with the texts of the respective ISO standard, which have to be purchased separately.

ITC and the German metrology institute, PTB, have also developed the 2nd edition of the *Export Quality Management: A Guide for Small and Medium-sized Exporters*, which is supporting information on compliance with different standards including ISO 9001. ITC has worked with partner organizations in several countries to customize the guide to national infrastructures such as Egypt, Jordan, State of Palestine, Nepal and more to come.

Governments can help tip the balance towards compliance by offering training or telephone helplines.

#### ***Use public procurement***

Governments can use public procurement to encourage firms to adopt national, international, or private standards. According to some estimates, public procurement accounts for 40% of GDP (or up to \$9 trillion) in developing countries. Requiring that firms comply with relevant standards to be eligible to bid on public contracts adds a powerful market access incentive to the 'benefit' column.

#### ***TISIs have a role in providing direct assistance***

SMEs are spread out geographically, making targeted support difficult for central governments. TISIs such as industry associations, chambers of commerce and sector-specific institutions are well-positioned to provide direct assistance to SMEs because of their extensive networks and traditional close relationship with the private sector. Working through such institutions can increase the impact of capacity-building by national governments or international institutions. This may require first enhancing the range and quality of advisory services provided by TISIs.

#### ***Private standards can play a role***

In some developing countries where technical infrastructure is ineffective or missing, private standards can fill a gap, with multinationals helping SMEs to adopt their standards. This has been the case in some countries, where the standards of multinational companies have been applied to food products.<sup>159</sup>

Lipton, for example, decided in 2007 to source all its tea for teabags from Rainforest Alliance Certified™ farms.<sup>160</sup>



## CASE STUDY

# Food safety standards boost Kenya's Sous Chef

Global food safety concerns are driving food supply chains to implement food safety management systems. These involve precautionary and preventative measures to ensure food does not contain harmful elements, and is stored and transported safely and hygienically. The aim is to create confidence and reliability, and prevent the need to react to emergencies.

Certification systems provide buyers with assurances about food safety, paving the way for producers to access new markets. Yet, small firms may find that meeting certification requirements is a challenge. The lack of information about standards and conformity assessments and the cost of qualified experts can be daunting. This was the case for Julie Gwaderi and Rosy Mohamed, the two directors of Sous Chef Limited in Kenya. They could only afford to pay a qualified professional once a week, without a permanent contract.

Gwaderi and Mohamed initially made garlic and ginger puree from home. They then started producing 'Cocktail Samosas', which proved popular as convenient party food. They created a formal business – Sous Chef – and moved into a building that housed a kitchen unit directly opposite their premises. Their space was not designed for food processing, but they had little choice.

### *The need for certification*

Since existing sales were not covering the rent, Sous Chef began to search for new markets. At this point the need for product certification became apparent, and Gwaderi and Mohamed first heard of Hazard Analysis and Critical Control Point (HACCP). This had not been necessary during the two years that the two business women had been supplying samosas without incident, but new markets required certification.

Gwaderi and Mohamed saw an advertisement about an ITC programme with the Kenya Bureau of Standards, ProInvest: linkages for access to markets. The two directors applied to the EU-financed programme and were accepted. They were trained by an international expert and assigned a national adviser, also trained under the programme. The national adviser worked with Sous Chef to establish, document and implement a food safety system.

Through the programme, Sous Chef had access to technical standards and conformity assessment information. The firm trained its employees on hygiene requirements and implementation of Standard Sanitary Operations and Procedures at minimal cost, due to the availability of the trained adviser.



### ***Paving the way for growth***

Sous Chef applied for HACCP and product certification and was awarded both. Sous Chef products are now in every store of the largest supermarket chain in East Africa. Its products are found in some large five-star hotels in Kenya, as well as on airplanes.

Sous Chef took over the entire floor in the building where it operated, and upgraded its premises to meet food safety requirements. It added more staff, employing about 60 people. The two directors believe that without the support of the ProInvest programme, their journey might have been longer, more costly and energy consuming.

Sous Chef is now seeking ISO 22000 Certification, while the trained adviser who worked with the firm has assisted SMEs in the Gambia, Kenya, Rwanda, the United Republic of Tanzania and Zambia.

### ***Training advisers***

The case of Sous Chef shows how ITC reinforces advisers and experts in developing countries so that they can help agribusiness firms put in place food safety and quality management. Before implementing ISO 22000, firms must adopt systematic food safety practices and be in compliance with HACCP, which is required in many markets.

Margaret Ouma, Joseph Mwangi, Roselyne Makau, and Beatrice Opiyo were four of the six experts selected to participate in a series of ITC food safety workshops under the ProInvest project. Over the course of six months, they worked to bring Sous Chef and other SMEs up to the level of HACCP certification in 2013. Since then, all four experts have worked with more companies, several of which were certified.

**Source:** ITC.

This involved obtaining certification for Lipton-owned tea farms, and also aligning the practices of smaller suppliers to the requirements of Rainforest Alliance Certification. As part of its efforts to assist such suppliers, Lipton engaged the help of the Kenya Tea Development Agency.

## Support technical infrastructure

Governments and associated institutions control or influence the quality of technical infrastructure, which is a crucial part of the intermediate business environment.

The national technical infrastructure supporting standards and regulations refers to processes and institutions defining standards and regulations and carrying out conformity assessment.<sup>161</sup> Creating and maintaining a well-functioning technical infrastructure is challenging for resource-constrained developing countries, yet is crucial for connecting firms to regional and global markets.

Firms report that demonstrating compliance, also known as conformity assessment, is a greater obstacle than meeting the requirements themselves. In Kenya, for example, NTM Business Surveys find that exporters reported three times as many cases related to conformity assessment than to technical regulations. They cite high costs and administrative hurdles for testing and certification, or a lack of proper certifying facilities. In Rwanda, Burkina Faso and Malawi, the bottleneck also appears to be burdensome conformity assessments rather than technical requirements.

The difficulty can lie in non-transparent processes or lack of technical infrastructure to prove compliance. In Mauritius, for example, laboratory equipment must be shipped to South Africa or Singapore for maintenance due to a lack of facilities to repair the equipment locally.<sup>162</sup>

Below is an overview of elements to take into account to design, expand or strengthen a country's technical infrastructure for standards and regulations.

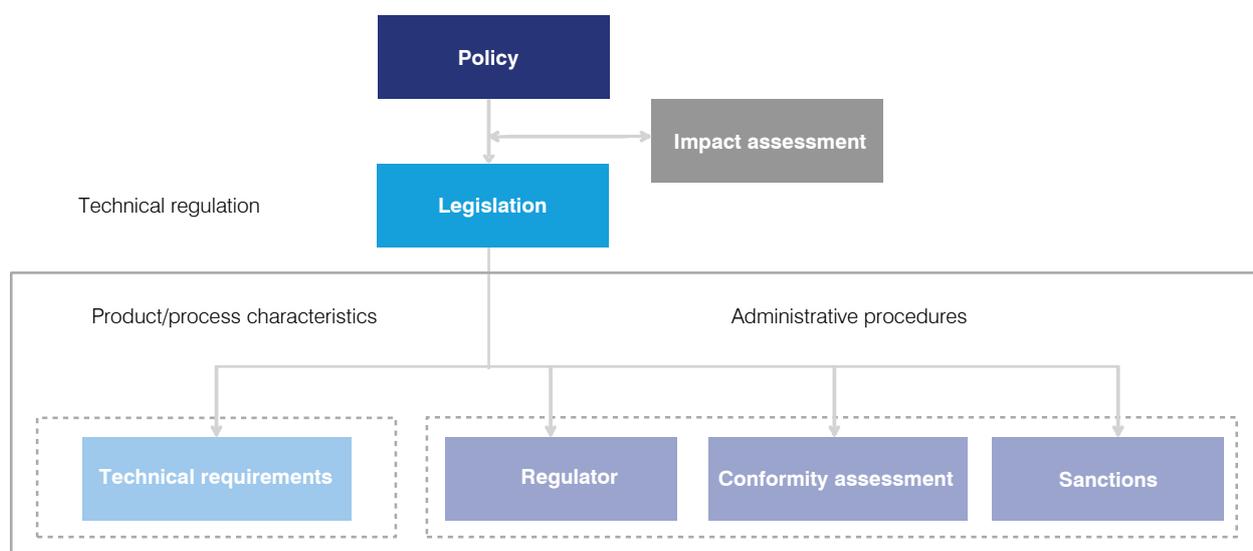
### *Designing technical infrastructure*

Designing sound processes – with their related institutions – affects the success of meeting policy objectives, such as consumer protection or environmental sustainability, while being business friendly. The processes are: policy/legislation, impact assessment, implementation, conformity assessment and sanctions (Figure 38).

Usually a regulation stems from a government policy decision to intervene in the marketplace. Consumer protection, such as against health risks or fraud, is a typical area in which governments intervene. The policy then leads to legislation.

Conducting an impact assessment is good practice. It evaluates the effect that the envisaged technical regulation will have on trade, its costs, whether all of society benefits or just a small part, and whether the result can be achieved through less onerous means.

**FIGURE 38** Building blocks for a technical regulation



**Source:** ITC (2004). A Road Map for Quality.

Administrative procedures require identifying a regulator, i.e. the agency that will implement the technical regulation at national level and institute sanctions if necessary. This is usually a government department or a regulator established specifically for the purpose. The main criteria are that the agency should be appropriately empowered and shielded from unnecessary legal challenges to its right to rule on matters within its jurisdiction.

Conformity assessment bodies provide the firms with certificates which prove that their products meet legislated requirements. The firm can then use these certificates to demonstrate compliance to regulators.

There are sanctions when suppliers or products fail to meet the requirements of the regulations, which range from administrative moves, such as ordering the supplier to remove the product from the marketplace, to court actions.

These building blocks are established and implemented differently, depending on national legal systems. Anecdotal experience suggests that when one of these building blocks is not in place, it seriously compromises the effectiveness of the technical regulation.

### *Institutional arrangement models*

Once standards and technical regulations have been defined, a mechanism – or technical infrastructure – must be in place which enables firms to comply with the specified requirements. Setting up the institutional structure for conformity assessment is a major challenge when designing the technical infrastructure for regulation.

There are five components of conformity assessment services: testing, inspection, certification, metrology and accreditation (Box 8). It is possible to perform conformity assessment on products, services, processes, systems and even people.

How conformity assessment is organized differs based on the degree of private sector involvement, and the extent to which functions are concentrated in one government agency or split among several.

Each country arranges the institutions that make up technical infrastructure differently. Five possible models are illustrated below.<sup>163</sup> Many of these arrangements can be effective and efficient, but some relationships give rise to problems, notably conflicts of interest.

**1. Integrated approach.** Developing and transition economies have favoured this approach for many years. Standards, metrology, testing, certification and inspection are found within the same organization. The integrated organization often enjoys legal protection against providers of similar services.

The advantage is that administrative support can be shared, relevant legislation is easier to integrate and scarce resources are optimized, including funding, personnel, equipment and buildings.

One disadvantage is that if the organization enjoys legal protection against competition, competencies can decline and inefficiencies can grow. In addition, the inclusion of accreditation under the integrated approach leads to a major conflict of interest. One section within the integrated organization is accrediting another, and has an incentive not to accredit external entities.

**2. Semi-integrated approach.** Two or more governmental organizations are responsible for technical infrastructure. Typically, the organization responsible for accreditation will not be within the same bodies providing inspection, testing and certification services. This separation of functions addresses the conflict of interest issue.

**3. Traditional statutory approach.** This approach is inspired by British practice. The government passes a statutory law granting an institution exclusive rights on certain aspects of technical infrastructure, such as metrology or standard-setting. This gives the relevant body an official seal of approval. The structure of these bodies depends on details of the law. They can be fully or partially government-controlled, or fully independent.

**4. Separation of statutory and commercial activities.** Continental Europe and the United States favour this approach. It leaves to the private sector elements that can be commercially exploited. Under this approach, private industry carries out testing and certification. The government controls metrology, standard-setting and accreditation. Both industry and government can carry out inspections, depending on the activity.

**5. National quality infrastructure.** Under this system, which was developed fairly recently, the government establishes a national quality infrastructure that coordinates the national metrology, standards and accreditation systems. The government is not involved at the operational level. Testing and certification is mostly in the hands of private industry. The national quality infrastructure ensures international recognition through accreditation and the national metrology institute.

Some industrial sectors may take responsibility for developing national standards in coordination with the National Standards Body, which assumes responsibility for accrediting such private sector standards bodies. This ensures that they meet international requirements, such as those set out in the WTO TBT Agreement.

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### **Focus: What is special about services?**

The rapid growth in services trade brings the need to better understand similarities and differences with goods. Figure 39 illustrates describes technical infrastructure as it applies to goods and services.

Conformity assessment follows the same logic in services as in goods. Yet there are important differences stemming from the fact that it is often more difficult to assess the conformity of a service than the conformity of a good. How, for instance, to assess the conformity of an operation or the conformity of a lecture?

As a result, conformity assessment for services differs in the following ways:

- Metrology and testing are less relevant in services.
- Certification and inspection procedures are more relevant.
- Certification is twofold, with certifications for service providers (regulated professions) and certifications for the services themselves.

## **BOX 8: Five components of conformity assessment**

### **Testing**

Testing uses a procedure to determine the conformity of one or more characteristics of an object. Testing can be done in-house or by external laboratories.

### **Inspection**

Inspection is distinguished by the degree of subjectivity and judgement. 'Is this article fit for purpose?' and 'Is it safe?' are questions that may require both objective data from test results and the judgement of a knowledgeable and experienced inspector. These questions may also form part of the decision-making process on whether to issue a certificate of compliance for batches of product or for individual products or installations.

In international trade, inspection is used to monitor the quality and technical aspects of imports and exports, as well as quantity, packaging, handling and logistics. Inspection of non-perishable goods will normally be a purely visual examination. Perishable materials are subject to much more rigorous inspection.

### **Certification**

Certification is a statement by a third party that it has inspected and tested services or products, and that these comply with specified requirements, usually expressed in a standard. Certification can apply to a batch of goods, or their continuous production. Other types of certification include processes, for example Good Agricultural Practices, or GAP, and management systems.

### **Metrology**

Metrology ensures correct, comparable and reliable measuring results. In international trade, measurements are necessary if a firm has to meet specifications required by regulations, standards or its customer, or if it sells its product by mass (kilograms) or length (metres). Measurements and tests must be correct within specified limits, comparable and reliable to ensure confidence in certificates. Regular calibrations usually ensure the accuracy of measuring instruments. Accredited calibration laboratories offer these services.

### **Accreditation**

Accreditation is a statement by an authority that an organization is technically competent to perform specified activities. In conformity assessment, accreditation is applied to laboratories, inspection bodies and certification bodies.

Accreditation bodies have been working towards the universal acceptance of test reports and certificates from accredited organizations for years. This has resulted in global networks overseen by the International Accreditation Forum for management services and the International Laboratory Accreditation Cooperation for laboratories. Through these networks, it is possible to find accredited organizations all over the world.

**Source:** ITC (2011). Export Quality Management.

### Examples by sector

The following provides examples of processes and institutional set-ups.

#### Regulated professions: Qualifications and certifications

Numerous services are characterized by set-ups for which only accredited services providers are allowed to provide a service. Accredited service providers can be institutions, such as hospitals and universities, or individuals such as medical doctors, lawyers and accountants. In some cases an accredited institution can accredit individuals. For example, a university can nominate a professor.

Accreditation of providers is common in the following areas:

- business and professional services, as well as educational, financial, health, social and transport services.

An example for an institutional set-up relevant for accounting services is Kenya’s technical infrastructure for accounting services:

- Kenya Accountants and Secretaries National Examinations Board conducts the accountancy professional exam and provides certification.

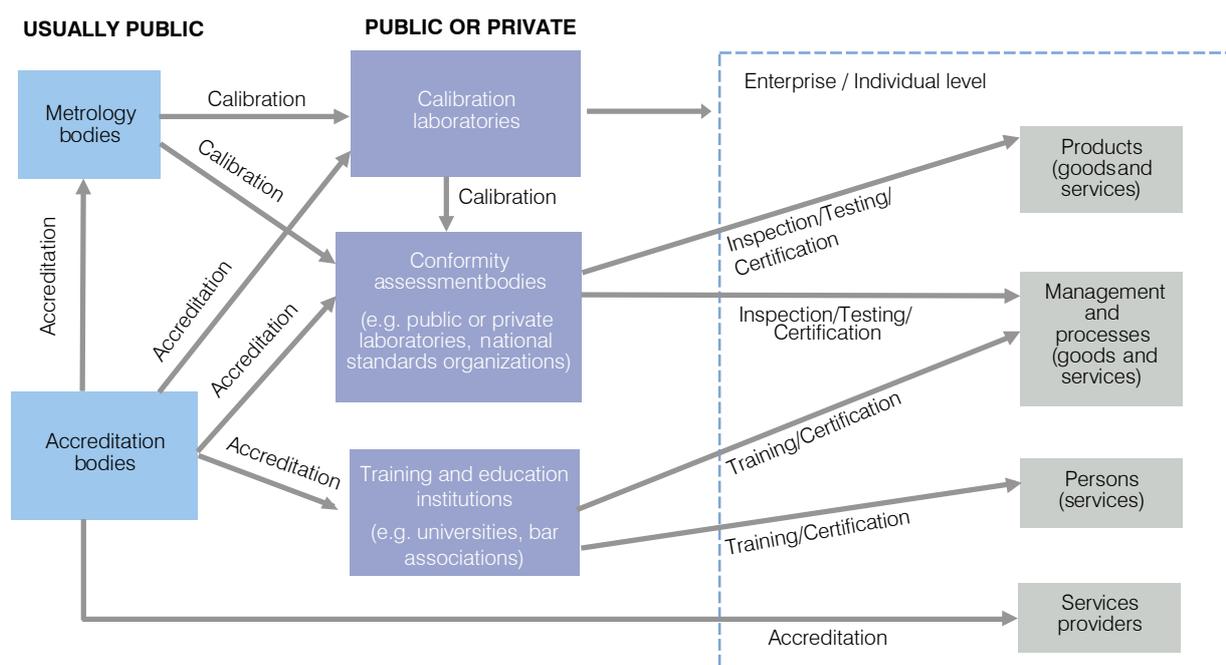
- The registration committee under the Institute of Certified Public Accountants of Kenya (ICPAK) provides membership to those who pass the professional exam and non-Kenyans with suitable qualifications seeking to practice in the country.
- ICPAK sets professional standards, ensures compliance with international accounting and financial reporting standards, conducts professional development training, and takes disciplinary action.<sup>164</sup>

#### ICT services: certifications and testing

For ICT services, conformity assessment applies to the company and the product, including software, apps and computer games, as well as other e-solutions and e-applications. For instance, in India the National Association of Software and Services Companies coordinates industry standard assessments and certification programmes.

Given the nature of ICT services, the products and services may need to conform to certain technical requirements and standards for network interoperability and functionality, such as 3G/4G standards for telecommunications, Wi-Fi and Bluetooth. The International

FIGURE 39 Technical infrastructure common to goods and services



Source: ITC

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Telecommunications Union advocates interoperability among ICT products and services. Conforming to these standards increases the probability that a vendor's products will be compatible with those of other vendors.<sup>165</sup>

### **Tourism: Licensing, voluntary certifications, inspection**

The tourism industry is composed of a variety of interconnected services and goods. Governments play a key role in ensuring that services for tourists meet international standards. Having an effective technical infrastructure for setting, inspecting, and reporting quality standards helps avoid the risk of inconsistency in the quality of products and services.<sup>166</sup>

National authorities generally establish the necessary licences and permits, which can apply to travel agents, tour operators, restaurants and hotels. For example, the Sri Lanka Tourism Development Authority monitors all tourism enterprises in the country and ensures that they develop, comply with and maintain the locally and internationally accepted tourism standards set out in accreditation and licensing guidelines.<sup>167</sup>

Voluntary certification systems to cover sustainability issues are also gaining prominence.<sup>168</sup> The World Tourism Organization (UNWTO) highly recommends that governments establish such certification.<sup>169</sup> The Global Sustainable Tourism Council, a United States-registered non-profit organization with a diverse and global membership,<sup>170</sup> manages global sustainable standards in order to increase sustainable tourism knowledge and practices among public and private stakeholders.

In the hospitality industry, inspections by local authorities or international agencies aim to control and maintain safety and general welfare conditions. The following are examples:

- In Jordan, the government developed a guide for inspection procedures through the Security Committee of Tourism Facilities, composed of the Ministry of Tourism and Antiquities, Ministry of Health, Ministry of Labour, the Greater Amman Municipality and the Capital Governorate Police Directorate.<sup>171</sup>
- The Leading Hotels of the World, a luxury hospitality organization representing more than 375 of the world's hotels, resorts and spas, has quality standards that serve as a benchmark for the luxury hospitality industry. Product and service standards are maintained through the Leading Quality Assurance, a joint venture that conducts anonymous property inspections.<sup>172</sup>

### **Setting standards effectively**

One of the fundamental principles of standards is that they should be the result of a consultative process involving all interested parties. Consensus on standards does not mean absolute unanimity, but rather general agreement combined with the absence of opposition from any important interested party.

The process for developing standards is defined in the ISO/IEC Directives as well as in Annex 3 of the WTO TBT Agreement. Table 7 illustrates the stages of this process. As standards reflect current technology, they must be updated to ensure their continuous applicability. As a general rule, no more than five years should elapse before published standards are reviewed and reaffirmed, revised or withdrawn.

Standards can be specific to individual countries or based on regional or international standards with country-specific elements. The trend, however, is towards adopting international or regional standards as national standards, without changes.

### **Collaborate with the private sector**

Involvement of the private sector is crucial for the effective design and implementation of standards and regulations. Yet, it has to be kept in mind that the interests of the private sector and the government do not necessarily coincide. It is essential to design the level and nature of private sector involvement with care.

### **Standard setting**

Governments intervene in the market through legislation for policy purposes such as protecting life and health of people, plants and animals, protecting the environment and national security. Therefore, the government has the authority to invest and direct technical infrastructure to facilitate compliance.

The design of regulations requires information from producers or service providers regarding their impact on production costs. Regulators of pharmaceutical products or food additives, for instance, require scientific information on the potential impact on human health. While private sector stakeholders need to be consulted, governments must manage the risk of industry capture when designing standards and processes.

The case for government involvement in private standards is more complex. If policymakers do not perceive a private standard as legitimate, they are unlikely to offer public support. But there may be cases where public authorities

TABLE 7: Stages of standards and regulations development

No.	Stage	Comments
1	Project proposal	The Standards Developing Organization (SDO) decides on the market relevance of the standard, agrees on a project plan to develop the standard and commits the necessary resources.
2	Technical committee draft	A technical committee consisting of stakeholders and experts deliberates on the content of the standard. The work progresses through a number of drafting stages until the committee finalizes the draft.
3	Comment stage	The committee draft is circulated to the full committee to solicit comments.
4	Draft standard	The comments received during the previous stage are included in the work, and a draft standard is produced.
5	Public comment	The draft standard is circulated for public comment for a period of at least 60 days.
6	Approval and editing	The public comments are dealt with by the technical committee and edited for technical consistency and language. The final document is presented for approval to the SDO management.
7	Publication	The standard is published in a variety of ways, e.g. hard copy and electronically.
8	Five-year review	As technology develops, standards get out of date, and they have to be reviewed to confirm their continued relevance, to be revised or in some cases withdrawn.

**Source:** ITC (2004). A Road Map for Quality.

encourage the adoption of private standards, for instance, by disseminating knowledge about their use or value.

When governments decide to support training to comply with a private standard, refer to private standards in non-legal texts, or provide other encouragement for suppliers to get certified to a private standard, they indirectly confer legitimacy to the standards concerned.<sup>173</sup>

Given that the distinction between private and public standards is often blurred, and that firms and consumers may not distinguish between them, the decision of whether government support for private standards is 'legitimate' ultimately rests on the objectives of the support, what form it takes, and the broader national context.

### ***Taking advantage of international value chains***

IVCs represent a rich channel to transfer expertise between importers and their suppliers, as well as among local conformity assessment bodies and other producers. This technical knowledge goes beyond compliance certification, to include better processes and value-added activities. This is especially true for vertically integrated value chains with a high level of control by the lead firm.<sup>174</sup>

IVCs use VSS as they are more specifically tailored to their needs than public standards. Many producers meet VSS to cater to these niche value chains. Compliance with VSS is therefore fundamental to increasing participation in IVCs.

Governments can help by creating linkages with value chains. Linking producers with lead firms and exporters

connects them to the market and increases their technical capacity to comply through knowledge transfer.

As certification is costly to small firms and producers, these links open options to facilitate compliance, such as group certifications and benchmarking. IVCs also contribute to technical infrastructure by helping suppliers meet the value chain's standards and those of international markets.

An example from Ghana demonstrates government efforts to connect local firms to IVCs. In collaboration with local industries in Ghana, a United States Agency for International Development programme helped to connect Ghanaian farmers with export support bodies and presented compliance and certification solutions to small farmers. This included enhancing mid-level parts of the value chain, such as domestic exporters.<sup>175</sup>

Public efforts can also target technical infrastructure. Value chain suppliers often are required to comply with standards with conformity being assessed by the importer. In this arrangement, the importer may perform inspections on its own or through private operators. Importers commonly have their own inspection arrangements locally, close to their suppliers. Governments of exporting countries may want to review their foreign investment and foreign economic presence regulations to facilitate the creation of such inspection arrangements.

The availability of inspection operators also affects the selection of suppliers by importers. Providing relevant conformity assessment bodies near producers can be helpful.

A common niche market involves environmental and organic trade standards. It requires demanding voluntary certifications. To help producers integrate into these markets, governments can reduce the complexity and costs of compliance by aligning their own regulations with stringent environmental and organic private standards.

An OECD study found that harmonization by aligning technical regulations with requirements in voluntary standards can significantly reduce the complexity of compliance and open channels for governments to support the adoption of standards.<sup>176</sup>

For example, producers that comply with such stringent VSS could automatically be considered compliant with related public standards and technical regulations. This can be done by harmonizing regulations to create compatibility. In the same manner, governments can provide the option of a single inspection visit that is valid for public and voluntary standards, which will reduce compliance costs.<sup>177</sup>

### **Certification**

Firms often have the ability to pay for testing. The technical infrastructure models presented above illustrate that testing and other conformity assessment services can be provided by the private sector. Why is this not systematically the case?

If there is an absence of critical mass of demand, which is the case in many developing countries, it is not commercially viable for private firms to offer conformity assessment services. This indicates a coordination failure – the demand

for services will not develop in the absence of a conformity assessment infrastructure, and the private sector will not provide services without demand.

Governments can break this cycle by supplying the initial capital to add tests to public or private labs, and gradually withdraw funding as demand for these tests increases.

Another option, especially where the market for specific tests is small, is to send the test samples to a regional accredited laboratory by post. For that to happen, the practice would need to be accepted by home standard-setting bodies, and the necessary postal services would have to be available.

### **Make strategic choices for technical infrastructure**

Many standards and regulations are specific to sectors, value chains or products. The same holds for certain components of the technical infrastructure. Given that building and running the technical infrastructure is costly, resource-constrained countries have to make hard choices regarding the product lines to be supported by internationally recognized technical infrastructure.

### **Align with national policy priorities**

In developed countries, conformity assessment, inspection and issuing certificates are often carried out by private operators. In developing economies, there are fewer incentives for the private sector, due to limited market size and infrastructure.

**TABLE 8:** Standards promotion options for public authorities

Objective	Action
Sharing knowledge	Produce and disseminate knowledge about the use or value of private or international standards.
Steering	Influence the development, use or content of private or international standards.
Self-discipline	Use private or international standards in public procurement.
Reward	Provide incentives for firms to adhere to private or international standards.
Command	Require regulated entities to adhere to private or international standards.
Borrowing	Incorporate private standards in statutes, regulations, permits or international agreements.
Benchmarking	Have courts or tribunals use private standards as a benchmark to evaluate a party's conduct and determine its legal liability.
Challenge	Ask firms to adhere to private standards.

**Source:** Adapted from Wood (2005). Three Questions about Corporate Codes.

Governments need to invest in several conformity assessment bodies to provide compliance for export purposes and certification for local producers. This is costly, and any government action is likely to reflect national priorities and resource availability.

Governments can be strategic by developing technical infrastructure that supports lucrative international markets and contributes to broader national development strategies. A starting point for these choices is national export potential assessment.

### ***Encourage the use of standards***

Public authorities can encourage firms to meet standards and technical regulations. Table 8 provides a summary of these actions.

Government support for private standards is not unusual. About one-third of the standards listed in ITC's Standards Map are officially recognized in national or local laws or regulations.

The case of Kenya GAP is illustrative. In 1996, the country decided to develop voluntary national standards based on a private food standard, the GLOBALG.A.P. standards for fruits and vegetables. This approach made implementing an international standard more feasible within a national context. Kenya GAP is now fully recognized as equivalent to GLOBALG.A.P.

### ***Ensure international recognition***

Trading partners only recognize conformity assessment results when the bodies involved are accredited. For example, the Malawi Bureau of Standards, the national standards body and certification focal point, was not an internationally accredited facility in 2012. Therefore, importing countries in North America, EU and Asia did not recognize technical certificates issued by the bureau. Exporters needed to revert to private sector certification facilities, which brought additional costs.<sup>178</sup>

For these reasons, Malawi is currently implementing a project to develop its own robust standardization, quality assurance, accreditation and metrology services - the SQAM Project. The project is led by the Malawi Bureau of Standards and guided by a Contribution Agreement between the EU and the United Nations Development Programme.

In many countries, authorized national bodies accredit laboratories based on ISO/IEC 17025, the general requirements for the competence of calibration and testing laboratories. Laboratory compliance with ISO/IEC 17025 requirements provides assurance of its competence.

Conformity assessment bodies should participate in regional and international accreditation arrangements, including mutual recognition agreements, joint commissions and membership in multilateral organizations. Arrangements such as the International Laboratory Accreditation Cooperation are a prerequisite to assess export compliance.

### ***Reduce border obstacles***

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Once firms have a certified product or service that meets the relevant regulations and standards, the product or service must cross the border. Products can be delayed by border inspections, and delivery of services can face the hurdle of visa problems for personnel.

### ***Identifying obstacles***

Lack of coordination among agencies is one of the most common causes of delays in administrative and compliance procedures.<sup>179</sup> As exporters and importers work with several border agencies, weak inter-agency coordination obliges a business to submit and follow up on applications and documents separately. Human and financial resources for both business and government result in high transaction costs.

During WTO's Fifth Global Review of Aid for Trade, private companies were asked where they most value improvement for border procedures. Among the first four issues named by SMEs were transparency of controls and inspections, and the efficient release and clearance of goods.<sup>180</sup>

Problematic regulations and procedures have their origin in the home country, the partner country, or in both. If the origin is entirely domestic, it can be addressed by the domestic institutions that make up and influence technical infrastructure.

The ITC NTM Business Survey is a large-scale firm-level survey of exporting and importing companies that collects information about their experiences with burdensome regulations and procedures.<sup>181</sup> It identifies business obstacles when complying with NTMs at the level of product, sector and partner country.<sup>182</sup>



## CASE STUDY

# Medical and wellness tourism can benefit from accreditation

Medical and wellness tourism is a large and growing market estimated at 14 million travellers a year with an approximate market size of \$60 billion.

Increasingly, these tourists travel from developed to developing countries. They seek cheaper or specialized 'Western-style' medicine treatments and procedures (medical tourism) or authentic and location-based therapies (wellness tourism).

### *International accreditation draws patients*

Improved healthcare quality in developing countries is driving the trend in medical tourism. Reputation matters significantly in this field, and healthcare facilities seek international accreditation to increase confidence in the quality of services.

International accreditation acts like a stamp of approval to provide patients with security about the quality of healthcare offered in foreign medical facilities. In this way, accreditation helps increase patient flow. The more accredited Hospital and healthcare facilities a country has, the greater its reputation and the more international patients it can attract.

Among accreditation institutions, the most well-known is the Joint Commission International (JCI) accreditation. JCI is an international affiliate agency of the United States-based Joint Commission, which accredits American hospitals.

Following the same rigorous standards used in the United States, JCI accredits international hospitals that apply to it. More than 600 facilities around the world are now JCI-accredited, and the number is growing by about 20% a year. Other hospitals opt for accreditation under the International Organization for Standardization (ISO).

### *Countries choose different approaches*

The Indian Government has strongly supported this sector since 2002, after the Confederation of Indian Industry produced a study on medical tourism. India has its own national accreditation facility, the National Accreditation Board for Hospitals and Healthcare Providers, to guarantee service quality.

Malaysia also has its own hospital accreditation system. The Malaysian Society for Quality in Health has accredited 72 out of 253 hospitals to handle international patients. Beyond domestic accreditation, the government supports international accreditation initiatives with tax incentives to accredited hospitals.

Thailand encourages its hospitals to seek international accreditation. Bangkok's Bumrungrad Hospital was the first JCI-accredited Asian hospital. Bumrungrad Hospital reportedly treats 400,000 foreign patients every year. In addition to Bumrungrad, Thailand has 22 JCI-accredited hospitals.



### ***Accreditation helps to create links with insurers***

Lack of insurance portability remains a major barrier to medical tourism growth in developing countries. In most cases, only patients with sufficient funds to cover their treatment can take advantage of medical tourism.

However, some insurance companies have limited packages for specific medical facilities, or are experimenting with foreign coverage on a hospital-by-hospital basis.

Obtaining accreditation can help to create links between insurance companies and foreign medical facilities. Most insurance companies that consider financing of medical procedures abroad require international hospital accreditation before they make direct payments. For example, Thailand's Bumrungrad Hospital receives payments for foreign patients' procedures from some American insurers.

### ***Movement of people affects sector***

Medical facilities want to hire the most skilled professionals to attract customers, which may entail employing foreign nationals or nationals who have studied abroad. Regulations on the movement of people are therefore relevant for those providing services, as well as for the medical tourists themselves.

Some countries loosen these restrictions to support the sector's development. Malaysia, for example, removed curbs on cross-border movement for medical professionals coming into the country. India has made efforts to facilitate visas.

### ***Good prospects for health tourism in Sri Lanka***

Sri Lanka's public healthcare system boasts skilled and highly trained medical doctors. In addition, the country has a comparative advantage in wellness tourism due to its many exotic beaches and a rich cultural heritage. It also has the ability to develop niche markets, such as ayurvedic treatment.

An international accreditation body for spa and wellness has awarded a 'Quality Spa Certification' to a Sri Lankan ayurvedic spa near Kandy. Sri Lankan hospitals are ISO-certified for management (ISO 9001) or medical laboratories (ISO 15189). Having more internationally accredited wellness facilities can contribute to creating a vibrant medical and wellness tourism sector in the country.

**Source:** ITC (2014). Medical and Wellness Tourism;  
<http://www.patientsbeyondborders.com/medical-tourism-statistics-facts>



Cecilia Malmström

European Commissioner  
for Trade

*The main obstacles faced by SMEs in international trade are linked to compliance with different regulations and standards applied to products and services.*

*Regulatory fragmentation can cause significant additional costs for producers.*

## THOUGHT LEADER

# Standards and regulations – impact on SME competitiveness in international trade

Small and medium-sized enterprises (SMEs) are the backbone of the global economy and the main source of employment and innovation. The competitiveness of SMEs, their ability to compete in domestic and global markets, is a key determinant for growth and jobs and therefore a political priority in most countries.

SMEs face some specific challenges due to their small scale and relatively low trade volumes compared with large companies. These factors can have an adverse impact on their ability to trade internationally. Reports and surveys of the European Commission show that the main obstacles faced by SMEs in international trade are linked to compliance with different regulations and standards applied to products and services. In relative terms, these requirements are more burdensome and costly for SMEs than for large firms.

### *Regulatory fragmentation adds costs*

These requirements currently differ worldwide. Sometimes this is because of cultural differences and societal choices, but often it is simply because regulatory approaches were developed in isolation. Such regulatory fragmentation can cause significant additional costs for producers that have to modify their products and/or undergo duplicative conformity assessments for no added safety or other public benefit. In some cases, country-specific rules are simply disguised protectionism.

These costs are particularly significant for SMEs, for which they can constitute an insurmountable market access barrier. In addition, access to information about what regulations apply to their products in different jurisdictions constitutes an obstacle for many SMEs.

The findings of the European Commission are in line with similar reports undertaken by other countries and institutions. It is clear that many small companies neither have the capacities nor the resources to adapt their products or services for different regulatory requirements in different markets. Consequently, these requirements may become effective trade barriers to SMEs which cannot comply with them.

*Many small companies neither have the capacities nor the resources to adapt their products or services for different regulatory requirements in different markets.*

### *Adapt regulations to trade patterns based on value chains*

At the same time, global trade patterns are changing. Production, trade and investment are increasingly organized within regional and global value chains. Production steps for a single product can take place, and value can be added, in several countries by different operators. Production of goods is increasingly global, from raw materials to finished products. This encourages companies to outsource production tasks to companies with the necessary skills and materials available at competitive cost and quality, either within one country or abroad.

SMEs often participate in international trade through these global value chains. However, this process too can be influenced by the application of a diverse set of regulations and standards. These issues also apply to services as many of them are now supplied internationally as part of value chains.

### *Regional and global solutions: More impact for SMEs*

While it is sometimes easier to address these issues in bilateral negotiations, regional and global solutions have more impact. The European Union (EU) is promoting coherence of international regulations and standards, transparency of rules and other regulatory information, and appropriate levels and means of regulation and implementation. Convergence in standards and regulations brings benefits to all exporters. However, SMEs would benefit more than bigger companies from the resulting reduction of production and export-related costs.

Stronger international regulatory cooperation helps to facilitate trade, raises global standards, makes regulations more effective and helps regulators to make better use of limited resources. It must be done in a way that does not restrict the right of governments to act to achieve legitimate public policy objectives.

The EU encourages the work of bodies like the United Nations Economic Commission for Europe for motor vehicles and the Codex Alimentarius for food. International standardization organizations such as ISO, IEC, ITU, also have an important role to play in regulatory cooperation. Further progress in promoting good regulatory practices could be considered in the WTO.

### *The power of standards*

Standardization is a powerful and strategic tool because standards can influence economic sectors, and areas of public concern such as the competitiveness of industry, the functioning of international trade, protecting the environment and human health, as well as fostering innovation. The use of standards can help SMEs to reduce costs, improve innovative capacity and enhance competitiveness.

The European Commission supports and defends SMEs' interests in standardization at EU and international levels. The core of the EU Single Market is a single set of homogeneous standards and regulations, allowing all companies to compete under the same conditions. We are working on that approach in the EU Single Market, and in the EU we can see why it is so important to work towards the same approach worldwide.

*Stronger international regulatory cooperation helps to facilitate trade, raises global standards, makes regulations more effective and helps regulators to make better use of limited resources.*

*The use of standards can help SMEs to reduce costs, improve innovative capacity and enhance competitiveness.*

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### *International developments*

The EU has concluded several international agreements for better cooperation, convergence or harmonization of legislation. An example is the European Economic Area Agreement. The EU has also negotiated bilateral agreements on conformity assessment and mutual recognition and acceptance of industrial products. These agreements facilitate the free movement of goods, and reduce the costs of testing and certification on other markets.

The WTO should continue its multilateral work to ensure more regulatory transparency and coherence. New or changing technical regulations in different countries can create unnecessary and unjustified technical barriers to trade. Discrepancies between product rules may impose additional trade restrictions and costs for exporters. All WTO members should try to prevent the creation of such barriers and help SMEs to trade in global markets.

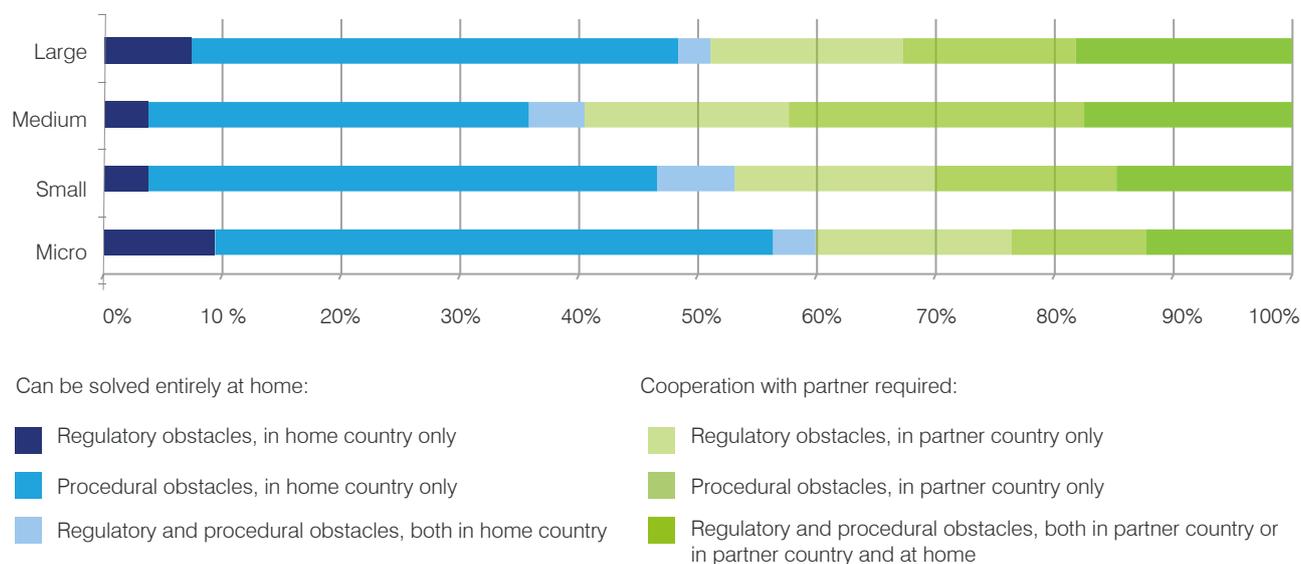
The Technical Barriers to Trade notification procedure at WTO level allows for the examination of any national technical regulation before it is adopted. As a result, trade barriers not in line with WTO rules can be detected and discussed before they have negative effects on companies. This process also helps to identify harmonization needs and to promote consistent coherent regulations internationally.

I welcome the work of ITC to support SME internationalization and to provide more knowledge about trade-related issues. The SME Competitiveness Outlook 2016 is an appropriate tool to raise awareness of SME internationalization. This year the report focuses on regulations and standards, which underlines the importance of these measures for global trade and for SMEs. The report will contribute to the call for more cooperation between countries at multilateral level to achieve more coherent regulations and international standards worldwide. The resulting reductions in trade barriers and red tape will benefit SMEs in particular. They will be better able to compete fairly in international markets and in global value chains, helping to ensure growth and jobs.

*The WTO should continue its multilateral work to ensure more regulatory transparency and coherence.*

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**FIGURE 40** Addressing non-tariff measures to trade: Action begins at home



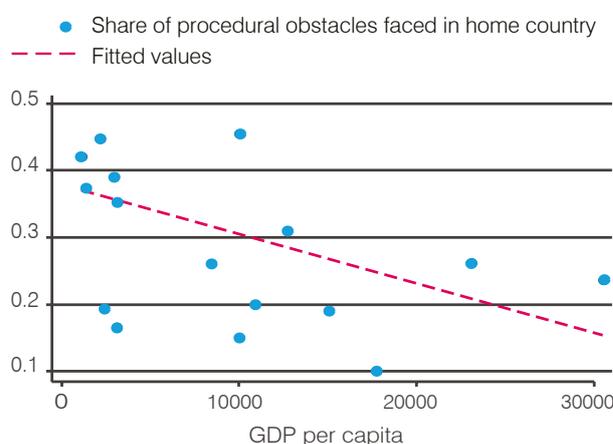
**Note:** This figure includes only regulations and procedures related to technical requirements, conformity assessment and export inspection or certification. It does not include non-technical measures, such as trade remedies, rules of origin, etc. The data include 25 countries from the NTM Business Surveys.  
**Source:** ITC calculations based on NTM Business Surveys, 2016.

Evidence illustrates that about half of all obstacles can be addressed by domestic authorities (Figure 40). Firms of all sizes identify procedural obstacles as problems more often than regulatory obstacles related to technical requirements.

A closer examination reveals a negative relationship between the share of procedural obstacles in the home country and the level of economic development (Figure 41). This demonstrates that wealthier countries have more effective processes.

Lost time at the border is the most frequent procedural obstacle cited by businesses that participated in the survey. Table 9 outlines the frequency of procedural obstacles among domestic agencies related to technical requirements, conformity assessment and export inspection or certification.

**FIGURE 41** Procedural obstacles are linked to development levels



**Note:** The share is calculated as the fraction of cases where the reported burden is associated with procedural obstacles in the home country, over all cases where the reported burden is associated with procedural obstacles.  
**Source:** ITC calculations based on NTM Business Surveys, 2016.

### Addressing obstacles at the border

#### Improve coordination

Given the multiplicity of actors in testing and accrediting different products and services, coordination is crucial to ensure that controls are effective and border crossings are speedy.

### Simplify and standardize

Simplifying procedures can increase trade. This is especially beneficial for SMEs, with fewer in-house capacities to address complex, unpredictable processes.

The Kyoto Convention on the Simplification and Harmonization of Customs Procedures is the international standard for making customs regulatory procedures as efficient as possible. Practices promoted by the convention include:

- Standardize and simplify forms and documentation requirements;
- Simplify procedures by maximizing the use of information and communication technology;
- Automate procedures to enhance consistency, transparency and speed of customs actions;
- Allow electronic submission of documents, which can reduce time and costs spent with customs procedures.

### Create a single window

Reducing the number of agencies at the border lowers the resources required for customs. This reduces fixed business costs and therefore helps SMEs expand their cross-border trade. A key recommendation is therefore to establish single window to submit documents and provide information.

Several countries have set up such single windows. Peru

established a Single Window for Foreign Trade (VUCE) in 2010. It improves coordination by connecting eight government institutions that issue export and import permits, as well as shipping-related entities.<sup>183</sup>

In Senegal, the impact of streamlining is evident. Its electronic single window ORBUS started with a study to identify the needs and expectations of future users. Implemented in three phases by a Senegalese company early 2004, the country was able to introduce paperless trade by 2009. It now takes half a day for pre-clearance formalities, instead of four days. The complete customs clearance process takes nine days on average, down from 18 days.<sup>184</sup>

In East Africa, upgrading customs management and a single window system led to cost savings of up to \$17 million in Rwanda and a 50% reduction in clearance times in Uganda.<sup>185</sup>

Governments can streamline payment of fees and charges by arranging for all payments to take place in one designated agency or building. Recording of payments and delivery of an official receipt can increase transparency and reduce informal payments. Electronic payment can simplify transactions further and cut costs.

A risk-based inspection approach reduces time delays and damage of goods at the border. Time-consuming physical inspections can be replaced by technology-

TABLE 9 Procedural obstacles by domestic institution

By obstacle (right) By institution (below)	Administrative burdens related to regulation	Information / transparency issues	Discriminatory behaviour of officials	Time constraints	Informal or unusually high payment	Lack of sector-specific facilities	Lack of recognition / accreditation	Other
Airport	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Chamber of commerce and trade support institution	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Green
Customs authority	Yellow	Green	Green	Red	Yellow	Yellow	Green	Yellow
Ministry in charge of agriculture	Yellow	Green	Green	Red	Yellow	Yellow	Green	Green
Ministry in charge of environment for inspection	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Yellow
Ministry in charge of finance	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Ministry in charge of international trade	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Ministry in charge of public health	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Green
Other ministries/agencies	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Green
Port authorities	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Products testing and analysis laboratory	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Public/private organization for standard and quality	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Public/private organizations for certification	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Public/private organizations for inspection	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green
Other private companies/banks	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Green
Not specified	Yellow	Green	Green	Red	Yellow	Yellow	Green	Yellow

**Note:** Green is the lowest frequency of procedural obstacle; red is the highest. The table, based on data for 25 countries from ITC NTM Business Surveys, covers domestic procedural obstacles for exports, related to technical requirements, conformity assessment and export inspection or certification, by institution and by procedural obstacle. Non-technical measures such as trade remedies, rules of origin, etc. are not included.

**Source:** ITC calculations based on NTM Business Surveys, 2016.

based inspections, such as with X-ray machines.

Creating fast-track procedures for small-scale exporters is another option to simplify customs procedures.

### **Use the WTO Trade Facilitation Agreement**

The WTO Trade Facilitation Agreement (TFA) addresses border-related issues by imposing binding obligations on all WTO Members to improve efficiency of border procedures. It makes assistance available for resource-constrained countries to carry out relevant changes. Implementing the TFA enhances SME competitiveness in trade and increases their integration in IVCs.

The new agreement contains obligations based on best practices in customs controls and cross-border movement of goods. Many relate to standards compliance, particularly public standards. For instance, pre-shipment inspection can help producers guarantee compliance even before they export. This reduces costs caused by rejected goods and enhances the predictability of the production process.

Another provision is the coordination between customs points in different countries to reduce overlap in testing and make standards compliance more lucrative by cutting costs of moving goods across borders.

Guidance for trade facilitation reform is available. The United Nations Economic Commission for Europe (UNECE), for example, has a Trade Facilitation Implementation Guide, which is interactive online, and helps countries find available solutions to implement trade facilitation policies.<sup>186</sup> ITC published guidebooks that directly target the private sector and inform SMEs how to make best use of the TFA.<sup>187</sup>

### **Encourage public-private dialogue**

Public-private dialogue ensures that reforms are aligned with business priorities, and that businesses are notified about upcoming changes.

Each country has unique national priorities, legal structures and administrative environments. Modernization programmes should therefore start with a needs assessment and an analysis of policy options.

The story of Cambodia is instructive. Upon the initiative of the Supreme National Economic Council, the Cambodian government conducted a business process analysis to evaluate trade-related procedures, times and costs. Cooperation with the private sector allowed the government to identify procedural bottlenecks and poor practices. The results of the analysis raised awareness and built political will for trade facilitation reforms.<sup>188</sup>

Trade in services also benefits from public-private dialogue. The success of services industries often depends on the policies and regulations that shape their business environment. Business participation in national and regional policy formulation promotes business-friendly policies. Services associations at national, regional and sectoral level may therefore be beneficial to ensuring a pro-services policy and regulatory environment.

Various services associations operate under umbrella bodies. They voice business concerns on policies, build capacity, run business development programmes, and promote regional integration. Their influence is often limited by the size and scope of individual associations. Unifying them in services coalitions helps to make private sector representation more effective.

For example, COMESA proposed a Regional Services Industries Group. To establish it, they relied on a plan to map its direction, launch and strengthen regional sectoral coalitions, convene regional consultative meetings, and promote services trade in the region.<sup>189</sup>

## Use international options

Accreditation only facilitates trade if relevant foreign conformity assessment bodies recognize the certification. Before businesses get products or processes certified, they should check whether the certificate will be acknowledged abroad.

### **Mutual recognition**

Mutual recognition agreements and arrangements (MRAs/ MLAs) are formal accords that provide for accreditation equivalency of laboratories and certification bodies. Mutual recognition of testing procedures permits firms to avoid double testing, reducing compliance costs.<sup>190</sup> Firms in participating countries have been found to be more likely to enter new markets and to increase their volume of trade.<sup>191</sup>

They are signed between countries and/or trading blocs, sometimes as part of a trade agreement. An example is the mutual recognition of product certification marks of EAC members.

Certification organizations – accreditation bodies, laboratories and inspection bodies – can develop voluntary recognition arrangements. For example, more than 80 accreditation bodies from over 70 economies have signed the International Laboratory Accreditation Cooperation Mutual Recognition Agreement. It covers calibration, testing, medical testing and inspection accreditation. All signatories recognize results from its accredited laboratories and inspection bodies.



**Roberto Azevêdo**

Director-General,  
World Trade Organization

*International cooperation helps reduce some of the obstacles that hinder SMEs from entering foreign markets.*

*Access to information about foreign distribution networks and about border regulations and standards are among the main obstacles to SME participation in exports.*

## THOUGHT LEADER

# Levelling the playing field for SMEs

Small and medium-sized enterprises (SMEs) hold tremendous potential to power growth and job creation – and trade is one of the keys to unlocking that potential. The WTO takes a detailed look at how this can be achieved in its 2016 *World Trade Report*, and the role that international trade rules can play. We find that part of the reason for the relatively weak participation of SMEs in trade is that most trade costs, including those related to trade policies, represent higher obstacles to trade for SMEs than for larger firms. The report also shows how international cooperation helps reduce some of the obstacles that hinder SMEs from entering foreign markets.

Today, SMEs in developing economies largely target the domestic market. WTO estimates, based on data of over 25,000 SMEs surveyed by the World Bank in developing economies, show that direct and indirect manufacturing export sales account for just 10% of SMEs' total sales compared with 27% for large firms. In developing Asia, Latin America and the Caribbean, manufacturing SMEs are not as actively engaged in global value chains (GVCs) as large firms. In Africa, neither SMEs nor large firms are well integrated into these GVCs.

In developed countries, SME participation in trade is somewhat higher but still weaker than that of large firms. On average, SMEs account for one-quarter of total developed-country direct exports, or 34% if micro firms are included.

Among the multiple factors that determine a firm's ability to participate in trade, some are internal to the firm and some are external. On the internal side, the firm's productivity is the key to successfully connecting to world markets. This depends on formality, managerial skills and workforce capacity, and the capability to adopt new technologies and to innovate. Many governments have programs in place that aim at helping SMEs address some of those internal challenges.

The external factors are more varied, complex and, of course, harder to control. Evidence from surveys of SMEs suggests that access to information about foreign distribution networks and about border regulations and standards are among the main obstacles to SME participation in exports. Access to trade finance is also a big factor. Very significant gaps in provision have developed since the financial crisis, causing a major problem for SMEs as they typically have less collateral, guarantees and credit history than larger companies.

In addition, tariffs, non-tariff measures, and, more generally, trade costs tend to affect small firms more than the larger ones. This is obviously the case with the so-called

*Tariffs, non-tariff measures, and, more generally, trade costs tend to affect small firms more than the larger ones.*

---

'fixed' costs that do not depend on the size of shipments – such as the cost of identifying a foreign partner or the cost of certifying a product. More surprisingly, however, this also seems to be the case with certain variable costs such as transport costs, logistics costs or even with tariffs.

E-commerce and participation in GVCs are two avenues that SMEs can explore to help overcome these barriers and improve their participation in global trade. E-commerce allows SMEs to reach customers at much lower costs. GVCs give SMEs a way to specialize in activities in which they have a comparative advantage, access foreign distribution networks and exploit economies of scale. Yet, there are specific obstacles that SMEs face in exploiting these opportunities. The main issues SMEs face with web sales relate to the logistics of shipping a good or delivering a service, ICT security and data protection, as well as payments. Among the major challenges SMEs face in joining production networks are logistics and infrastructure costs, regulatory uncertainty and access to labour.

Trade agreements can help deal with some of these challenges in a number of ways – by affecting government policies that determine SME participation in trade, for example, or by lowering some of the specific barriers that SMEs face, or by providing access to capacity-building support for SMEs. WTO analysis shows that preferential trade agreements and, to an even larger extent, multilateral rules, foster SME participation in trade.

*E-commerce and participation in GVCs are two avenues which SMEs can explore to help overcome these barriers and improve their participation in global trade.*

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While SMEs are not always specifically mentioned in WTO Agreements, multilateral rules can have the effect of reducing both the variable and fixed trade costs that hinder SMEs from entering foreign markets. The WTO's recent Trade Facilitation Agreement is an example of this. By dramatically lowering trade costs and simplifying border procedures, this agreement will enable many SMEs to begin trading.

Multilateral rules also provide the space for national governments to take measures to remedy those market failures that prevent SME trade participation. They help to reduce the information burden of some WTO agreements on SMEs. An example is the Anti-Dumping Agreement, on SMEs. They make it easier for a member to exercise its rights when it acts on behalf of SMEs. They allow members to continue providing financial contributions to SMEs. These rules give members greater leeway to promote the technological development of their SMEs. They also allow members to provide preferential treatment to their SMEs.

In addition, the WTO's work to support its developing country members to build their trading capacity puts a real focus on expanding trading opportunities for SMEs. Addressing the financing constraints faced by SMEs features prominently in the work of the WTO's Aid for Trade program. Other initiatives, such as the Enhanced Integrated Framework (EIF) and the Standards and Trade Development Facility (STDF), are other practical examples of how the WTO is supporting SMEs to trade. EIF is focused on building trading capacity in least developed countries, often in support of SMEs, while STDF helps developing countries to meet standards on food safety, animal and plant health. The burden of compliance with these standards falls disproportionately on small companies that may lack the technical, managerial or financial ability to comply with such regulations.

*Preferential trade agreements and, to an even larger extent, multilateral rules, foster SME participation in trade.*

---

It is clear that a wide range of support is already being provided to SMEs, but it is equally clear that there is more work to do. SMEs continue to face a series of barriers that prevent them from trading. Given their potential to drive growth and job creation, I think we have a responsibility to examine these issues and explore what steps could be taken through the WTO, and elsewhere, to lower the barriers and release the full potential of SMEs.

Another example is the International Accreditation Forum (IAF), which brings together partner accreditation bodies and representatives of stakeholder groups that seek to work together to facilitate trade. IAF develops processes and practices for the conduct of conformity assessment, and ensures their universality through member accreditation bodies which in turn certify or register management systems, products, services, personnel and other similar conformity assessment programmes.<sup>192</sup>

In theory, more signatories means that firms have fewer worries about test results not being recognized in the markets they want to enter. In practice, the varying degrees of implementation of these agreements means that adherence to the agreement does not automatically solve the challenge of recognition.<sup>193</sup>

Nevertheless, adherence to recognition agreements is likely to bear significant benefits. When accreditation is recognized as equivalent, trade barriers disappear for firms that engage in multiple markets. Instead of certifying products and processes multiple times, one certificate suffices for all markets.

Africa has the lowest density of accreditation bodies affiliated to the two agreements, as shown in Figure 42.

Developing country organizations can get assistance from the International Laboratory Accreditation Cooperation (ILAC) to develop their own accreditation system. IAF and regional groups such as the European Cooperation for Accreditation and the Inter-American Accreditation Cooperation offer training for peer evaluators.

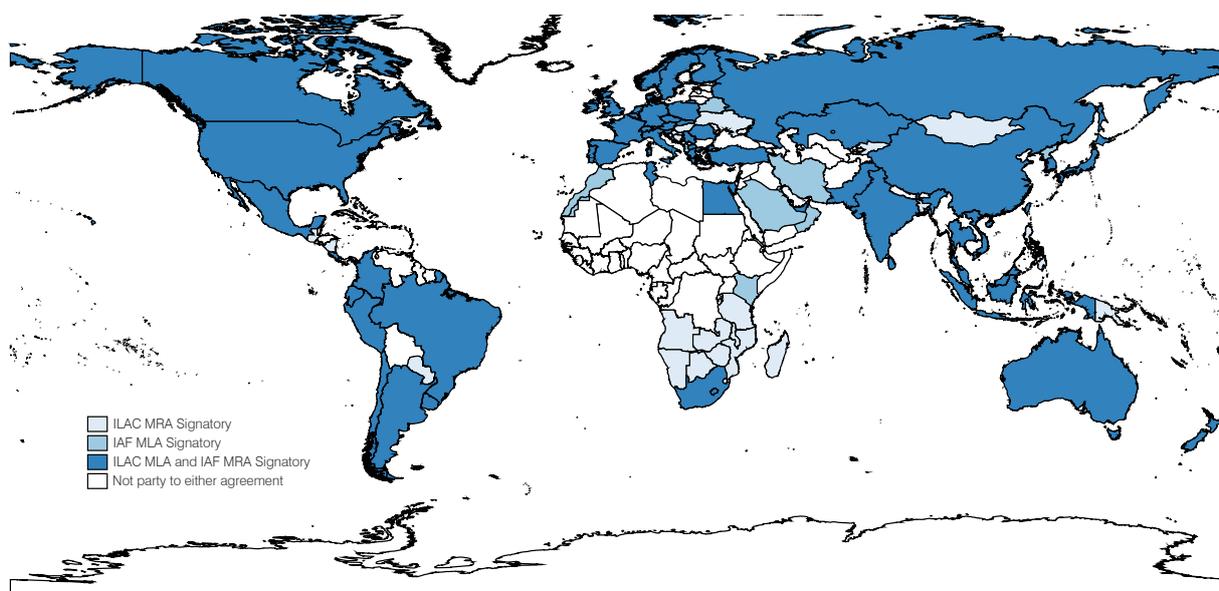
### *Harmonizing standards and regulations*

Harmonizing standards or technical regulations, and more generally NTMs, offers another opportunity for SMEs to cut costs. Mutual recognition for certification reduces costs, but does not address the challenge for exporters to meet standards in export markets that differ from those at home.

Harmonization has been found to increase the number and quantity of products exported.<sup>194</sup> As a result, national standards bodies should consider international standards when developing national standards or technical regulations. This is encouraged, for example, by the WTO SPS and TBT Agreements. In addition, it ensures that international best practices are taken into account and that trade costs are kept in check.

Implementing international standards may be more costly for one country than another, which creates new distortions.<sup>195</sup> This often happens when a partner country

FIGURE 42 Signatories to mutual recognition accords



Source: ITC.

has much more stringent regulations. Standards and technical regulations differ internationally because they reflect country-specific levels of economic development, industrialization and national cultures and values.<sup>196</sup>

The example of milk is illustrative. Milk standards based on the Codex Alimentarius reflect consumption habits in Western Europe and North America, where most demand is for fresh, cold, pasteurized milk. Pasteurization requires specific procedures and equipment to limit bacterial growth that could harm humans. In East Africa, milk is usually boiled before consumption, and health risks from bacterial infection are low. As a result, simply copying standards for milk based on the Codex Alimentarius might not be appropriate for East Africa in the short term.<sup>197</sup>

Public-private dialogue helps address the national context. Consulting with industry ensures that all stakeholders can express their interests. This encourages firms to participate in the standard-setting process. If standards are then used as references in regulation, this is also a basis to influence related technical regulations.

Another possibility is to conduct impact assessments when developing technical regulations. Though more costly, this can provide an objective basis for decisions. Impact assessments are encouraged by the WTO SPS Agreement.

Governments should not underestimate the opportunities to reduce costs through harmonization. VSS are finding harmonization to be of value: 82 of 180 voluntary standard schemes captured by the ITC Standards Map are reported to have harmonized their content requirements with other schemes.

When harmonization is not possible or desired, another option is to recognize standards mutually. This means that standards developed by different national bodies are recognized as being equal, even when they are not fully harmonized. Such a policy can be implemented within a trade agreement and is to a certain extent applied within the EU.

Mutual recognition is also practiced among private standards: 77 of 180 in the ITC Standards Map recognize the standards of other schemes as partially or fully equivalent. Mutual recognition of standards can have beneficial effects similar to harmonization of standards. Reduced policy divergences through mutual recognition of standards have been found to lead to increased trade in services.<sup>198</sup>

MRAs are a frequent policy tool to recognize educational qualifications, legal and financial services and technical advice across countries.<sup>199</sup> Regulatory cooperation is becoming increasingly important for trade in services. The establishment of the EAC Common Market in 2010, for instance, included a framework agreement on MRAs for academic and professional qualifications. In 2012, an MRA for professional engineers was signed.

ASEAN members are also party to services-related MRAs, covering sectors such as nursing, architecture, accounting and tourism. It is estimated that mutual recognition can increase services trade by 13% to 30%, depending on the country.<sup>200</sup>

## Meeting the standard for trade: An action plan

Here is a proposed action plan for policymakers and TISIs to make standards and regulations work for trade:

- Make information on standards and technical regulations accessible to firms;
- Encourage and enable firms to adopt standards and comply with technical regulations;
- Strengthen technical infrastructure;
- Improve governance at home to facilitate border crossing;
- Leverage international mechanisms which facilitate trade, for example harmonize and sign mutual recognition agreements.

To carry out these five recommendations, Figure 43 provides a checklist of actions that help standards and technical regulations work in favour of trade flows.

Some actions have an explicit firm-level dimension. Others target national institutions. Strengthening technical infrastructure is likely to have an explicit sectoral or even product dimension, falling under actions targeting the intermediate business environment.

Leveraging international mechanisms to facilitate trade also can involve a sector or product-specific dimension. This may explain why the regional and multilateral trading system is having a hard time tackling standards and technical regulations within legal agreements. The question whether to go sector specific has haunted the services negotiations on domestic regulations for many years.

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FIGURE 43 Meeting the standard for trade: An action checklist

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#### Firm level

- ✓ Promote sources and distribute information on standards and regulations
- ✓ Develop guides to help firms interpret information on standards and regulations
- ✓ Assist firms, particularly SMEs, to implement requirements via capacity-building initiatives

#### Intermediate business environment

- ✓ Develop tailored public web portals for information on standards and regulations
- ✓ Invest in national or regional technical infrastructure
- ✓ Support private sector and regulatory agency engagement in international mechanisms responsible for harmonization or mutual recognition of standards, regulation and/or certification
- ✓ Improve public-private dialogue via the use of coalitions and forums

#### National environment

- ✓ Develop public web portals for information on standards and regulations
- ✓ Support government engagement in international mechanisms responsible for harmonization or mutual recognition of standards, regulation and/or certification
- ✓ Promote single window trade facilitation solutions
- ✓ Facilitate border crossing, notably through enhanced inter-agency coordination

Source: ITC.

As to information provision, there are many national, regional and global platforms, with different combinations of sector specificity. While this multiplicity likely reflects a demand for tailored information, there is probably scope for streamlining, comparability and interconnectivity of different platforms.

Achieving the objectives in Figure 43 is not simple. However, this action checklist provides a framework for policymakers to prioritize the most pressing issues. Sharing good practices and experiences among countries and regions will prove to be helpful. Keeping in mind that reforms should take the country context into account is a must.

The background of the slide features a wireframe globe in the center, surrounded by several cardboard boxes. The entire scene is overlaid with a semi-transparent blue filter. The globe shows the continents in a light color, and the boxes are scattered around it, some with shipping labels and a recycling symbol visible.

PART II.

# Connect, compete and change: SME competitiveness and export potential

## CHAPTER 7

## Measuring SME competitiveness

## Drivers

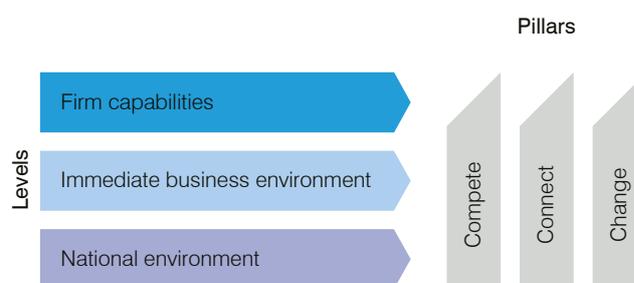
ITC classifies the drivers of firm competitiveness according to how they affect competitiveness (three pillars) and according to where in the economy they intervene (three levels). The three pillars and levels of competitiveness together form the SME Competitiveness Grid. While it was designed to focus on SME competitiveness, it is independent of scale and can also serve to assess the competitiveness of larger firms.

The main motivation for developing the SME Competitiveness Grid is to bridge a gap in existing composite indicators that focus on macroeconomic drivers of competitiveness rather than microeconomic or local drivers. The importance of macroeconomic drivers is, however, fully recognized and reflected in the competitiveness grid.

Figure 44 outlines the two core dimensions of competitiveness:

- **The three pillars of competitiveness:** compete, connect and change. These three pillars reflect traditional static and dynamic notions of competitiveness. They also emphasize the importance of connectivity for competitiveness in modern economies. The pillars are in the vertical axis of the grid.
- **The three levels of the economy:** firm capabilities, the immediate business environment and the national environment. These levels are in line with those identified in related work on competitiveness, but put an explicit focus on internal firm capabilities and the external local or sectoral environment of firms (i.e. the immediate business environment). The levels are in the horizontal axis of the grid.

FIGURE 44 The SME Competitiveness Grid



Source: ITC.

The *SME Competitiveness Outlook 2015* provides a more detailed description of the SME Competitiveness Grid and the methodology behind it.

### Three levels of SME competitiveness

**Firm capabilities:** This level assesses whether firms have the capabilities to manage the resources under their control. Thus, this competitiveness level contains indicators to gauge whether firms follow best practices. For example, does the firm have a bank account, use e-mails in day-to-day operations, or have high capacity utilization?

**The immediate business environment:** This level delivers the resources and competencies that help to shape whether firms are competitive. Therefore, this level covers factors that are external to the firm but still within its micro-environment. Access to power, access to a skilled workforce or the vicinity of a relevant cluster of economic activities are examples of immediate business environment indicators.

**The national environment:** The third level is the national environment. National factors are important, as they establish the fundamentals for the functioning of markets; government action in particular determines whether or not firm activities are facilitated. This level encompasses all structural factors that exist at the national level, such as policies on entrepreneurship and ease of doing business, trade-related policies, governance, infrastructure and resource endowments.

### *Three pillars of SME competitiveness*

**Capacity to compete:** The first pillar centres on present operations of firms and their efficiency in terms of cost, time, quality and quantity. This concept also extends to the immediate business and national environment. Capacity to compete refers to the static dimension of competitiveness. Examples of drivers include: use of internationally recognized quality certificates (firm capability), technical infrastructure accessible to firms (immediate business environment), and smooth customs procedures (macro-environment).

**Capacity to connect:** The second pillar centres on gathering and exploiting information and knowledge. At the firm level, this refers to efforts to gather information flowing into the firm (e.g. consumer profiles, preferences and demand) and efforts to facilitate information flows from the firm (e.g. marketing and advertising). At the immediate business environment level, this includes links to sector associations, chambers of commerce and other TISIs. At the national level, capacity to connect is predominantly about the availability of ICT infrastructure. While capacity to connect is not strictly a time-sensitive phenomenon, information gathering and exploitation are so central to current and future competitiveness that they act as an essential link between the two pillars of static competitiveness and dynamic competitiveness.

**Capacity to change:** The third pillar centres on the capacity of a firm to execute change in response to, or in anticipation of, dynamic market forces and to innovate through investments in human and financial capital. It incorporates the dynamic dimension of competitiveness. External factors change very rapidly; the only certainty is uncertainty.<sup>201</sup> In this context, adaptation and resilience define competitiveness. Industry phases, breakthrough or disruptive innovations, increased competition and exchange-rate fluctuations are all events that require strategy adaptations. The capacity to change, for example, involves interpreting new market trends, the tactics of rivals, opportunities derived from new infrastructures or technologies, and governmental policies.

## SME competitiveness score tracks productivity

The country profiles in Chapter 9 present 39 SME competitiveness indicators per country. Together they can be combined to form an SME competitiveness score. This score turns out to track firm-level productivity well, representing a credible way to measure firms' capacity to compete in international markets.

Information on average firm-level productivity is difficult to obtain and is only available and comparable for few countries. However, available data reveal that average firm-level productivity increases with countries' GDP per capita.<sup>202</sup>

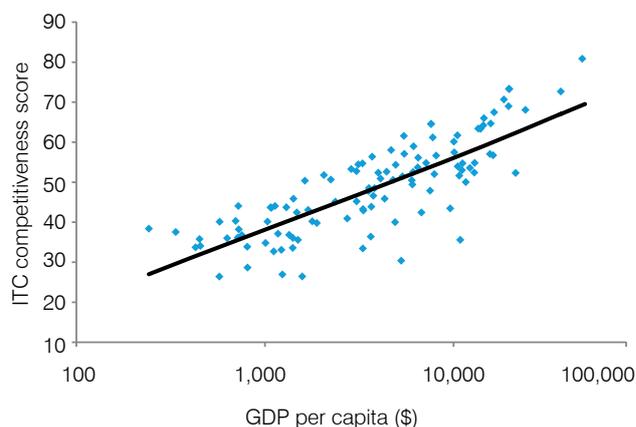
Plotting the SME competitiveness score against GDP per capita reveals a similar pattern, as illustrated in Figure 45.

### *As development goes up, the gap between SMEs and large firms goes down*

A key message of the 2015 *SME Competitiveness Outlook* was that the productivity gap between SMEs and large firms is wider in developing countries than in developed countries. Several reports support this finding<sup>203</sup> as underlined by data on Latin American and European countries in a 2015 ITC working paper by Gerald A. McDermott and Carlo Pietrobelli.<sup>204</sup>

The pattern is the same when using the SME competitiveness score, which can be generated for a much larger number of countries than comparable productivity data. Figure 46 reveals several trends: As GDP per capita rises, the gap between SMEs and large firms narrows, especially the gap between medium-sized firms and large firms. The slope for large firms is gentler than that for SMEs. This suggests that large firms from poor countries are in a better position to compete with

**FIGURE 45** Competitiveness score and development level



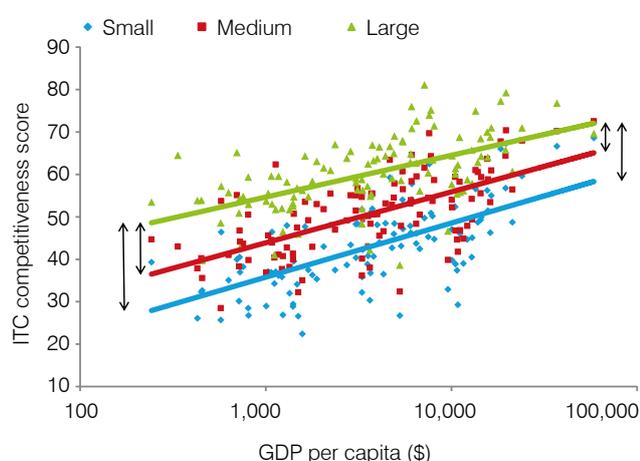
Source: ITC.

TABLE 10: Ghana survey breakdown

Firm size	Definition (number of employees)	Total	Exporters	Manufacturing	Agriculture
Small	<19	124	36	79	45
Medium	20–99	72	32	64	8
Large	>100	4	0	4	0
All		200	68	147	53

Source: ITC.

FIGURE 46 Competitiveness score, firm size and development level



Source: ITC.

large firms from developed countries, while small firms from developing countries are in no position to compete with small firms from developed countries.

### Working with TISIs on competitiveness data: Ghana

The country profiles in this and last year's *SME Competitiveness Outlook* use publicly available data sources. However, there are a number of limitations when using public sources of data not specifically designed for the grid. As discussed in the *SME Competitiveness Outlook 2015*, these include variations in country coverage, availability of statistics based on firm size and the ability to break down the SME Competitiveness Grid into 'themes'.

## BOX 9: SME Competitiveness Survey in Ghana – the process

In 2015, Ghana was identified as a pilot country for the ITC SME Competitiveness Survey initiative. During the first phase of the pilot, ITC explored interest by the private sector as well as cooperation opportunities with national bodies, such as TISIs, ministries, government agencies, research institutions and industrial organizations. ITC organized multi-stakeholder meetings, presented the proposed methodology and gathered feedback on using this type of survey and aligning with national policies and private sector priorities.

As a result of this first phase, stakeholders nominated the Association of Ghana Industries (AGI) as the lead Ghanaian institution for the initiative. Five other institutions took supporting roles, including government and private sector associations, with the agreement that they would use the findings for their strategic planning and sector support policies.

Consequently, ITC and AGI embarked on a joint effort to deploy the pilot version of the SME Competitiveness Survey in Ghana under the overall sponsorship of the Ministry of Trade and Industry and private sector associations. There were several meetings to validate and adapt the questionnaire and the selected sub-sectors, and a first field test with 40 enterprises before finalizing the questionnaire. ITC trained representatives from AGI to administrate the survey.

The pilot survey was conducted on a randomly selected sample – which included member firms from all five institutions – totalling 200 agriculture and manufacturing companies, based predominantly in the Greater Accra region, Tema and Kumasi. The Ministry of Trade and Industry, the Ghana Export Promotion Authority, the Federation of Associations of Ghanaian Exporters and the Ghana National Chamber of Commerce and Industry assisted in the selection of sectors and firms. AGI compiled survey results, which ITC analysed. Multi-stakeholder consultations to validate the results are ongoing.

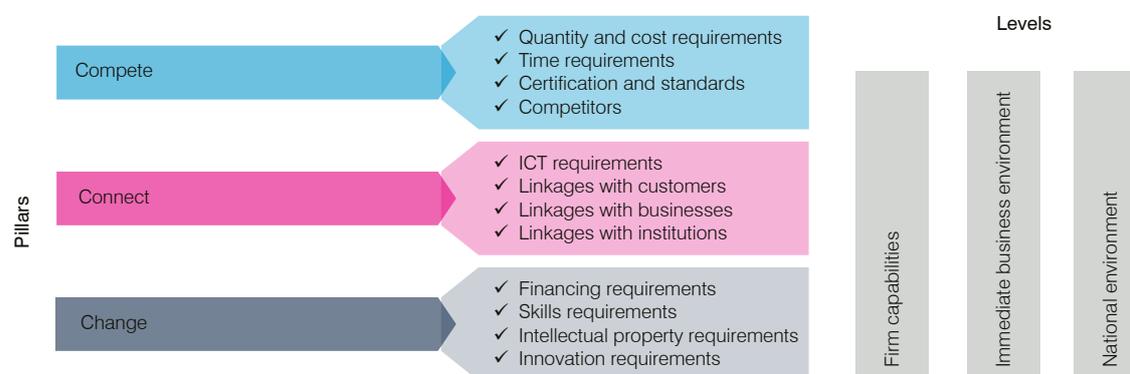
ITC therefore is collecting data that are better suited to measure SME competitiveness. This exercise uses a questionnaire that gathers information for the 12 themes in the SME Competitiveness Grid (Figure 47).

One of the first exercises with broad firm-level coverage took place in Ghana. Jointly with the Association of Ghana Industries (AGI; see Box 9), ITC deployed a pilot version of the SME Competitiveness Survey to canvass 200 randomly selected firms, 62% of which were small enterprises (including micro firms). The rest were mostly medium-sized firms, with only four large firms surveyed (Table 10). Given the low number of large firms, analysis of differences by firm size is restricted to SMEs. Approximately one third of those surveyed were exporters. However, only 29% of small firms were exporters compared with 44% of medium-sized firms. Over 73% of surveyed firms were in manufacturing, with this sector accounting for a greater share as firm size rose – 63.7% of small firms compared with 88.8% for medium-sized firms.

### Survey results

Figure 48, a colour-coded version of the SME Competitiveness Grid, summarizes the survey results. It shows that Ghanaian firms do best at the level of firm capabilities, with scores of about 70 across all three pillars of competitiveness. Ghana performs worst at the national environment level, with particularly low scores in capacity to compete. The immediate business environment attains scores somewhere between firm capabilities and the national environment.<sup>205</sup> The picture is of competitiveness scores falling as levels move from firm capabilities to the national environment. Although the national environment indicators use a different dataset to the other two levels of competitiveness, this initial analysis finds that the greatest space for improvements to competitiveness lie at the national level.

FIGURE 47 Survey version of the SME Competitiveness Grid



Source: ITC.

FIGURE 48 The SME Competitiveness Grid for Ghana

SME Competitiveness Grid		Pillars		
		Compete	Connect	Change
Levels	Firm capabilities	63.9	68.0	69.1
	Immediate business environment	44.4	53.1	57.3
	National environment	38.9	53.5	44.4

Note: High scores are better, and scores are out of 100. The colour scale is determined according to minimums and maximums in the grid.

Source: ITC calculations based on SME Competitiveness data collected by AGI.

Figures 49, 50 and 51 break down the results in the SME Competitiveness Grid by firm size and by indicator. For firm capabilities, capturing whether firms follow best practices, small and medium-sized firms attain scores of 63.2 and 78.3, respectively. This is not surprising, as larger firms tend to exhibit many of the features normally associated with competitiveness (e.g. having a business website). For the immediate business environment, which captures how firms rate their local business milieu, SMEs report very similar scores (51.3 for small firms vs 51.1 for medium-sized firms). This indicates that SMEs find their environments equally challenging. The low scores for national environment reflect poor scores in getting electricity, ease of trading, tariff applied, and prevalence of ISO certificates. These are mainly areas for the government to improve.

### Uniqueness of offering

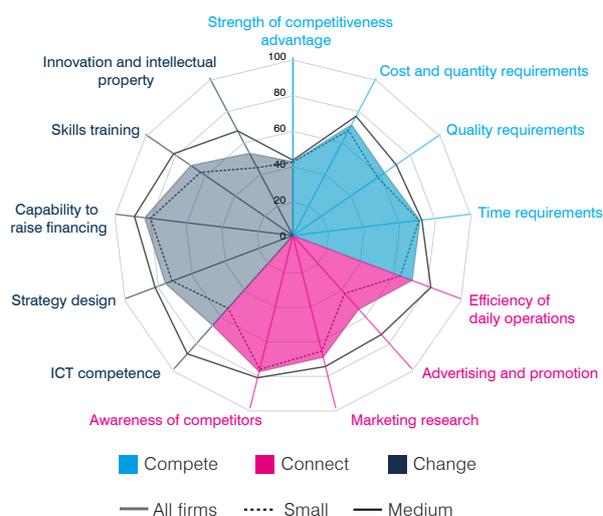
To gauge the strength of the competitive advantage of Ghanaian firms, the survey asks firms to judge whether their product was 'common and easily copied' or 'unique and hard to copy'. Firms producing 'unique and hard to copy' products receive a higher rating, but this does not necessarily mean that such firms are more competitive. Small and medium-sized firms give scores of 37.8 and 40, respectively, showing scant difference by firm size. This lack of variation extends to exporter status and sectors. Overall, the scores remain low, suggesting that Ghanaian firms struggle to produce niche or unique products.

### Access and reliability of electricity supply

Access and reliability of electricity, transportation networks, and water have a direct impact on the competitiveness of firms. Hence, these indicators belong in capacity to compete. For this set of questions, the survey asks 'to what degree is access to reliable electricity supply / transportation networks / water supply an obstacle to the current operations of this company.' Firms of all sizes rate their access to electricity particularly poorly. This indicator achieves a score of only 31.6, by far the lowest score among immediate business environment indicators.

Medium-sized firms report that unreliable electricity supply hits their firms even harder than small firms. This may be related to the fact that 89% of medium-sized firms in the sample are in manufacturing, compared with 64% of small firms. Further analysis supports this, with manufacturing firms reporting scores that are 14.6 points lower than those of agriculture firms. This suggests that lack of reliable electricity is a major constraint to firm growth.

FIGURE 49 Firm capabilities in Ghana



Source: ITC calculations based on SME Competitiveness data collected by AGI.

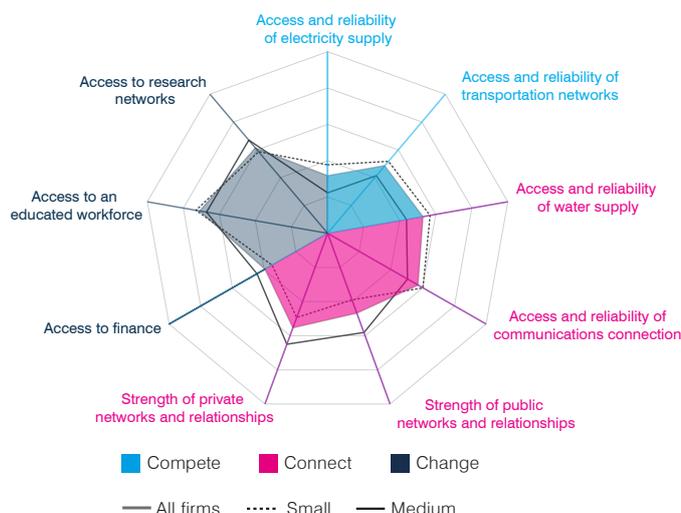
### Raising finance

Financing is a core part of any business seeking to expand or improve production. For this reason, it is part of the capacity to change pillar. Regarding firm capabilities, small and medium-sized firms provide relatively high ratings for their knowledge of the financial system and ability to produce the documentation needed to apply for a loan, at 79.9 and 88.9, respectively. Of the 64 firms in the sample that had applied for a loan, 54 saw their application approved – a surprisingly high proportion. However, of the 136 firms that had not applied for a loan, only 39 say this was because they had 'no need for a loan'. The firms that did not apply for a loan but wanted one give as the most common reason that 'interest rates were not favourable'. This suggests such firms were aware of the interest rates they would likely be offered and decided not to bother applying.

The positive results at the firm level regarding knowledge of the financial system contrast greatly with ratings at the level of the immediate business environment. Here, the survey asks firms 'to what degree is access to finance an obstacle to the current operations of this company.' Small and medium-sized firms report scores of 35 and 44.6, respectively, despite the high rate of firms receiving a loan when applying.

The low score at the immediate business environment level in access to finance is consistent with a high number of firms (75) who had not tried to apply for a loan, even if they indicated interest in one. These results are consistent with evidence on how firms overcome problems accessing finance through other sources. World Bank enterprise survey data collected in 2013 suggest that the proportion of investments financed internally (by friends and family) is

FIGURE 50 Immediate business environment in Ghana



Source: ITC calculations based on SME Competitiveness data collected by AGI.

80% and 75% for small and medium-sized firms, respectively. Moreover, even the 54 firms in the sample that had received a loan rate access to finance poorly.

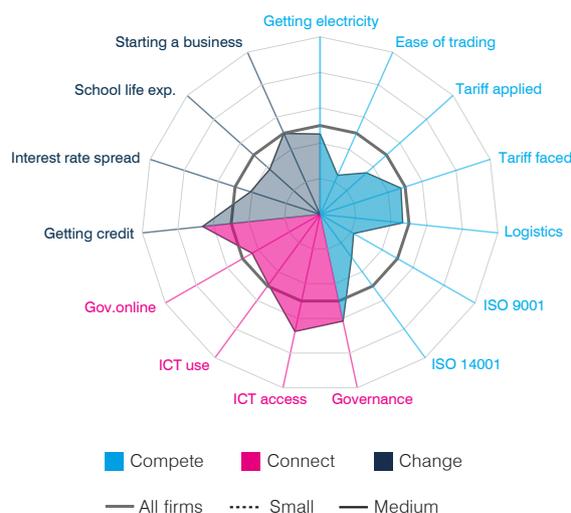
Nevertheless, Ghana scores highly at the national level in getting credit. This indicates that the country performs well in strength of legal rights, availability of credit information for banks and credit registry coverage. This confirms that access to information is not a sufficient precondition for accessing to finance if there is no conducive immediate business environment. Moreover, high interest rates are a legitimate concern, as shown by the firms in the sample and confirmed by the 2014 IMF Country Report, which states that 'high interest rates ... have begun to weaken private sector activity'.

### Quality requirements

The quality requirements indicator is based on whether a firm's main product holds an official domestic certificate, an internationally recognized quality certificate or a voluntary certificate. The sample as a whole attains a fairly good score of 62.1. The results show that 90% of the surveyed SMEs hold an official domestic certificate, 50% hold an internationally recognized quality certificate and 44% hold a voluntary certificate.

As expected, exporters are far more likely to hold an internationally recognized quality certificate (83.8%) compared with non-exporters (33.6%). The differences regarding gender and sector are small. Interestingly, Ghana performs poorly at the national level on the number of ISO certificates issued per million people, attaining an average score of just 25.8. The fact that the survey sample was restricted to the Accra region may explain this

FIGURE 51 National environment in Ghana



Source: ITC calculations based on SME Competitiveness data collected by AGI.

difference, as firms close to the capital are likely to be more internationally minded. Another possible explanation is that few Ghanaian firms hold more than one internationally recognized quality certificate compared to international averages. This would account for the low score observed at the national level.

A second trend is based on firm size. While similar numbers of small and medium-sized firms have a domestic quality certificate, far more medium-sized firms hold an internationally recognized quality certificate (45.5% for small firms versus 59.7% for medium-sized firms). This trend remains even if we remove exporters from the sample. Indeed, 42.5% of medium-sized firms not currently engaged in exporting nevertheless hold such a certificate, compared to only 28.7% of small firms. This suggests that new exporters are more likely to be medium-sized.

### ICT requirements, advertising and promotion

The difference in the score of small and medium-sized firms is greatest in ICT competence and advertising and promotion. For ICT competence this gap is driven by a lack of use by small firms of e-mail and the Internet, and the existence of a business website. This is consistent with the results for sub-Saharan Africa as a whole (see Chapter 8), where the same gap is found. Only 30% of small firms engage in some form of advertising vs 76% of medium-sized firms. Furthermore, just 42% of small firms have attended a domestic trade fair in the last three years, compared with 82% of medium-sized firms. Ignoring advertising and promotion techniques represents a lost opportunity to increase sales.



THOUGHT LEADER

### Seth Twum-Akwaboah

Chief Executive Officer,  
Association of Ghana  
Industries

*SMEs constitute over 85% of all businesses in Ghana, yet they are saddled with a myriad of challenges that stifle their growth.*

*SMEs need to exploit opportunities offered by clusters and GVCs, which represent opportunities for penetrating markets and learning through diffusion of information and knowledge.*

## AGI's hopes for the future of Ghanaian SMEs

The Association of Ghana Industries (AGI) speaks for over 1,200 businesses in Ghana. As the leading voice of the private sector, AGI has instigated reforms and led policy initiatives in the interest of our small and medium-sized enterprises (SMEs). Currently, SMEs constitute over 85% of all businesses in Ghana, yet they are saddled with a myriad of challenges that stifle their growth. The SME Competitiveness Survey Ghana case study comes as a welcome initiative by ITC to help gain a better understanding of the hurdles that restrain the growth and competitiveness of SMEs in Ghana.

SMEs worldwide face market pressures and must be able to compete if they are to survive in the long term. Available statistics indicate that the vast majority of SMEs fail, underlining the need for local, national and international institutions to help increase the survival rate of start-ups by facilitating product capacity development and enabling local trade relations. SMEs penetrate global markets by exporting through clusters, joining global value chains (GVCs) and exporting directly or indirectly. In that sense, SMEs need to exploit opportunities offered by clusters and GVCs, which represent opportunities for penetrating markets and learning through diffusion of information and knowledge.

Performance of the enterprise depends as much on internal as external factors. Of particular interest are three elements: the type of horizontal and vertical linkages with other enterprises; the enabling environment and governance rules for support institutions; and national and regional policies (including investment, regulations, facilitation and socioeconomic development) and the macroeconomic context.

Sector and SME competitiveness starts with enterprises and the way in which their relations and partnerships are organized. In most developing and emerging economies, SMEs face market volatilities, uncertainty in the policy and regulatory environment, lack of information on options for diversifying markets and products as well as fragmented social structures and institutional support networks. Firms remain competitive and create higher value by acquiring skills, capabilities and functions, among others. Initiatives in Ghana have significantly improved the way SMEs operate, and AGI expects some of these programmes to last long enough to cause the needed impact.

*Firms remain competitive and create higher value by acquiring skills, capabilities and functions.*

The key drivers for sector and value chain development include:

- **GVC, clusters and SME competitiveness.** The growth of trade between large groups and within GVCs has increased dramatically over recent decades, accounting for up to 80% of global trade. More and more international organizations are using GVCs as a tool for structuring development interventions.
- **Innovation,** which is a key driver of economic growth and a significant enabler for SMEs in LDCs to integrate better into GVC.
- **Public-private partnerships and governance.** As the multilateral organization mandated to work with SMEs, ITC is itself regarded as a cornerstone of the emerging international architecture of SME competitiveness.

ITC and AGI are working together to highlight the important role that building competitiveness of economies by supporting SMEs can play in promoting sustainable development and growth. Economic development, social inclusion and environmental sustainability are three interconnected pillars, and no one pillar can be addressed by one institution only.

Work carried out through the SME Competitiveness Assessment and the Alliances for Action approach aims to provide data so that multi-stakeholder groups can decide how best to target support and activities. Such activities involve the private and public sectors and include investment and research. They can bolster competitiveness based on the following questions:

- What type of linkages best support SME innovation and competitiveness?
- If developing country SMEs are to maximize the benefits of trade and participation in GVCs through upgrading, what is the role of support institutions and policies?
- How does the interaction between multinational company subsidiaries and local support institutions and innovation systems help or hinder upgrading of SMEs in emerging markets?
- Based on empirical examples, what do we know about the role of the market, government and local support institutions in ensuring conducive processes, governance and support structures for SME competitiveness and in maximizing the benefits of participation in value chains?
- What is the scope of action and opportunities for international organizations involved in trade-related technical assistance?
- Given their mandates, how can ITC and AGI better support SMEs in Ghana to take advantage of the benefits of linking to value chains, institutions and clusters?

AGI is of the view that when implementing sector development interventions, it will be necessary to consider:

- Learning as a collective process.
- Practical ways in which policy and interventions draw on available knowledge and are linked to decision-making.
- Facilitation of networks that support and enable innovation and SME upgrading.
- Trade facilitation and policies. Facilitation implies more than reducing domestic trade costs. This requires mechanisms to set the policies and regulations implemented by various governmental and technical agencies.
- Importance of networks and linkages between companies and with institutions.

AGI welcomes ITC's increasing engagement and facilitation in multi-stakeholder partnerships and processes at the global, regional, and national levels through the Alliances for Action as well as sector development strategies that enable SMEs to reach their full potential.

*Economic development, social inclusion and environmental sustainability are three interconnected pillars, and no one pillar can be addressed by one institution only.*

## CHAPTER 8

## Regional snapshots: SME competitiveness and export potential when standards matter

### Regional SME competitiveness trends

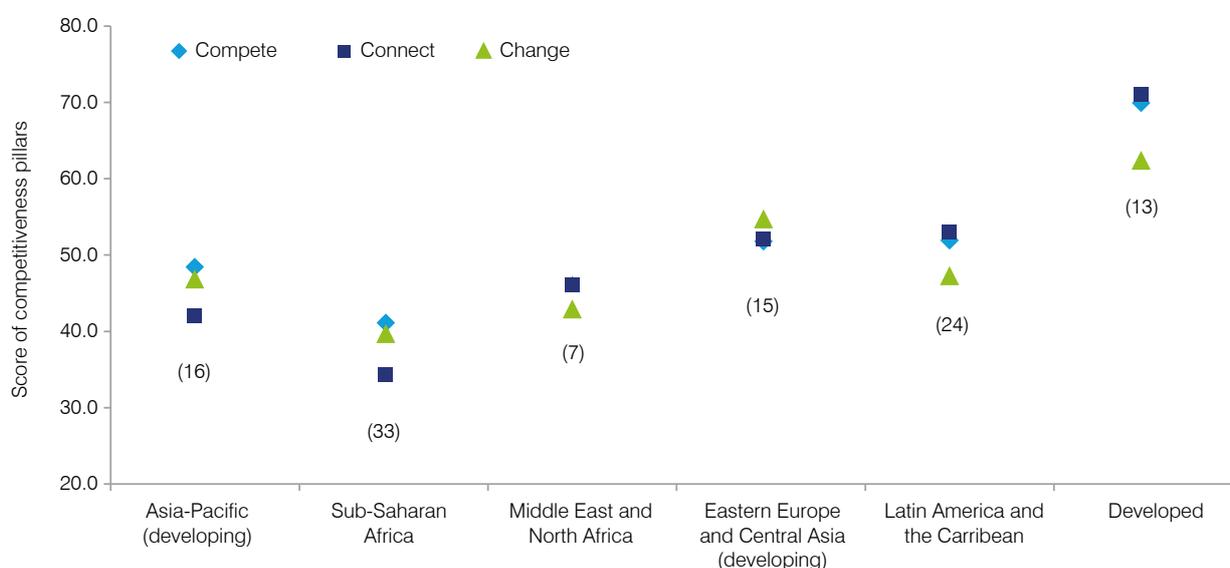
Competitiveness scores vary greatly both across and within regions. Figure 52 presents an overview of the performance of regions' capacity to compete, connect and change. As the category 'other' is composed mostly of developed countries, this report refers to this category as developed countries. Furthermore, developing countries are split according to geographical location<sup>206</sup>. Thus, when the report refers to the Asia-Pacific region, it concerns developing countries in this geographical area. These groupings depart from the ones used in the 2015 *SME Competitiveness Outlook*, and thus may be responsible for slight variations in the regional statistics between the editions.

In the capacity to compete, Eastern Europe and Central Asia, and Latin America and the Caribbean perform best

among developing country groupings. In the case of Eastern Europe and Central Asia, the drivers are good performance in power reliability and ease of trading across borders. For Latin America and the Caribbean, a strong score in getting electricity and decent scores in extent of marketing and ICT access play much the same role.

In the capacity to connect, Latin America and the Caribbean perform best, closely followed by Eastern Europe and Central Asia (excluding developed countries). Connectivity deficiencies seem to constitute one of the biggest barriers to increased competitiveness for sub-Saharan Africa and Asia-Pacific. As noted in the 2015 *SME Competitiveness Outlook*, sub-Saharan Africa performs particularly poorly in the capacity to connect, even when compared to its scores for the other two pillars of competitiveness. This is also true for Asia-Pacific. The

FIGURE 52 Compete, connect and change scores by region



Source: ITC.

situation in sub-Saharan Africa contrasts with that of the northern part of the continent, given that the Middle East and North Africa (MENA) region performs relatively well in the connect pillar.

In the compete pillar, sub-Saharan Africa and Asia-Pacific perform best, representing static competitiveness.<sup>207</sup> In Asia-Pacific, this performance mainly reflects relatively low trade costs, both in terms of tariffs and the implementation of regulatory policies, with managers spending less time on regulations than in other regions.

When it comes to the capacity to change, Eastern and Central Europe outperform other developing regions. Several indicators drive this trend, including starting a business, business licensing and permits, access to an educated workforce and school life expectancy.

The average performance of a region, however, hides significant variances across countries within the same region. Figure 53 shows the lowest, highest, and median ranks for each region. Ranks are derived from the average of indicator scores for each country. Developed countries do best, with the top ranking and a median rank of 7. The top performing countries in the three regions Asia-Pacific, Eastern Europe and Central Asia, and Latin America and the Caribbean, attain rankings within the range found in the developed country group.

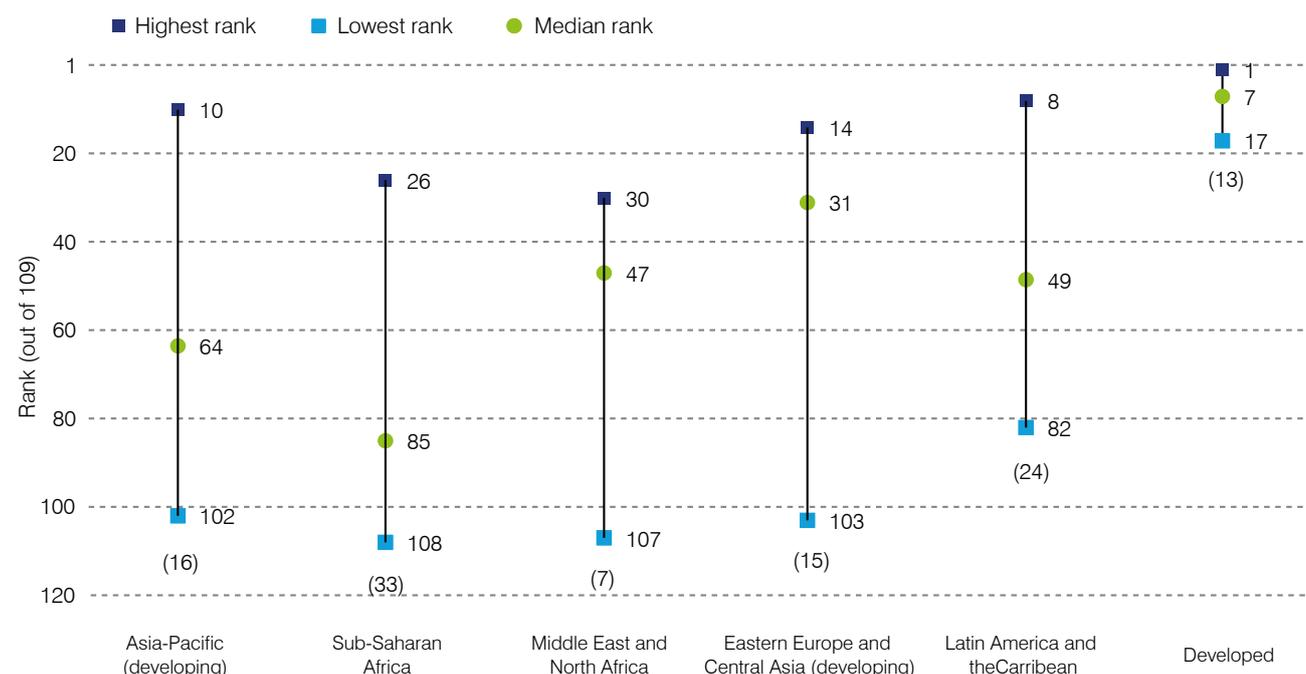
## Standards affect competitiveness

Standards and regulations matter for SME competitiveness. In ITC's SME competitiveness assessment, standards and regulations enter the analysis at all three levels of the economy. At the firm level, the importance of standards is captured by the 'international quality certificate' indicator, which measures the number of firms with internationally recognized quality certificates (Figure 54).

The region with the highest score is Eastern Europe and Central Asia, followed by Latin America and the Caribbean. The region with the lowest score is Middle East and North Africa. Significantly, the regions with the lowest overall scores also have the widest gaps between small and large firms. Thus, it is the MENA region which has the largest gaps in scores between small, medium-sized firms and large firms. These gaps impact trade. When their products do not meet international quality standards, firms find it very difficult, if not impossible, to find international buyers.

At the immediate business environment level, the SME Competitiveness Grid includes the 'dealing with regulation' indicator. This is based on the following question: 'In a typical week over the last year, what percentage of total senior management's time was spent on dealing with requirements imposed by government regulations?' The variable indicates the administrative effectiveness around the implementation of regulations. In this context,

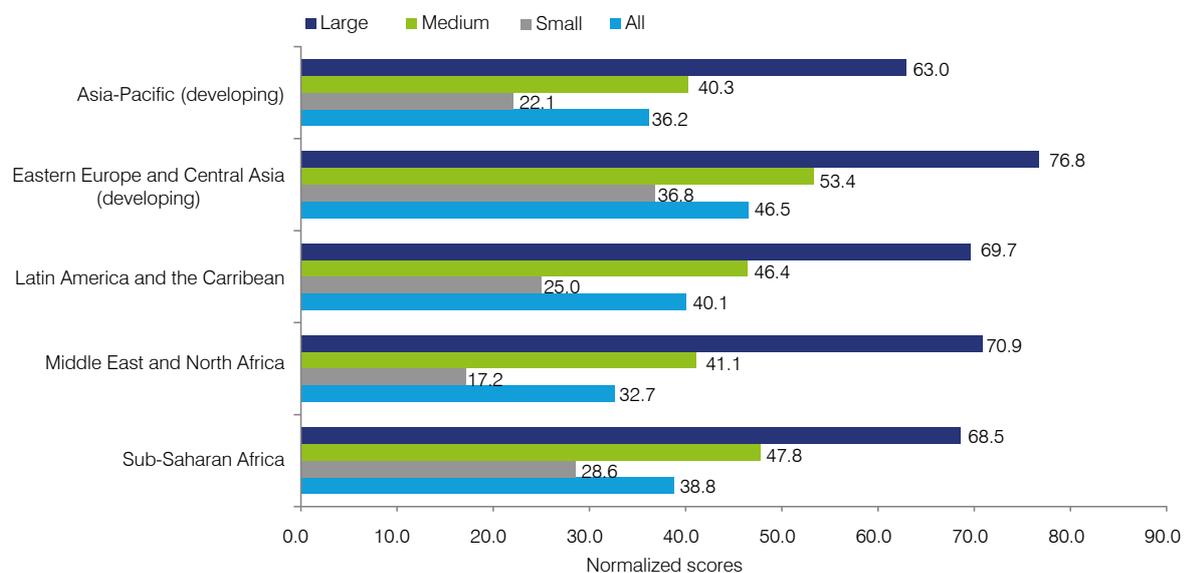
FIGURE 53 Intra-region variation of competitiveness



Note: Numbers in brackets represent the number of countries in the group.

Source: ITC.

**FIGURE 54** Internationally recognized certificate scores, by firm size and region



Source: ITC.

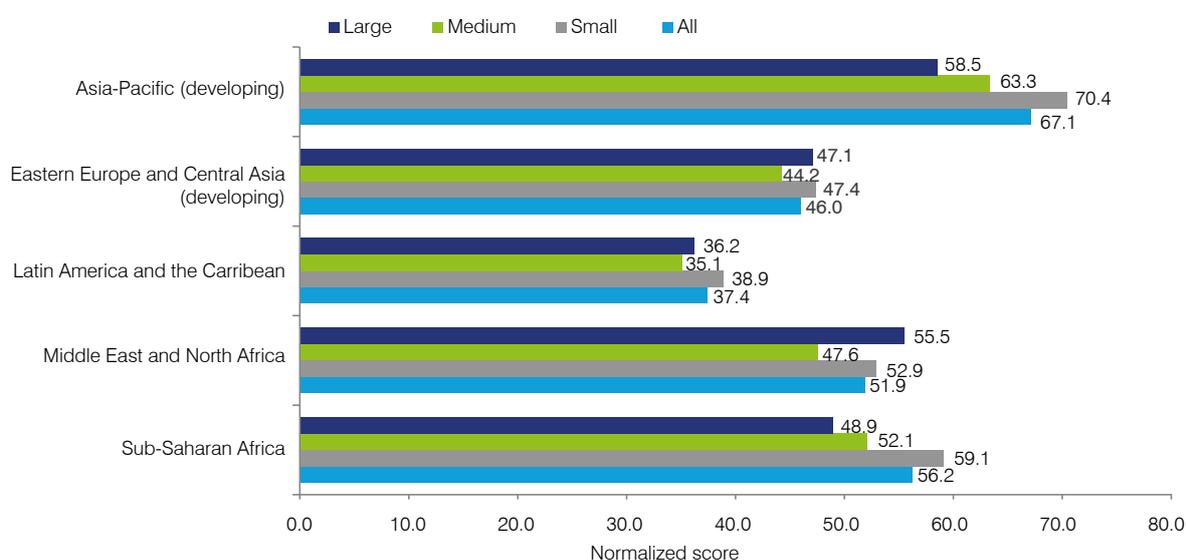
'regulation' refers to regulations as defined in this report (i.e. technical regulations), as well as other forms of regulation. To the extent that managers distinguish between standards and regulations, this variable therefore does not necessarily cover standards.

Figure 55 shows the scores for the 'dealing with regulation' indicator by region. What is striking is that small firms do not report spending more time dealing with regulations than large firms. This may be because some types of

regulation are linked to firm size. For instance, in France, many regulations kick in when the size of the firm reaches 50 employees.<sup>208</sup> Small firms may also simply avoid exporting to markets they consider regulation-heavy. Moreover, this variable is perception based, which may introduce a bias.

The firms that appear to suffer most from dealing with regulations are large and medium-sized firms. Averaging their scores across all countries, medium-sized firms score 5.4 points below small firms.

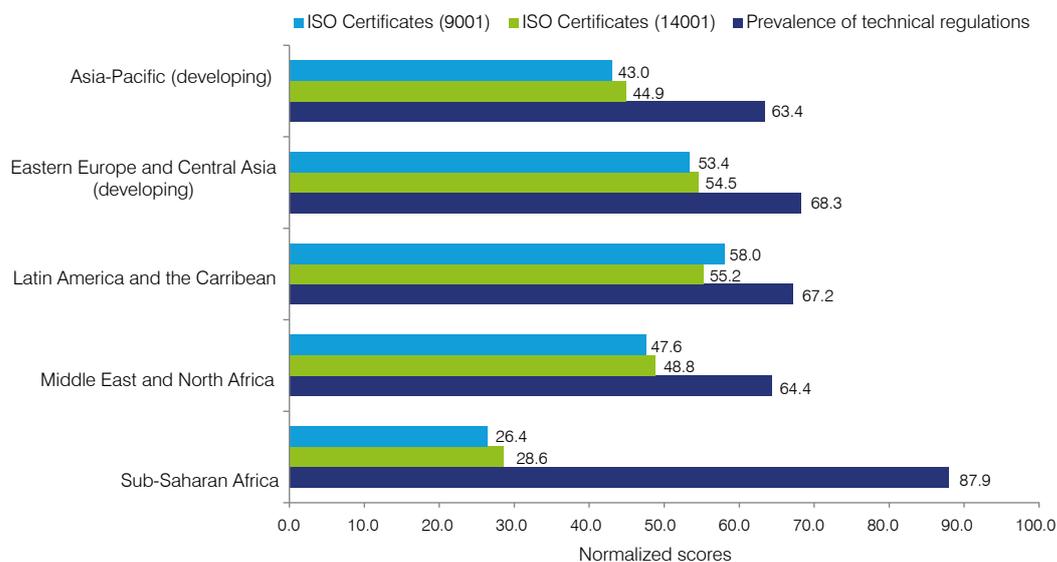
**FIGURE 55** Dealing with regulation scores, by firm size and region



Note: Higher scores indicate that less time has been spent dealing with regulations.

Source: ITC.

FIGURE 56 National environment indicators related to standards, regulations



Source: ITC.

Non-exporting, medium-sized firms are believed to be best positioned to enter international markets, having already achieved the scale and productivity needed to compete in such markets. Regulations which disproportionately affect this class of firms will lower the international competitiveness of the country, resulting in fewer exports. Reducing administrative burdens is likely to have a big impact in enabling firms to join international markets and value chains.

Figure 56 shows two standards and regulations related to national environment indicators: prevalence of technical regulations and ISO certificates. This information was collected at the national level and cannot be broken down by firm size.<sup>209</sup> It is therefore used to assess the friendliness of the national environment to international standards. This has limitations, as it would have been useful to examine firm-level variation in the implementation of management standards such as ISO 9001.

Interesting in this context is the performance of sub-Saharan Africa, where relatively few firms have ISO quality certificates (Figure 56). This implies that sub-Saharan countries find it difficult to furnish proof of the quality of their management and environmental standards to other countries in the region, restricting intra-regional trade. In contrast, the findings represented in Figure 54 suggest that firms in the region perform relatively well when it comes to meeting internationally recognized quality certificates.

### Sectors most affected by technical regulations

A key conclusion in the first part of this report is that standards and technical regulations are highly sector specific. Consequently, the technical infrastructure needed to comply with these requirements is also sector specific. Given the limited resources available to most developing countries, their governments may have to be selective when investing in technical infrastructure.

The relevance of standards and regulations differs across sectors. Policymakers will want to be able to identify regulation-heavy sectors and assess their economic importance.

Figure 57 presents two indicators: the average number of technical regulations per imported product and the share of trade subject to technical regulation (or coverage ratio), by sector. The coverage ratio is the fraction of imports affected by at least one technical regulation. Combining the indicators helps in understanding the impact of regulations on any given sector.

This figure shows that the fresh food and processed food sectors have the highest average number of regulations. Furthermore, they also have some of the highest coverage ratios. Based on the average of both indicators, the next three most regulated sectors are IT and consumer electronics, chemicals and transportation equipment. Thus, this report pays particular attention to these sectors.



## CASE STUDY

# The other side of the story: Importers see regulations as trade obstacle

Standards and regulations don't just affect exporters – they have an impact on importers, too. Related trade obstacles can have a knock-on effect, especially when imports are part of a value chain.

Since 2010, ITC has been collecting information on how non-tariff measures (NTMs) affect importers and exporters in developing countries. The collected data provide information on developing country imports from the European Union (EU). In a recent data collection exercise, ITC has assessed how EU importers and exporters are

### ITC Business Surveys on NTMs

These surveys provide a diagnostic of the challenges and opportunities countries face when exporting and importing.

Information on exports helps countries to implement policies that improve competitiveness; information on imports allows them to strengthen their position in international value chains, and provides evidence on partners' trade challenges.

Since 2010, ITC has documented the experiences with NTMs and related trade barriers of more than 22,500 trading companies. The resulting database sheds light on the characteristics of exporting and importing businesses in more than 60 countries across all continents and the market access conditions they face in their various partner countries.

affected by NTMs. The two datasets combined provide a unique set of mirror data that make it possible to compare perceptions of importers and exporters in the EU with those of exporters and importers in developing countries.

### *Potential obstacles for developing country exporters and importers*

ITC Business Surveys on NTMs in developing countries show that importers of goods perceive NTMs as a major obstacle to trade. The smaller the company, the higher the likelihood that it faces challenges in dealing with import regulations.

Entry formalities top the list of problems reported by importers. They cite sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT) as the second most frequent problem, ahead of taxes and charges.

For instance, an Arab importer of brakes for motor vehicles from the EU reported that 'the testing required by our national standardization organization at the central chemistry lab (ensuring that the pads are asbestos free) takes very long', leading to unpredictable delays with its EU partner and potential loss of business opportunities.

### *The smaller the importer, the bigger the challenge from NTMs*

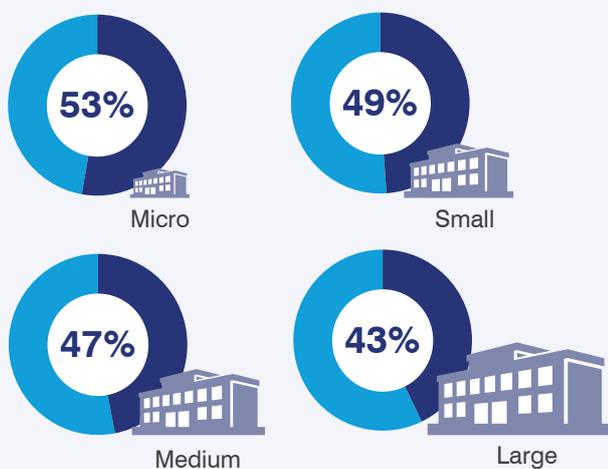
The NTM Survey results identify the SPS and TBT measures cited by importers and their trading partners. Developing country imports from the EU, for example, the main import origin of many surveyed countries, are mainly



affected by product certification requirements, inspections and import authorizations. These are measures that aim to prove conformity with technical regulations, not technical requirements themselves (such as on labelling and packaging). Quality and food safety standards matter for developing countries which control goods from any origin including the EU.

Problems, however, arise with conformity assessment procedures in importing countries (which sometimes duplicate those performed in the exporting country). Such procedures depend on local capacities and facilities, which are often perceived as inadequate, inefficient and associated with high fees. For example, an importer of European products into Asia said that 'the national office in charge of the technical inspection is understaffed and imposed informal overtime fees to facilitate the process'.

Share of importers affected by regulatory and procedural trade obstacles, by firm size

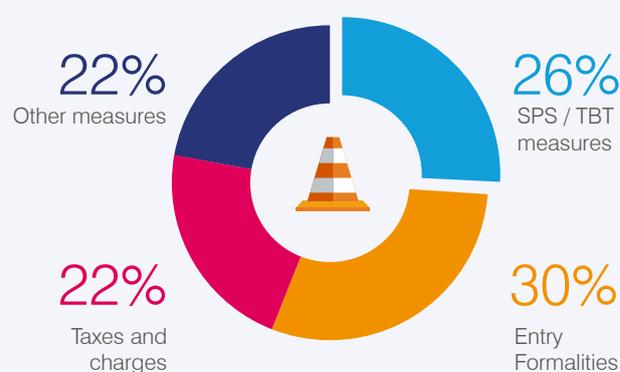


**Note:** Data based on interviews with 10,787 importers from 29 developing countries. More at: [www.ntmsurvey.org](http://www.ntmsurvey.org).  
**Source:** ITC Business Surveys on NTMs (2010–2016).

### Potential obstacles for EU exporters and importers

Problems encountered by developing country businesses when importing goods from the EU add to the costs of obstacles experienced by EU exporters at the other side of the transaction. More than a third of EU companies perceive NTMs as an obstacle to their export activity, according to a business survey carried out by ITC in 2015–2016 in collaboration with the European Commission. The survey documents the experiences of 8,100 trading companies, most of them SMEs, across the 28 EU members in 26 sectors, capturing trade flows with over 60 partner countries. The preliminary findings confirm that SPS and TBT measures, and more broadly NTMs, are not just a developing country challenge.

Importers rank challenges



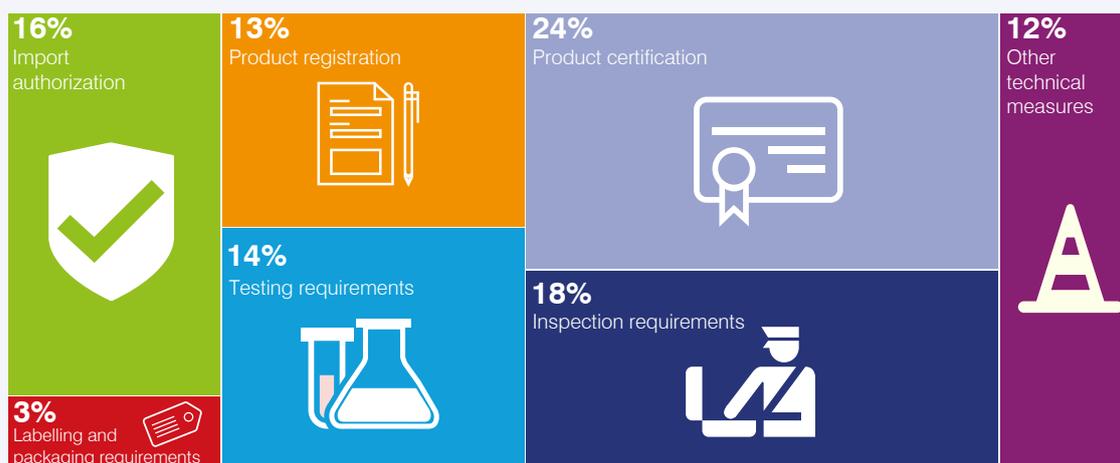
**Note:** Data based on detailed interviews with 2,953 importers from 29 developing and least developed countries, who shared their experiences on the types of challenges they encounter. More at: [www.ntmsurvey.org](http://www.ntmsurvey.org).  
**Source:** ITC Business Surveys on NTMs (2010–2016).



On the import side, the EU survey mirrors the insights from developing country exporters: the main challenges for sourcing from developing countries are product quality, food safety and conformity with European standards. As an EU importer said, 'enterprises in developing countries must understand the necessity for their products to comply with the exact standards of EU medical device companies, which operate in a very stringent regulatory environment'.

The EU survey results will provide new insights into facilitating trade between developing countries and the EU. Key findings will be released by the end of 2016 and made available at [www.ntmsurvey.org/eu](http://www.ntmsurvey.org/eu).

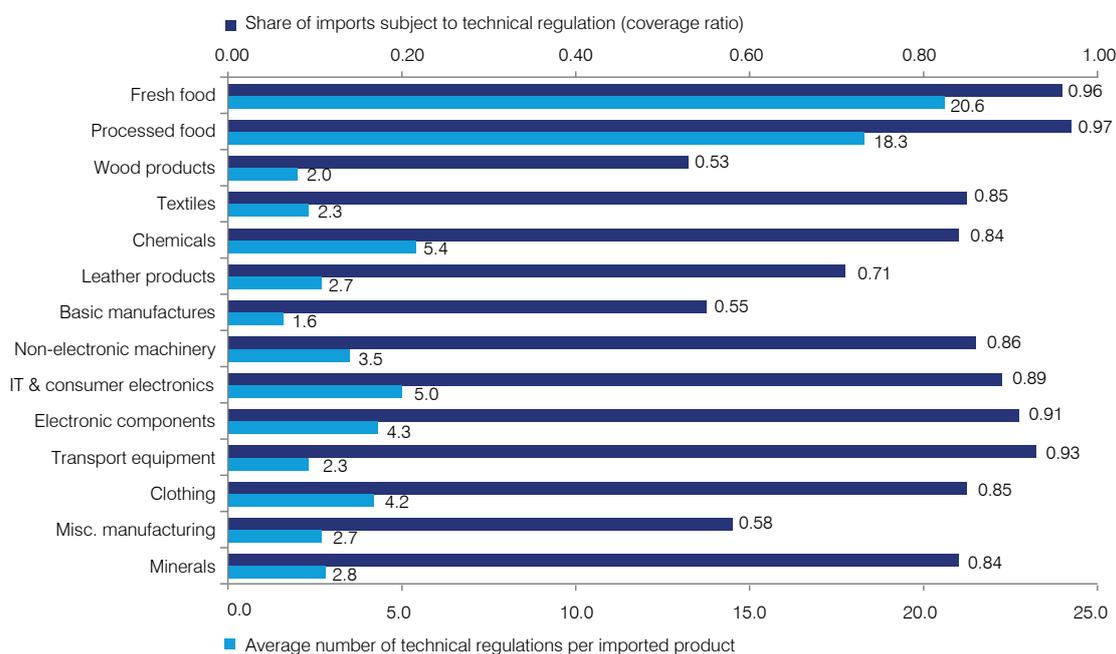
#### Challenges for importers that source from the EU



**Note:** Data based on interviews with 1,394 companies from 29 developing and least developed countries, which import from the EU. The figure shows the challenges related to SPS and TBT measures only. More at: [www.ntmsurvey.org](http://www.ntmsurvey.org).

**Source:** ITC Business Surveys on NTMs (2010–2016).

FIGURE 57 Global regulatory intensity, by sector



**Note:** Dark blue bars represent the coverage ratio, while light blue bars represent the average number of technical regulations per imported product.  
**Source:** ITC calculations based on multi-agency regulatory database on NTMs accessed through Market Access Map.

### Compliance: A key to exploiting export potential

Fresh food, processed food, IT and consumer electronics, chemicals and transportation equipment have different weights in regional export baskets; the role of each of these sectors varies in driving export expansion or diversification. These relatively regulation-intensive sectors require relevant infrastructure and capacities. Without this base, firms are likely to have bottlenecks in meeting standards, and countries may not achieve their export potential in existing export sectors, or successfully diversify their export offer.

ITC's Export Potential Assessments (EPA) make it possible to evaluate export potential in the five mentioned sectors. EPA includes the Export Potential Index (EPI) and Product Diversification Index (PDI). EPI helps to reveal unexploited export potential in products in which the exporting country has already proven to be internationally competitive. Major existing export products will therefore appear in this assessment with information on the partner regions where unexploited export potential exists.

PDI serves countries that want to diversify, move up value chains and develop new export sectors with promising conditions in new or existing target markets. It identifies products which the country does not yet export competitively but which seem feasible based on the country's current export basket and the export baskets of

similar countries. In ITC's PDI, products have been filtered so as to remove those that are below the median technology level of the country in question.<sup>210</sup>

Detailed descriptions of the EPI and PDI methods can be found in ITC's *Spotting Products with Export Potential*.<sup>211</sup> Chapter 9 of this report provides EPI and PDI results country by country. Because of restrictions in data availability, the EPI and PDI analyses focus on goods and do not include services.

The following section discusses SME competitiveness standards and regulations related indicators, EPI and PDI metrics, and NTM-based metrics for each ITC development region.

Together, the data can help policymakers identify:

- Where export and diversification opportunities lie;
- The sectors in which they could focus efforts to build technical infrastructure and to strengthen firm capacity to meet standards;
- Where to direct reform efforts in technical regulations to boost trade and SME competitiveness.

The presented information is based on quantitative analysis that should ideally be complemented with qualitative country-level or regional information in order to exploit its full potential.

## The Middle East and North Africa

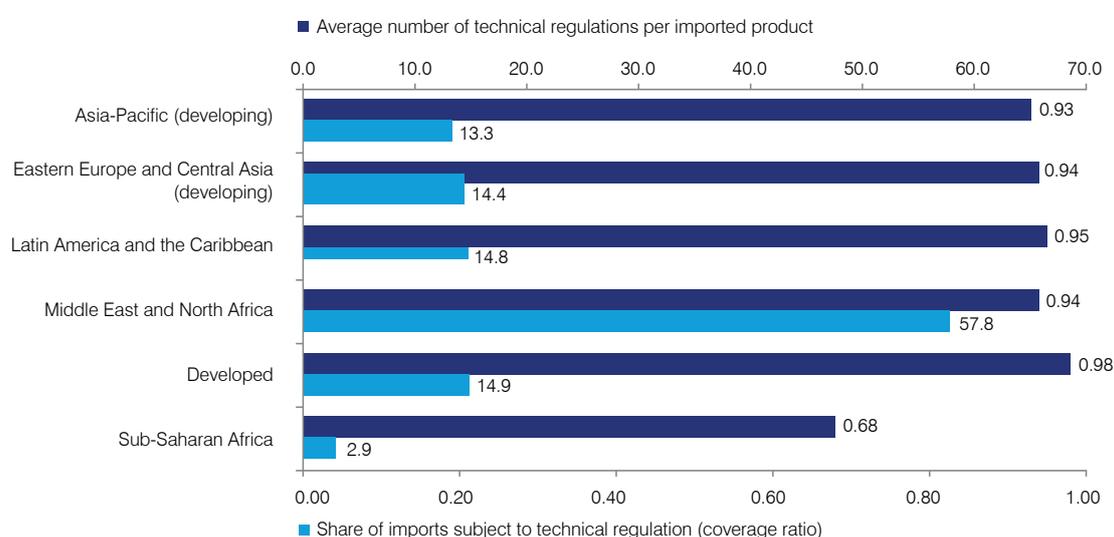
The two most heavily regulated sectors in Figure 57 are fresh and processed foods. Globally, both sectors have in excess of 18 technical regulations per imported product and coverage ratios of over 0.96. This is presumably due to the delicate nature of food and the potential harm to human health if products are not produced or stored in sanitary conditions.

Figure 58 shows the regulatory intensity in the fresh and processed food sector by region, with countries in the

MENA region imposing the largest number of technical regulations. Although the data do not capture the severity of technical regulations, the findings suggest that regulatory entry burdens in the MENA region are high in the fresh and processed food sectors.

Figure 59 illustrates the unrealized potential to export fresh and processed foods to MENA countries. In terms of value, Asia-Pacific has unrealized export potential of \$16.5 billion to the MENA region. Asian-Pacific exporters could thus gain significantly from a less burdensome regulatory environment.

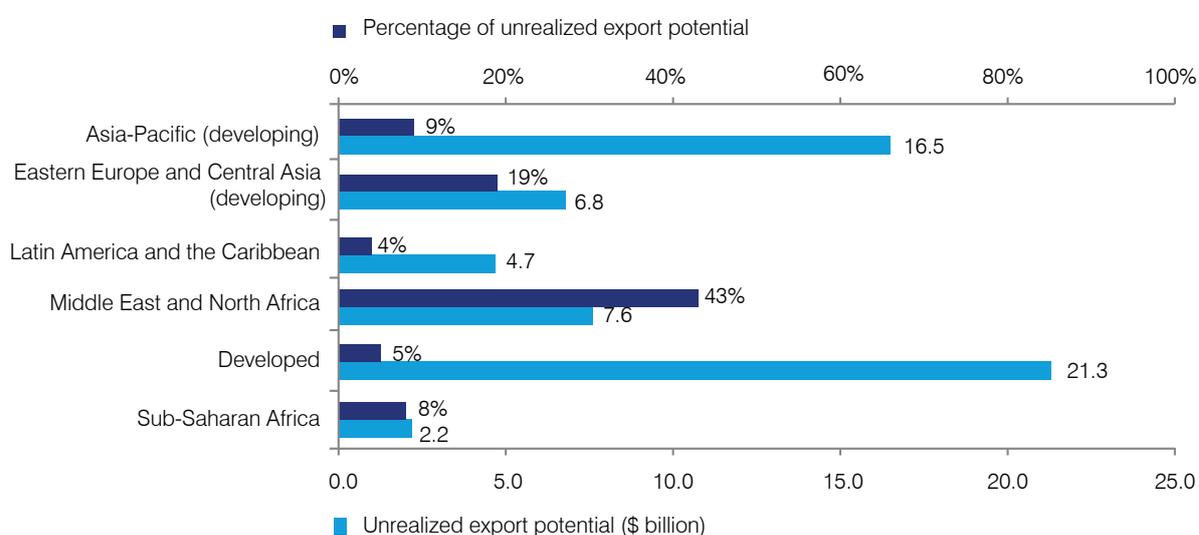
**FIGURE 58** Regulatory intensity in fresh and processed food, by region



**Note:** ITC calculations based on multi-agency regulatory database on NTMs accessed through Market Access Map.

**Source:** Light blue bars represent the coverage ratio, while dark blue bars represent the average number of technical regulations per imported product.

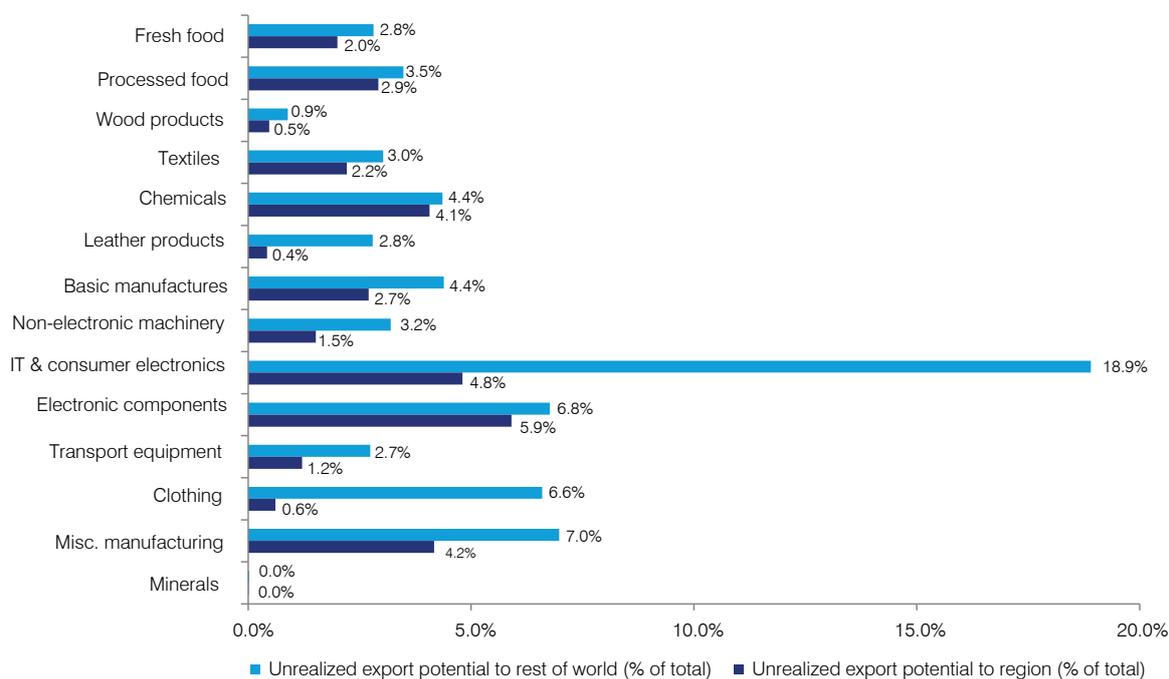
**FIGURE 59** Unrealized export potential of regions to the MENA market in the food sector



**Note:** Light blue bars represent the percentage of unrealized export potential, while darkblue bars represent the value of unrealized export potential.

**Source:** ITC Export Potential Map.

FIGURE 60 Asia-Pacific: Unrealized export potential, by sector



**Note:** Asia-Pacific's total unrealized export potential is \$1710 billion. Percentages from the light blue and dark blue bars add to 100.

**Source:** ITC Export Potential Map.

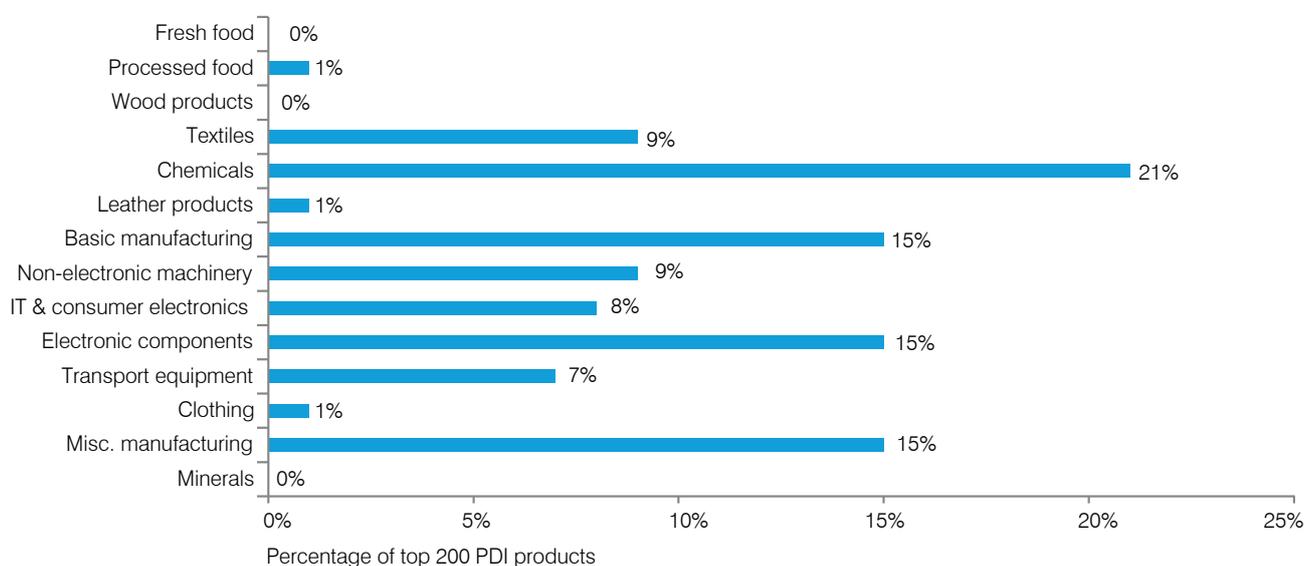
But the region that could stand to gain most is MENA itself. Of the region's unrealized export potential in the sector, 43% is to other MENA countries, amounting to potential exports of \$7.6 billion.

A reform of technical regulations could benefit MENA countries in other ways. Enabling more products to enter domestic markets from other countries in the region or

from further afield will help boost competition and in turn drive down prices. Firms can also benefit. Evidence from Tunisia shows that firms importing intermediates have higher productivity levels, and in turn export more.<sup>212</sup>

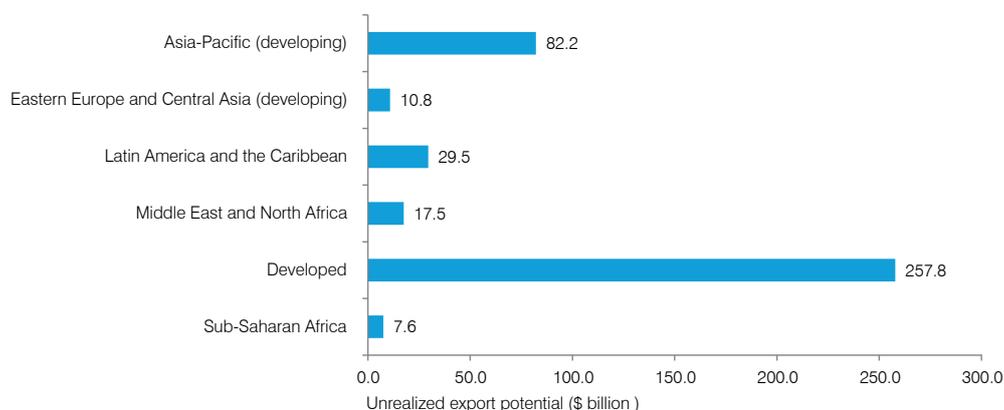
Holding MENA firms back are the low numbers of firms (particularly SMEs) which hold internationally recognized quality certificates. Figure 54 revealed that the MENA

FIGURE 61 Asia-Pacific sectors with product diversification potential



**Source:** ITC Export Potential Map.

**FIGURE 62** Asia-Pacific: Unrealized export potential in the IT and consumer electronics sector, by destination region



**Source:** ITC Export Potential Map.

region is the weakest performing region measured by the percentage of firms meeting internationally recognized certificates. This performance is notably driven by the very weak performance of small firms in this determinant.

Simplifying technical regulations in the region and strengthening the technical infrastructure and firm-level capacity to comply with food regulations will help the region meet its export potential.

### *Asia-Pacific*

The Asia-Pacific region performs strongly in exports of IT and consumer electronics. ITC's EPI assessment suggests that the sector is also responsible for 23.7% of the region's unrealized export potential (Figure 60), translating into export opportunities of \$405.3 billion.

ITC's PDI identifies the chemicals sector as the most promising for product diversification, with 21% of the top 200 products having potential for diversification (Figure 61).

For the IT and consumer electronics sector, about 64% of Asia-Pacific's unrealized export potential is in developed country markets (Figure 62), which translates to a large export opportunity of \$257.8 billion.

Developed countries have an average of 7.3 technical regulations per imported product, which is higher than the global average of five technical regulations. Meeting developed countries standards and regulation in this domain is therefore important for exporters in the Asia-Pacific region.

The Asia-Pacific region has a strong immediate business environment when it comes to standards and regulations (Figure 55). Firms in the region report that less senior management time is spent complying with existing regulations than in other regions, which reflects an effective governance structure.

SMEs in the Asia-Pacific region are on average less likely to hold an internationally recognized quality certificate than most other regions. Also at the national level, the region does not perform well on the implementation of international management standards such as ISO9001 and ISO14001 (Figure 52). These results are, however, likely to be driven by poor small economies in the region. The regional standards analysis is based on unweighted averages. The strong performance in quality certificates and international management standards in large emerging economies like China, India and Indonesia is not well reflected in these averages, but is discussed in detail in the relevant country profiles.

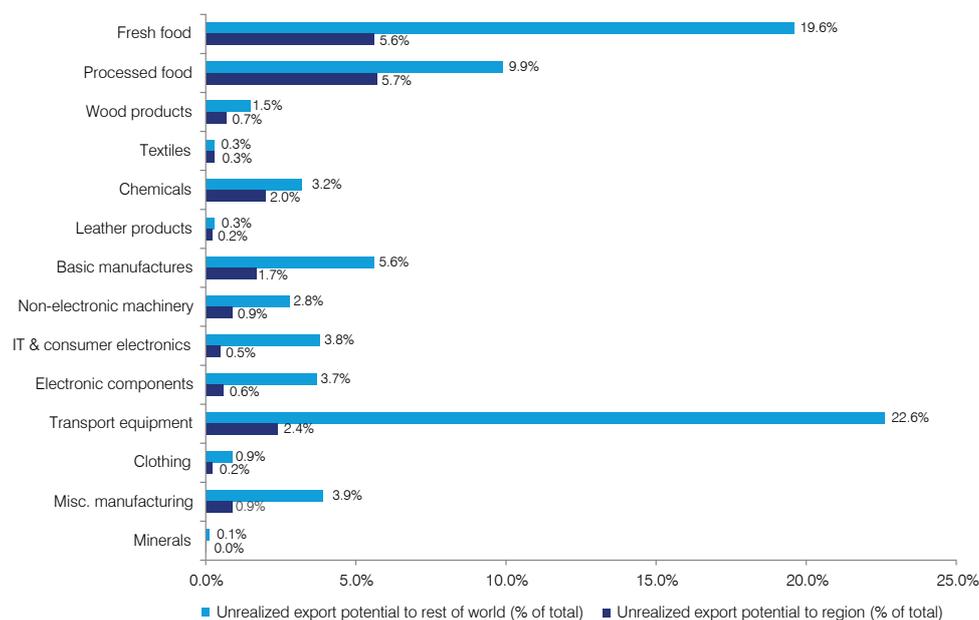
The capacity of small and medium-sized firms to meet quality standards may nevertheless deserve attention, especially in countries wishing to expand into new sectors, such as chemicals. This sector, for instance, is characterized by a predominance of consumer protection regulation, whereas compatibility standards dominate in the IT and consumer electronics sectors.

### *Latin America and the Caribbean*

ITC's EPI identifies the fresh foods and transport equipment as having significant unrealized export potential for Latin American and Caribbean (LAC) countries (Figure 63). The fresh foods sector accounts for 25.2% of the region's unrealized export potential, an export opportunity of \$68 billion. Transport equipment is responsible for 25% of the region's unrealized export potential, an export opportunity of \$67 billion.

ITC's PDI identifies a wide variety of sectors for diversification in the region, including fresh food, processed food, chemicals, and metal and basic manufacturing (Figure 64). This suggests that LAC economies are highly diversified already.

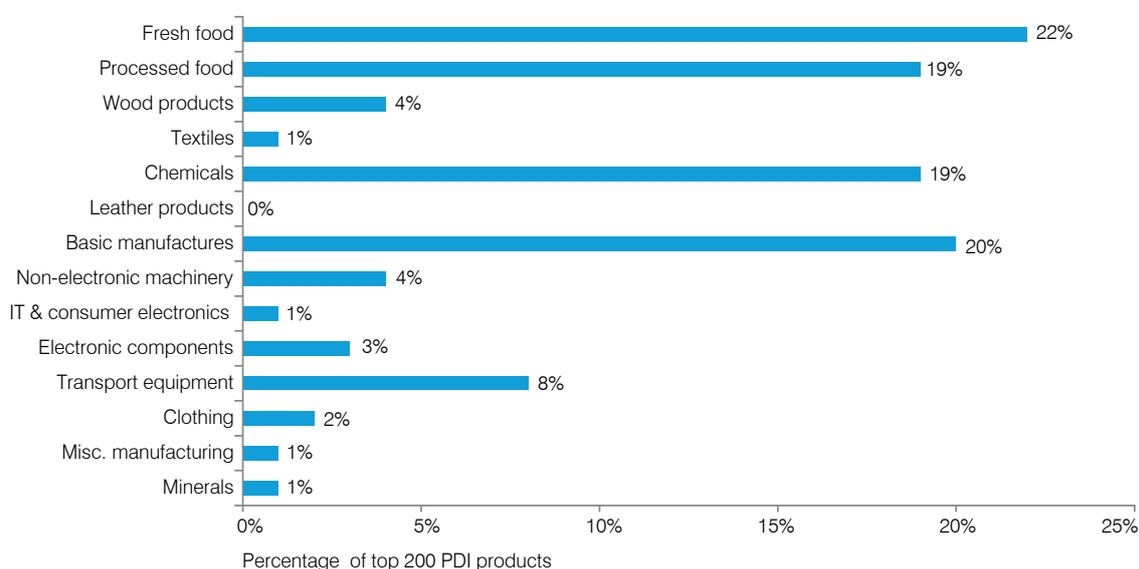
FIGURE 63 LAC: Unrealized export potential, by sector



**Note:** LAC's total unrealized export potential is \$268 billion. Percentages from the light blue and dark blue bars add to 100.

**Source:** ITC Export Potential Map.

FIGURE 64 LAC sectors with product diversification potential



**Source:** ITC Export Potential Map.

Approximately 84% of unrealized export potential in the transport sector lies in developed countries. In these markets, 97% of the sector's products are covered by at least one technical regulation, meaning that LAC countries need to develop robust national technical infrastructure to prove that their products comply with stated requirements. With a prevalence ratio of only 2.8, it should not be difficult

for firms to identify all relevant technical regulations for each product, although it could turn out to be difficult to comply with those regulations.

In the fresh food sector, about 22% (or \$15 billion) of the region's unrealized export potential is within the region. However, in stark contrast to processed food, fresh food is heavily regulated, with over 20 regulations per imported

product. This is somewhat surprising, as the prevalence ratios for fresh and processed food are usually similar.

According to SME competitiveness indicators, firms of all sizes report that dealing with regulations is more time-consuming than in any other region. Nevertheless, adoption of management standards such as ISO 9001 and ISO 14001 is fairly strong in the region.

Medium-sized and large companies also perform well when it comes to adopting international quality certificates. As small firms trail somewhat, catching up in this domain could be beneficial for the region.

Overall, the region's performance in standards and regulations is in line with the general picture for SME competitiveness highlighted in the 2015 *SME Competitiveness Outlook*. There appears to be strong entrepreneurship in the region, which contributes to overcoming inefficiencies created in the national policy context. This is particularly true for large and medium-sized firms.

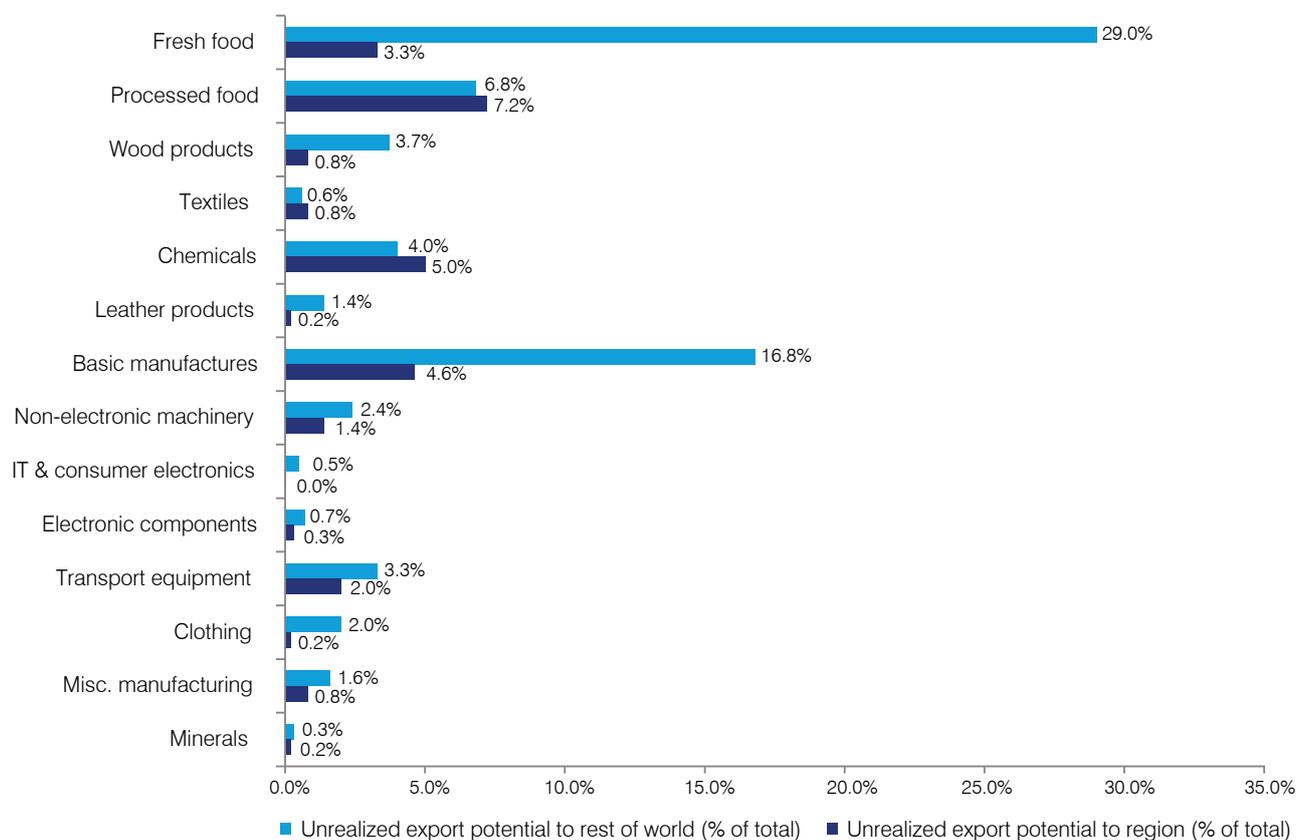
### Sub-Saharan Africa

ITC's EPI identifies the fresh food and metal and basic manufacturing sectors as having the highest unrealized export potential in sub-Saharan Africa (Figure 65). The fresh food sector accounts for 32.3% of the region's unrealized export potential, an export opportunity of \$18.7 billion. Basic manufacturing (which includes products such as wiring, tubing and glass fibres) is responsible for 21.4% of the region's unrealized export potential, translating into an export opportunity of \$12.4 billion. ITC's PDI also identifies metals and basic manufacturing as a sector with diversification opportunities for many products and, to a lesser extent, chemicals (Figure 66).

The vast majority of sub-Saharan Africa's unrealized export potential in fresh food is to destinations outside of the region. Furthermore, over 50% of this potential is in developed countries, which impose an average of 15.3 technical regulations per imported product.

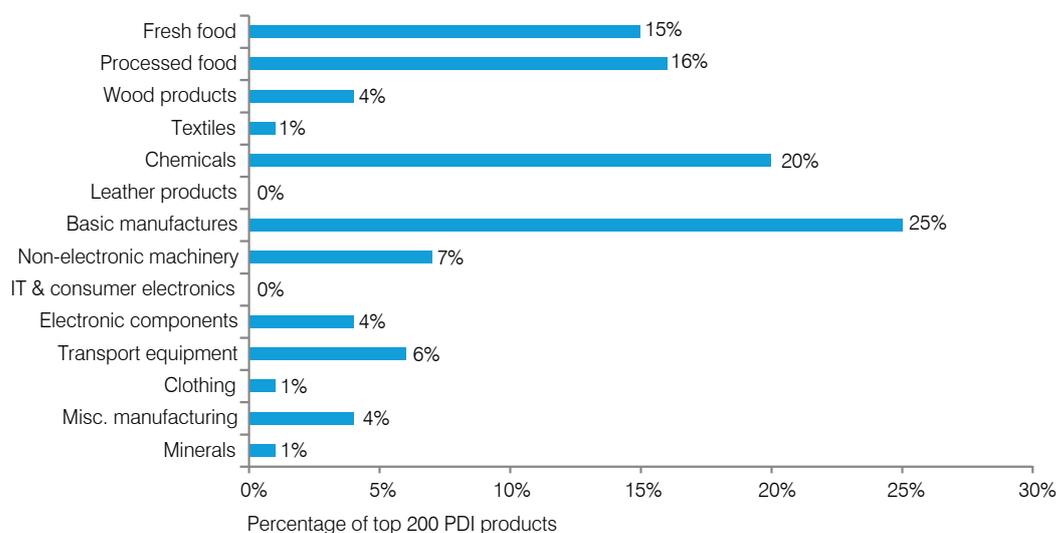
For metals and basic manufacturing, 25% of the region's unrealized export potential is in the Asia-Pacific region,

FIGURE 65 Sub-Saharan Africa: Unrealized export potential, by sector



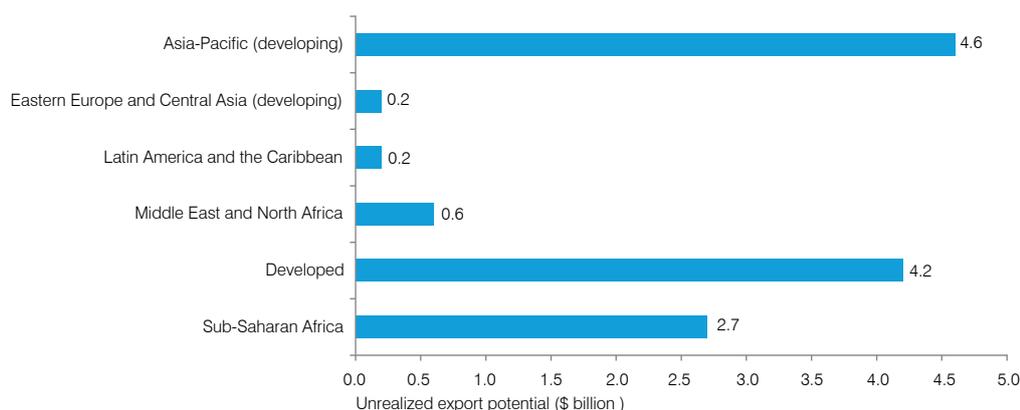
Source: ITC Export Potential Map.

FIGURE 66 Sub-Saharan Africa sectors with product diversification potential



Source: ITC Export Potential Map.

FIGURE 67 Sub-Saharan Africa: Unrealized export potential in metal and basic manufacturing, by destination region



Source: ITC Export Potential Map.

amounting to an export opportunity of \$4.6 billion (Figure 67). The Asia-Pacific region applies, on average, 1.8 technical regulations per imported product. This is fewer regulations than developed countries apply, but more than applied within sub-Saharan Africa. However, a prevalence ratio of 1.8 is fairly low, especially when compared to other sectors.

Managers of sub-Saharan companies do not spend significantly more time on regulations than managers in other regions, indicating that the governance structure is not more burdensome than elsewhere. Adoption of international quality certificates is widely spread among

medium-sized and large firms. Small firms trail, but the situation is not worse than in other regions. In fact, small firm adoption of international certificates is stronger than in the LAC region.

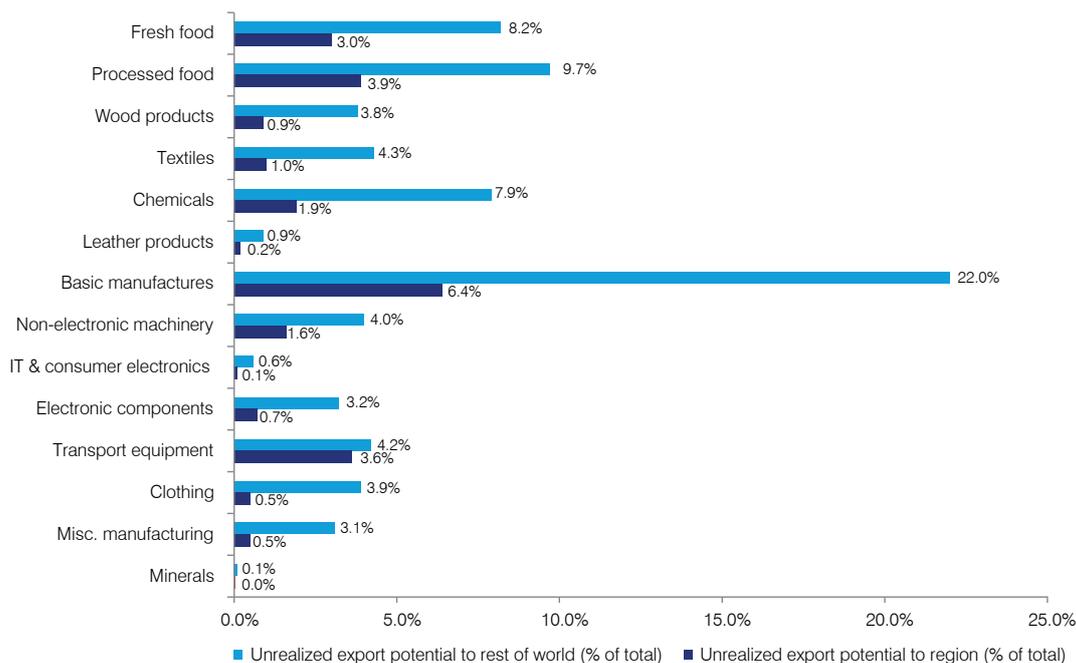
As a result, it is surprising that international management standards are not widely adopted (Figure 56). Given that these standards are not sector specific, weaknesses in this domain may undermine the region's potential to diversify into new products. Diversification efforts may also suffer from the low connectivity levels in the region that were highlighted in the *SME Competitiveness Outlook 2015*.

## Eastern Europe and Central Asia

ITC's EPI identifies metals and basic manufacturing as the sector with the greatest unrealized export potential in Eastern Europe and Central Asia (EECA; Figure 68). The sector, which includes products such as wiring, tubing and

glass fibres, is responsible for 28.4% of the region's unrealized export potential, an export opportunity of \$40.6 billion. ITC's PDI also identifies metals and basic manufacturing and chemicals as sectors with diversification opportunities for many products (Figure 69).

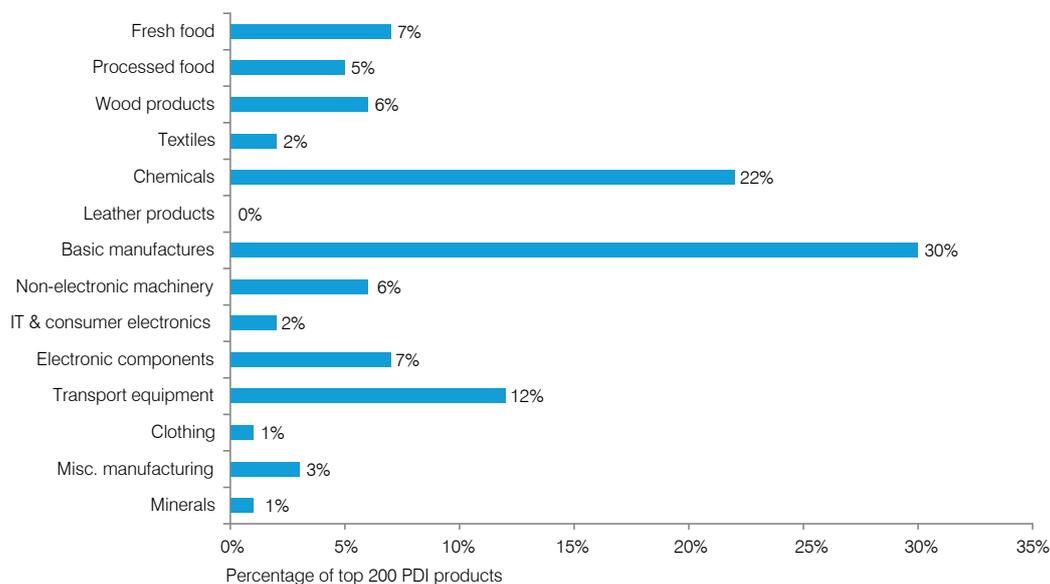
FIGURE 68 EECA: Unrealized export potential, by sector



**Note:** EECA's total unrealized export potential is \$143 billion. Percentages from the light blue and dark blue bars add to 100.

**Source:** ITC Export Potential Map.

FIGURE 69 EECA sectors with product diversification potential



**Source:** ITC Export Potential Map.

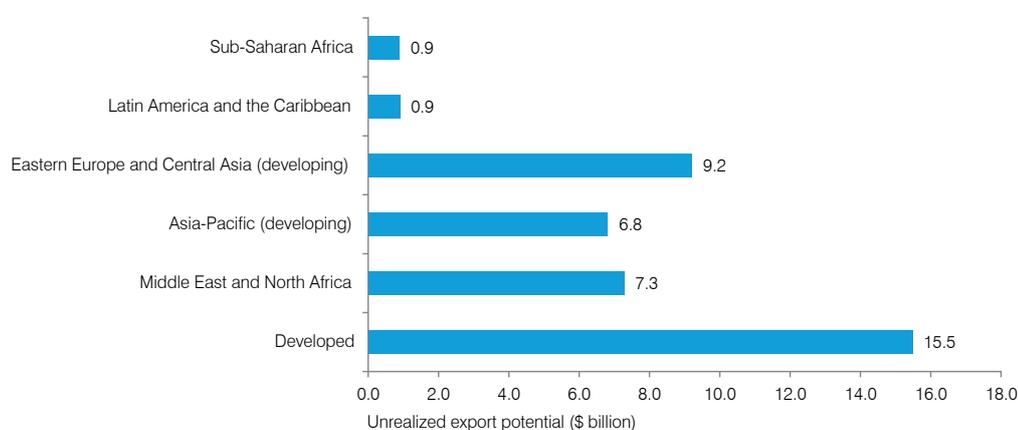
For metals and basic manufacturing, 38% of the region's unrealized export potential is in developed countries, an export opportunity of \$15.5 billion (Figure 70). EECA also has significant unrealized export potential for the sector in neighbouring regions (Asia-Pacific and MENA), but very little in regions further away, such as sub-Saharan Africa and LAC.

The EECA region is the wealthiest region in this report's sample, after the group of developed countries. Not surprisingly, therefore, the region performs well along all the criteria presented in Figures 54, 55 and 56. It is also

the case that when it comes to meeting internationally recognized quality certificates, the gap between the performance of small and large firms is narrower in the EECA region than elsewhere.

The EECA region nevertheless does not outperform other regions regarding time spent by managers with regulations and the adoption of international management standards. These are areas that could warrant improvement, particularly if the region aims to take advantage of diversification opportunities in sectors such as chemicals.

**FIGURE 70** EECA: Unrealized export potential in metal and basic manufacturing, by destination region



**Source:** ITC Export Potential Map.



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SPECIAL FEATURE

# Sri Lanka: Asia's new destination for investment

Sri Lanka is a success story of economic resilience and development. The country's economy has been growing steadily, lifting millions of people out of poverty. Measures of education, health and life expectancy are among the highest in South Asia and compare well to countries around the world with similar per capita income.

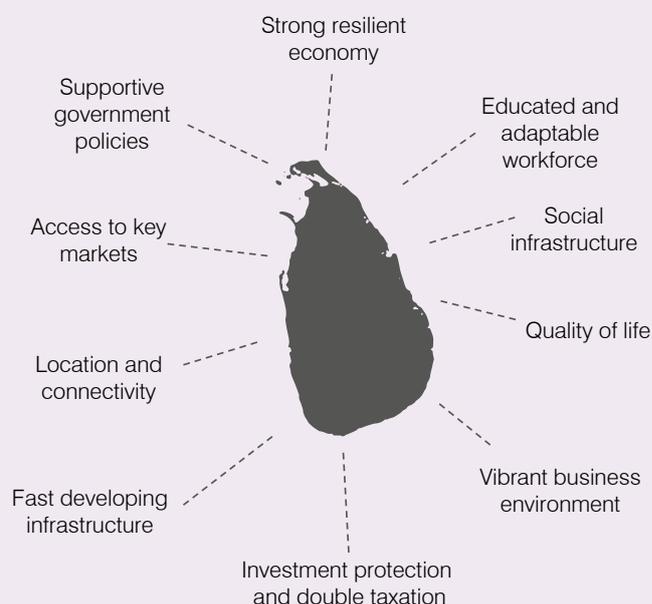
Sri Lanka has much opportunity to draw investment to build an economy of the future. The country is well positioned for trade and is an attractive target for international investment. Lying at the crossroads of major east and west shipping and air routes, Sri Lanka is close to the markets of Asia, Africa and the Middle East. Sri Lanka seeks to sustain its economic growth and become an Asian business hub for production and commercial activities, knowledge-based industries, naval operations, aviation activities and tourism and energy developments.

### ***Strong, resilient economy***

The consistent and strong economic performances in Sri Lanka have raised the country's per capita income substantially, enabling the country to attain middle-income status. The services sector is the largest contributor to the national economy, at 56.8% of GDP.

The government is actively improving the country's infrastructure, such as roads, harbours and airports. The country's Northern and Eastern provinces, which were affected by conflict in the past, are now stable

### Reasons to invest in Sri Lanka



and open for development and investment. In addition the government has a strategic plan to develop the Western Province into a new economic hub known as the Megapolis. Under this plan, the city of Colombo and its suburbs will become a modern urban space capable of attracting some of the most advanced activities and investment.



### ***Educated and adaptable workforce***

Sri Lanka possesses the most literate population in South Asia and one of the highest literacy rates in the developing world, at 92.2% (91.1% and 93.5%, respectively, for women and men). Extensive investment in public education has produced a workforce that is not only competent but intelligent, trainable and comfortable with high tech production and services. Approximately 50% of the students who have completed higher education are trained in technical and business disciplines. English is widely spoken and is the main language used by the business community. Well educated and energetic human resources are readily available at competitive wage rates.

### ***Access to key markets***

Sri Lanka is the only country to have free trade agreements with both India and Pakistan, giving duty free access to over 1.3 billion consumers. The Indo-Sri Lanka Free Trade Agreement in force since 2000 provides strategic access from Sri Lanka to India, the world's second most populous market (duty free for over 4,200 products). The Pakistan-Sri Lanka Free Trade Agreement in force since 2005 provides strategic access to Pakistan, duty free for 4,500 products.

In addition, by locating in Sri Lanka, a company can gain preferential trade access to two large regional blocs under the South Asian Free Trade Area and the Asia-Pacific Trade Agreement (APTA). The APTA member countries (Bangladesh, China, India, the Lao People's Democratic Republic, the Republic of Korea and Sri Lanka) have a total population of about 2.5 billion, offering is a vast potential market.

### ***Location and connectivity***

Sri Lanka is at the crossroads of major shipping routes connecting South Asia, the Far East and the Pacific with Europe and the Americas. Sri Lanka is strategically located next to the fast growing Indian sub-continent with close proximity to Southeast Asia and the Middle East. The country has strong air connectivity with over 100 weekly flights to India alone.

Sri Lanka is connected to the South East Asia – Middle East – Western Europe III and IV fibre optic communication backbone, with over 11 communication satellites orbiting above the south of the country.

### ***Fast developing infrastructure***

The Sri Lankan government has launched an ambitious programme of physical infrastructure development to completely upgrade the sea, air, road, power and telecom backbone of the country. This includes:

- The most advanced telecommunication infrastructure in the South Asian region.
- Three international submarine cables keeping Sri Lanka connected.
- High mobility road network and an ambitious freeway construction plan.
- Largest port in South Asia and many deep water ports around the country.
- State-of-the-art airport and aviation facilities.

### ***Vibrant business environment***

Sri Lanka is ranked as the most liberalized economy in South Asia. Transparent investment laws aim to foster foreign direct investments. Sri Lankan commercial laws are based on British laws and the country has a highly independent judicial system.

Sri Lanka has dynamic and resilient private sector, offering foreign investors the option of joint venture partnerships as well as 100% ownership of their investment. Concessions granted under an agreement with the Board of Investment – for qualifying investment projects – remain valid over the lifetime of the enterprise.



### *Quality of life*

Sri Lanka is one of the lowest risk emerging markets in terms of personal safety. It has comfortable housing, state-of-the-art healthcare facilities, world-class educational facilities, and abundance of recreational activities around the country.

### Investment promotion and incentives

#### *Supportive government policies*

Sri Lanka offers a safe investment climate due to a number of mechanisms that protect investors. The constitution, through Article 157, guarantees safety of foreign investment. Liberalizing many areas of the economy, the government has embraced strategies and policies that are conducive for international investment:

- Total foreign ownership is permitted across almost all areas of the economy.
- No restrictions on repatriation of earnings, fees, capital, and on forex transactions relating to current account payments.
- The constitution guarantees safety of foreign investment.
- Existence of a transparent and sophisticated legal and regulatory framework, covering all prerequisite business law enactments.
- Bilateral investment protection agreements with 28 countries and double taxation avoidance agreements with 38 countries.
- Sri Lanka is a founder member of the Multilateral Investment Guarantee Agency (MIGA), an investment guarantee agency of the World Bank. This provides a safeguard against expropriation and non-commercial risks.

### *Board of Investment*

The Board of Investment (BOI) of Sri Lanka is the central facilitation point for foreign investors. BOI provides assistance and advice throughout the investment process, from initial point of inquiry through project approval, implementation, monitoring and aftercare facilities. Various exemptions under Inland Revenue Law, Port & Airport Development Levy Act, Value Added Tax Act and Strategic Development Project Act are available for BOI Approved Companies. In addition, BOI provides duty free facilitation and exchange control exemptions for projects approved under BOI Law.

### Key sectors for investment promotion

In line with the government's policy, there are efforts to attract investments to target sectors in which Sri Lanka has a strong foundation for growth as well as strategic areas for nation's development. By offering incentives to induce high value investment to priority sectors, the BOI promotes diversification of Sri Lanka's industry and services with special focus on advanced technology and value addition. Currently the BOI is looking at attracting investment in sectors such as manufacturing, services, tourism, infrastructure, education and agriculture, as well as information and communications technology (ICT) and business process outsourcing (BPO).

#### *Export-oriented manufacturing*

Sri Lanka is leading in manufacturing products such as apparel, ceramics, rubber products, steel, toys, furniture, concrete and equipment. The sector comprises a variety of establishments, ranging from mass production factories to SMEs. Existing factory

infrastructure, skilled and unskilled workers, and attractive wage cost structure and logistical linkages make Sri Lanka an attractive location for production.

### ***Agriculture and plantations***

The agriculture sector continues to be a contributor to the Sri Lankan economy and provides for both domestic consumption and international exports. Main plantations in Sri Lanka include tea, rubber, coconut and rice.

### ***Technology and business process outsourcing***

Sri Lanka is an emerging destination for offshore software development as well as business process outsourcing and knowledge process outsourcing (KPO) services. Sri Lanka was ranked among the top 25 in the AT Kearney Global Services Location Index in 2011 and ranked number 5 in financial attractiveness, ahead of India and China. It is also ahead of all Central and Eastern Europe 30 Leading Locations for Offshore Services (2010–2011) by Gartner. Sri Lanka's ICT and BPO industries are powered by skilled human capacity in spheres such as information technology, finance, legal and medical services. They work with many international markets including the United States, United Kingdom, Europe and Australia.

The country already earns considerable revenue from IT-related services. However, BOI wishes to attract more investments in these areas as they offer considerable opportunities for the employment of young people.

### ***Export-oriented services***

The services sector is the largest contributor to the country's GDP. Transport, communication, banking, insurance, health care, education and real estate are key contributors to this sector's growth. Their full potential remains untapped.

- **Financial services:** The banking sector is one of the most dynamic sectors in the country. During the past few years there has been increased development of institutions, instruments, range of services and geographical coverage.
- **Education and skills development:** Given capacity limits in the local university system, there is growing demand to establish new educational institutions offering external degrees and professional qualifications through international collaboration.



- **Tourism and Leisure:** Anticipated increase in foreign tourist arrivals and potential for capacity expansion requires more investment in tourism infrastructure. This includes luxury hotels, specialized hotels and related industry support infrastructure. There is opportunity for tourism initiatives at tropical beach front locations, land relatively close to heritage sites, scenic spots and sanctuaries. The tourism industry also creates opportunities in related spheres such as travel support, airlines and luxury retail.

The country's target is to attract 4 million tourists by 2020. In order to achieve this objective, BOI is seeking to attract investments in hotel constructions with a capacity of 45,000 rooms.

### ***Infrastructure projects and export-processing zones***

Recent economic development in Sri Lanka has resulted in an increasing pace of infrastructure projects. These include roads, housing and property development, industrial parks, highways and railways, water supply, energy, ports and airports, healthcare, and telecommunication, among others. In addition, BOI is seeking to develop new export processing zones in collaboration with investors.

Through continued improvements in the business climate, spurring foreign direct investments, developing modern infrastructure, meeting quality and standards requirements for goods and services, and sustaining already impressive social infrastructure, Sri Lanka can look forward to an exciting future with inclusive growth opportunities.

Become part of our success.

## CHAPTER 9

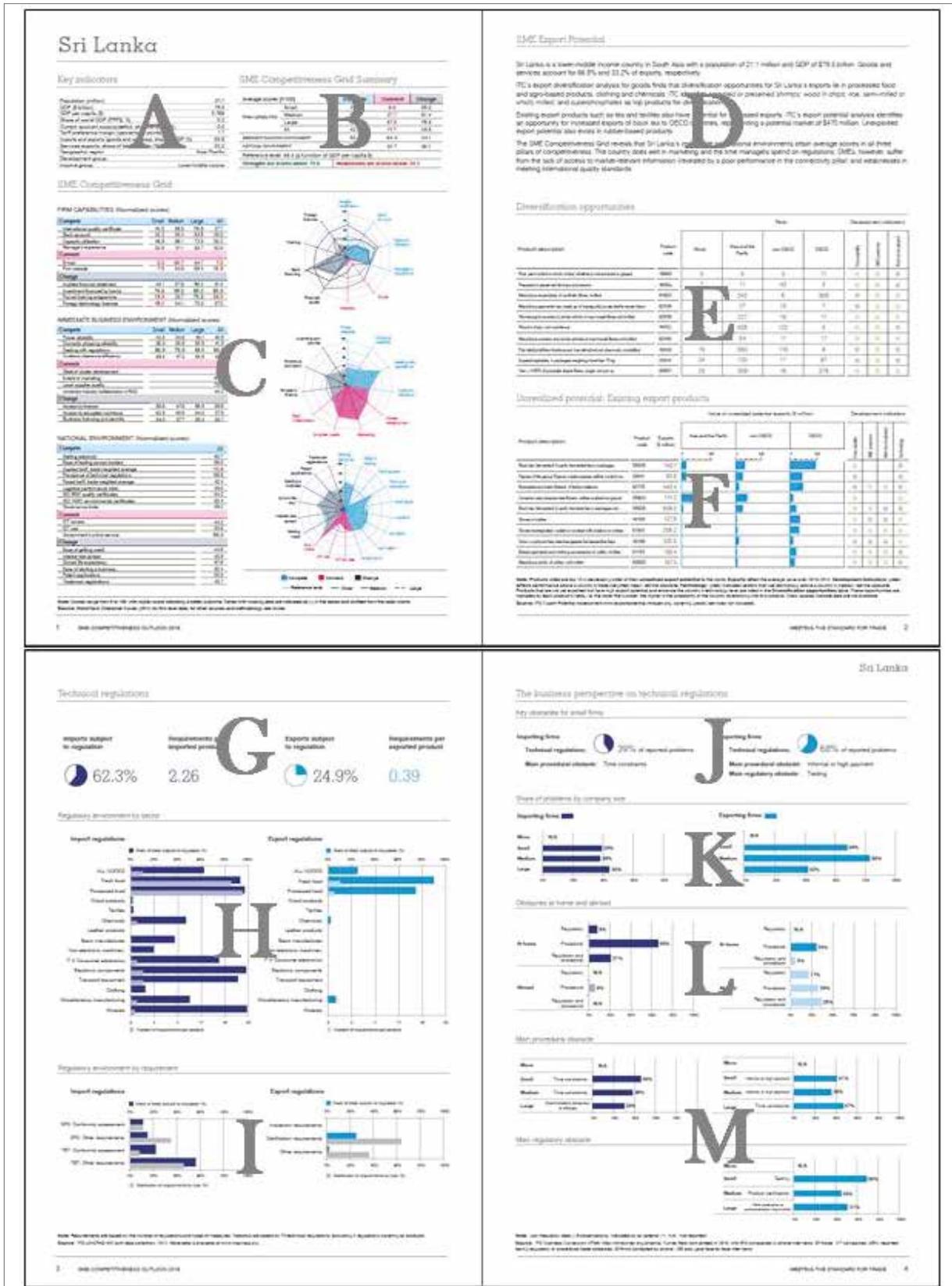
# Country Profiles

## Country profiles

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1. Bangladesh
2. Barbados
3. Burkina Faso
4. Cambodia
5. China
6. Colombia
7. Costa Rica
8. Côte d'Ivoire
9. Ecuador
10. Egypt
11. Guinea
12. India
13. Indonesia
14. Jamaica
15. Jordan
16. Kazakhstan
17. Kenya
18. Lebanon
19. Madagascar
20. Malawi
21. Mauritius
22. Morocco
23. Namibia
24. Nepal
25. Paraguay
26. Peru
27. Rwanda
28. Senegal
29. Sri Lanka
30. Thailand
31. Trinidad and Tobago
32. Tunisia
33. Turkey
34. United Republic of Tanzania
35. Uruguay

FIGURE 71 Country profile example



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The following 35 country profiles<sup>213</sup> provide an overview, at the country level, of:

- SME competitiveness (first page).
- Export and diversification potential for goods (second page).
- The regulatory environment (third page).
- Business perceptions of the regulatory environment (fourth page).

Figure 71 shows a template of the country profiles, followed by guidelines on how to read and interpret the results.

The country profiles are based on automated statistical exercises aimed at identifying focus areas for further qualitative research. On each page, summary statistics or summary write-ups highlight the most relevant findings.

Each country profile provides a comprehensive and easily accessible overview for decision makers in the public and private sector who wish to assess SME competitiveness within the context of the country's export potential and regulatory environment.

## How to read country profiles

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### **SME Competitiveness**

#### **Key Indicators**

At the top left of each country profile, there are eight key indicators on population, economy and trade (Figure 71, area A).

#### **SME Competitiveness Grid Summary**

The grid in the top right corner of the SME competitiveness page (Figure 71, area B) represents an easy-to-read table of summary statistics for each layer and pillar of competitiveness.

Values are averages for each layer-pillar combination, with higher numbers indicating higher competitiveness and lower numbers signalling room for improvement. Values printed in green indicate the country's strengths, and those printed in red indicate weaknesses.<sup>214</sup>

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. A footnote indicates the year of the World Bank

Enterprise Survey used for each country (see Annex II for exhaustive data availability tables).

### **SME Competitiveness Grid**

The Competitiveness Grid (Figure 71, area C) presents each indicator by level and pillar of competitiveness in line with the explanations provided in Chapter 7. The three pillars of competitiveness are:

- Compete (in blue)
- Connect (in pink)
- Change (in grey).

Each pillar of competitiveness is determined at three layers of the economy:

- Firm level
- Immediate business environment
- National environment.

All indicator values are transformed and normalized on a scale of 1–100 to allow comparison across indicators (layer and pillar categories) and countries. Higher scores indicate better performance. Following the transformation procedure outlined in Annex I, this implies that for each indicator, the lowest-ranked of the entire sample of 108 countries will have a score of 0, and the highest a score of 100, with the median set to 50. For the firm capabilities layer, there are indicators by company size (small, medium, and large). Values in green indicate the country's strengths, and those in red indicate weaknesses relative to a country-specific reference level.<sup>215</sup>

There is a radar diagram for each of the three competitiveness layers. Colours indicate competitiveness pillars: blue for compete, pink for connect, and grey for change. The radar diagrams are based on the indicator scores in the tables immediately to the left of the diagrams.

The border of the coloured area in each plot represents indicators computed at the national level (for firm-level data, indicators are produced by aggregating data over all firm sizes). The solid grey line is the country-specific reference level, and reflects the expected performance for individual indicators, taking into account the level of development of each country (GDP per capita). This is the reference level for identifying strengths and weaknesses.

For the first layer of competitiveness, firm capabilities, a dotted black line represents indicators computed for small firms; a solid black line is for medium-sized firms and a

broken (dashed) black line is for large firms. The closer the indicator score is to the edge of the radar chart, the more competitive the country. SME performance can easily be compared to large-firm performance; the performance gap is represented by the distance between their respective lines. In this sense the radar charts are comparable across layers, making it easy to determine whether strengths and weaknesses lie in the immediate business environment, the national environment or in firm performance.

Indicators for which data are not available appear as “-” in the tables, and are omitted from the radar charts.

### ***SME Export Potential***

#### ***SME Export Potential***

The first section on the second page (Figure 71, area D) provides a concise summary of country-specific competitive strengths, juxtaposes this to product-specific export potential, and discusses these findings in light of existing export strategies. This summary is therefore useful for assessing the export potential of different economic segments, strengths and weaknesses in the private sector and the extent to which the business and national policy environment is supportive to further development of sectors with export potential. Despite the importance of services exports for many countries, the export potential discussion focuses on goods and does not include services due to restrictions in data availability on services.

#### ***Unrealized potential: Existing export products***

This section (Figure 71, area F) tabulates the top 10 products with the highest unrealized export potential, based on the ITC EPA methodology. Unrealized potential is measured by EPI, which serves countries that want to exploit well-established export lines further. It identifies products in which the exporting country has already proven to be internationally competitive, but for which the potential has not yet been fully exploited in all target regions.

The first column of the unrealized potential table contains the product's description and its corresponding 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 value of unexploited exports of the product, measured in millions of US dollars (averaged over the last five years).

The following three columns measure unrealized potential export value in three target markets: own region, non-OECD countries, and OECD countries (the potential to non-OECD and OECD countries equalling total world potential).

The products are listed with respect to highest unrealized potential export value in the world market (which may not correspond to the rankings in each of the three target markets). The length of the blue bars is proportional to the unrealized potential export value (also in millions of US dollars), and is comparable across the products and markets listed in the table. Longer bars indicate higher unrealized potential export value, revealing opportunities already available to the country that can be targeted in the short term. Empty bars indicate that the target region has not consistently demanded the products in the past five years.

#### ***Development Indicators***

The final three columns of the table report the status of development indicators associated with the indicated product, allowing for an integrated assessment of both trade policy and social policy objectives. The four indicators provided are:

- 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 level of women's employment in the sector to which the product belongs.
- Technology, representing the level of technology used in production.

Development indicator measures are relative to the country's performance in other export sectors; 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.

#### ***Diversification opportunities: New export products***

This section (Figure 71, area E) presents the top 10 products that provide the best opportunities for development of new exports. It serves countries that want to diversify into new sectors with promising demand in target markets, and is measured with PDI.

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The PDI is constructed through a product-space approach that identifies products that the exporting country does not yet export competitively, but which seem feasible to export based on the country's current export basket and the export baskets of similar countries. Product diversification assessments notably account for natural endowments that are pivotal for the capacity of a country to produce certain products.

The product space does not allow for any meaningful estimate of potential trade values, and hence only rankings of diversification opportunities in a given country or regional market are presented. This set of products should be perceived as options for diversification that may yield export revenues in the medium to long term.

As in the EPI table, the first column indicates the product description and product code. The next four columns indicate the PDI ranking in the world market, as well as by three regional markets: the own region of the country, non-OECD, and OECD countries. Lower values (higher rank) indicate a higher probability that a country will diversify into exporting this product, particularly in the long term. The order of product listings in the table follows the world ranking and can be different from a product's rank in individual regions.

Even though products in the PDI are necessarily still small in export value (only products accounting for less than 0.5% of a country's total exports are considered), the EPI and PDI are not fully mutually exclusive; sometimes a product may appear in both tables. In this case, the product has good prospects to yield export revenues in both the short and long term.

Similar to the EPI table, the last four columns indicate development indicators associated with the ranked products. As before, indicators considered are the product's impact on stability of export revenue, SME presence in production, and female labour participation. Only products that improve the technological level of the country are included in the table. Hence, it is not necessary to report on the technology indicator as it would be light-green for all products.

Because of restrictions in data availability, the PDI analysis focuses on goods and does not include services.

### **Technical regulations**

The third page of the country profiles outlines the regulatory environment for traded goods, both imports and exports, by sector and by requirement. The page is based on the multi-agency regulatory database on NTMs. The

graphs focus on a subset of the NTM database, namely technical requirements. In the charts on the remainder of the page, the share of trade subject to any form of regulation is represented by the horizontal dark-blue bar, the number of requirements per product by the horizontal light-blue bar (top two charts), and the percentage of regulation by type of requirement by the horizontal grey bar (bottom two charts).

### **Technical regulations**

The charts at the top of the third page (Figure 71, area G) provide key statistics regarding the country's regulatory environment:

- The percentage of imports and exports subject to regulation.
- The average number of regulation requirements per imported and exported product.

### **Regulatory environment by sector**

The blue horizontal bar (Figure 71, area H) indicates the share of trade, by value, covered by any form of technical regulation. This same measure is used in all four charts on the third page of the country profiles, expressed for both imports (right side) and exports (left side).

The top two charts compute the share of trade subject to regulation by sector. This measure does not imply that trade in these sectors is restricted, only that products in these sectors are subject to at least one requirement. Imports are typically more broadly covered by regulations than exports, as exports tend to be regulated by the importing partner country.

### **Regulatory environment by requirement**

The bottom two charts (Figure 71, area I) illustrate the share of trade subject to regulation by the type of technical requirement. For imports, the percentage share is computed for both SPS and TBT requirements, with calculations done separately for conformity assessments and other requirements. For exports, the percentage share is calculated by inspection requirements, certification requirements, and other requirements. This allows for easy identification of the type of requirement that dominates the regulatory environment.

The prevalence of regulation is presented as the grey horizontal bar in the top two charts on the third page. Regulatory prevalence is defined as the average number of regulatory requirements per traded product, and is

calculated by sector. Prevalence for import sectors is presented in the left chart, and for export sectors in the right chart. The measure is calculated as an average over all products in the sector, and represents an estimate of how thoroughly regulated a sector is. A longer grey bar indicates a higher value, which means that products in the corresponding sector have a higher average number of requirements. Higher values could be a sign of a cumbersome business environment for exporting firms.

There are some caveats regarding the data presented in these charts. The statistics presented reflect the transparency of data reporting for each country. As a result, lack of data in certain areas could skew results.

Moreover, calculations for each country are based on a different number of total regulations, which is always stated in the note at the bottom of the third page. These statistics are calculated for traded products only. Any NTMs on non-traded products are not reported and not considered in any calculations of shares. Finally, data on export regulations are lacking for many countries, in which case the export chart is removed altogether.

### ***The business perspective on technical regulations***

This report makes a selective use of questions from the ITC Business Surveys on NTMs. The fourth page presents survey results for importing firms (on the left) and exporting firms (on the right). Problems reported by firms only partly refer to their home country (i.e. the country of respective country profiles), as they also include reports related to partner and transit countries.

#### ***Key obstacles for small firms***

The first item on the fourth page (Figure 71, area J) is a text box that summarizes key findings regarding technical regulations in the country as perceived by small companies. The percentage of problems caused by technical regulations is reported first, followed by the most frequently cited procedural and regulatory obstacles, if data is available.

#### ***Share of problems by company size***

The second item down on the fourth page (Figure 71, area K), the first set of tables, shows the percentage share of technical problems (related to product or production process) in all problems reported, categorized by reporting firm size, and by importing and exporting status. These

problems refer to difficulties that companies have in meeting technical import and export regulations, due to either procedural or regulatory obstacles. A higher number indicates that a greater percentage of cases related to technical regulations are reported by firms from the specified size category.

#### ***Obstacles at home and abroad***

The next set of tables focuses on problems associated with technical regulations. It presents the share of obstacles by type (procedural, regulatory or both) and where the obstacle occurs (at home in the upper half of the charts, or abroad, in the lower half of the charts). The charts are located on the fourth page, indicated by area L in Figure 71.

Technical regulatory obstacles occur when importing or exporting companies consider product or process requirements related to requirements, such as quality, labelling or certifications as too strict. Procedural obstacles refer to limitations in fulfilling regulatory requirements, even if the regulatory requirements are not an obstacle per se. For example, a procedural obstacle could be delays or arbitrary behaviour by officials that affect a firm's capacity to comply with regulations. In the tables, longer horizontal bars indicate a greater proportion of reported obstacles of the specified type occurring in the specified location.

#### ***Main procedural obstacles and main regulatory obstacles***

The final set of tables on the fourth page (Figure 71, area M) present the name of the primary procedural and regulatory obstacle encountered by surveyed businesses. For procedural obstacles, the most commonly cited obstacle is reported for importing and exporting firms, and is also calculated by firm size, if the data are available. For regulatory obstacles, the most commonly cited obstacle is reported for exporting firms; obstacles for importers are not reported due to the high number of missing observations. Next to the reported obstacle is the percentage of cases where the obstacle is reported, which is also indicated by the length of the adjacent horizontal bar. These tables allow for a quick view of the most commonly cited regulatory obstacles, and how these differ by firm size and importer/exporter status.

# Bangladesh

## Key indicators

Population (million)	159.9
GDP (\$ billion)	202.3
GDP per capita (\$)	1,266
Share of world GDP (PPP\$, %)	0.5
Current account surplus/deficit, share of GDP (%)	-0.9
Tariff preference margin (percentage points)	8.1
Imports and exports (goods and services), share of GDP (%)	45.4
Services exports, share of total exports (%)	7.5
Geographic region	Asia-Pacific
Development group	LDC
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.2	<b>3.0</b>	<b>18.5</b>
	Medium	48.5	<b>8.8</b>	31.0
	Large	<b>72.3</b>	57.7	<b>62.8</b>
	All	49.5	<b>16.4</b>	38.8
IMMEDIATE BUSINESS ENVIRONMENT		49.0	46.0	54.1
NATIONAL ENVIRONMENT		29.7	27.9	26.8

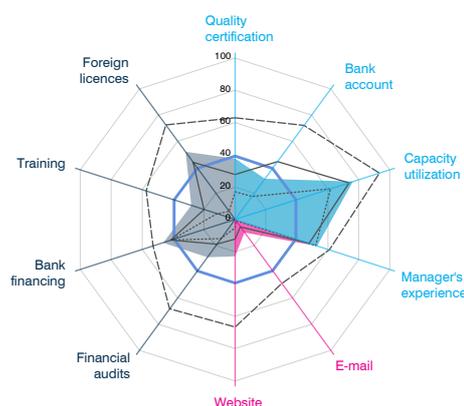
Reference level: 39.3 (a function of GDP per capita \$)

**Strengths are scores above: 58.9**      **Weaknesses are scores below: 19.6**

## SME Competitiveness Grid

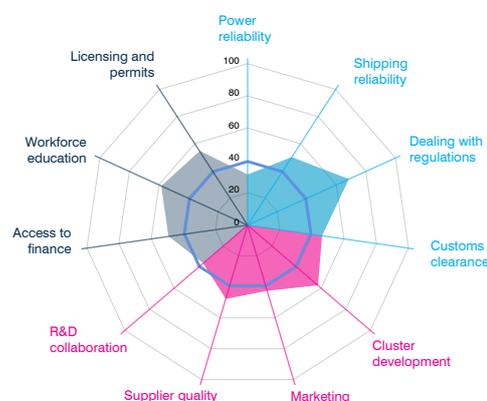
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>17.2</b>	28.0	<b>63.0</b>	37.8
Bank account	<b>17.7</b>	44.4	<b>71.9</b>	31.2
Capacity utilization	<b>61.7</b>	<b>73.7</b>	<b>93.3</b>	<b>76.2</b>
Manager's experience	52.2	47.8	<b>60.9</b>	52.9
<b>Connect</b>				
E-mail	<b>1.0</b>	<b>5.5</b>	48.8	<b>9.9</b>
Firm website	<b>5.0</b>	<b>12.2</b>	<b>66.6</b>	22.8
<b>Change</b>				
Audited financial statement	<b>14.5</b>	<b>18.9</b>	<b>68.4</b>	28.9
Investment financed by banks	41.2	41.4	52.9	46.4
Formal training programme	<b>11.9</b>	20.0	57.4	28.2
Foreign technology licences	<b>6.3</b>	43.8	<b>72.5</b>	51.9



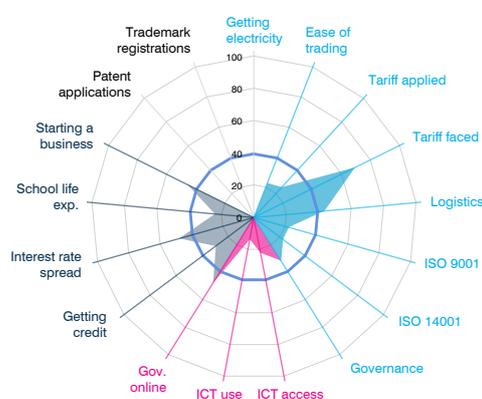
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	27.3	33.6	35.7	31.3
Domestic shipping reliability	50.0	47.6	<b>59.6</b>	50.0
Dealing with regulations	<b>78.4</b>	<b>70.3</b>	57.2	<b>68.5</b>
Customs clearance efficiency	43.0	47.0	46.6	46.2
<b>Connect</b>				
State of cluster development				57.2
Extent of marketing				42.7
Local supplier quality				47.9
University-industry collaboration in R&D				36.2
<b>Change</b>				
Access to finance	44.2	49.4	57.3	49.3
Access to educated workforce	<b>63.5</b>	<b>60.7</b>	49.9	58.4
Business licensing and permits	<b>60.7</b>	54.6	47.8	54.6



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>0.0</b>
Ease of trading across borders	22.8
Applied tariff, trade-weighted average	25.4
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	<b>69.4</b>
Logistics performance index	43.5
ISO 9001 quality certificates	22.3
ISO 14001 environmental certificates	22.5
Governance index	31.6
<b>Connect</b>	
ICT access	22.3
ICT use	<b>13.8</b>
Government's online service	47.7
<b>Change</b>	
Ease of getting credit	29.4
Interest rate spread	47.8
School life expectancy	24.0
Ease of starting a business	46.1
Patent applications	<b>0.0</b>
Trademark registrations	<b>13.6</b>



■ Compete    ■ Connect    ■ Change  
 — Reference level    ..... Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Bangladesh is a lower-middle income country with a population of 159.9 million and GDP of \$202.3 billion. Goods and services account for 92.5% and 7.5% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Bangladesh's exports lie in the fresh and the processed food sectors. It further identifies *manioc starch*, a powdery flour-like ingredient, as a new product Bangladesh could export. As SMEs are the main producers of this good, its export would contribute to SME development. Other top products for diversification include *coconut oil* and *natural rubber in smoked sheets*.

There is also potential for increased exports of existing export products such as cotton-based textiles. For example, ITC estimates that for *men's/boys trousers and shorts, of cotton* there is an unrealized export potential of \$1.2 billion to OECD countries.

The SME Competitiveness Grid reveals that Bangladesh's immediate business and national environments attain average scores in all three pillars of competitiveness. The country does well in accessing an educated workforce and in dealing with regulations. Small companies underperform on a range of indicators, including connectivity, use of foreign technology licences and formal training programmes. Large companies, however, perform well on these same indicators.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Manioc (cassava) starch	110814	1	3	1	1	■	■	■
Coconut (copra) oil crude	151311	2	11	13	2	■	■	■
Natural rubber in smoked sheets	400121	5	2	5	5	■		
Ferro-chromium containing by weight more than 4% of carbon	720241	6	23	32	6	■	■	■
Pineapples, o/w prep or presvd, sugared, sweetened, spirited or not	200820	7	16	6	8	■	■	■
Manioc (cassava), fresh or dried, whether or not sliced or pelleted	071410	9	69	3	10	■		
Floor coverings of coconut fibres (coir)	570220	11	47	21	11	■	■	■
Womens/girls swimwear, of synthetic fibres, knitted	611241	12	188	34	12	■	■	■
Coconut/copra oil-cake&oth solid residues,whether/not ground/pellet	230650	13	4	11	14	■	■	■
Womens/girls anoraks and similar article of cotton, not knitted	620292	14	97	28	13	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Mens/boys trousers and shorts, of cotton, not knitted	620342	3829.5				■	■	■	■
Mens/boys shirts, of cotton, not knitted	620520	1508.7				■	■	■	■
Womens/girls trousers and shorts, of cotton, not knitted	620462	1961.4				■	■	■	■
T-shirts, singlets and other vests, of cotton, knitted	610910	4149.9				■	■	■	■
Pullovers, cardigans and similar articles of cotton, knitted	611020	1769.4				■	■	■	■
Yarn of jute or of other textile bast fibres, single	530710	351.2				■	■	■	■
Other footwear, outer soles of rubber/plastics uppers of leather	6403XX	281.1				■	■	■	■
Frozen shrimps and prawns	0306Xb	479.9				■	■	■	■
Pullovers, cardigans and similar articles of man-made fibres,...	611030	1238.7				■	■	■	■
Babies garments and clothing accessories of cotton, knitted	611120	369.7				■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  19% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

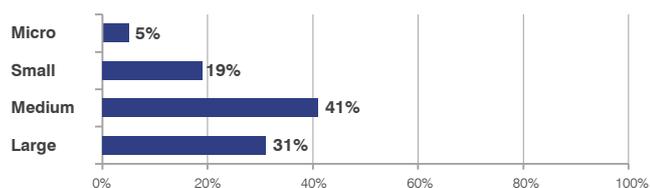
**Technical regulations:**  61% of reported problems

**Main procedural obstacle:** Informal or high payment

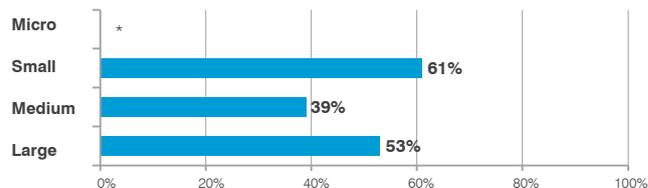
**Main regulatory obstacle:** Testing

### Share of problems by company size

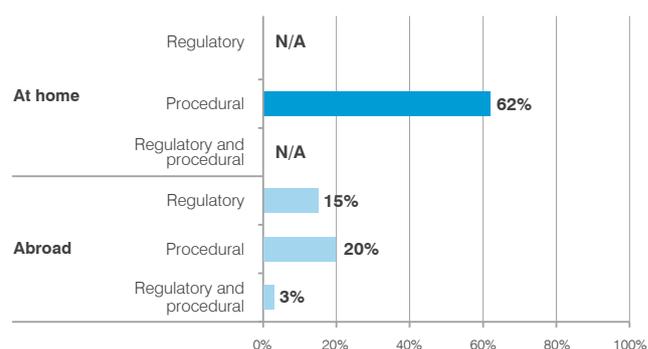
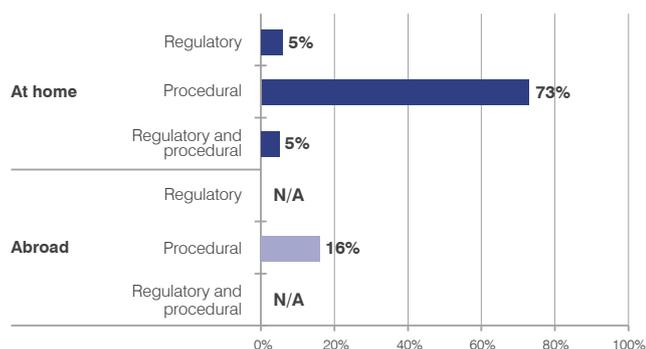
#### Importing firms



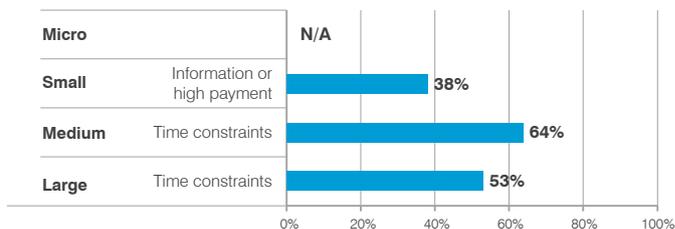
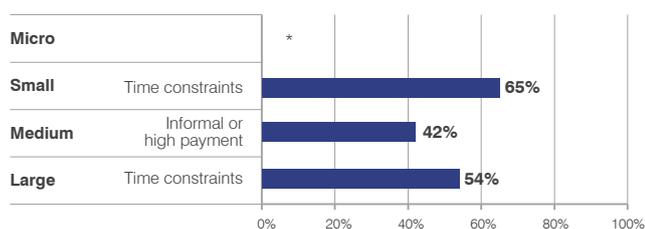
#### Exporting firms



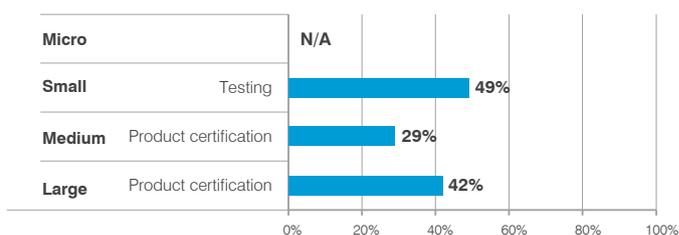
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/bangladesh>. Survey field work ended in 2015, with 998 companies in phone interviews. Of those, 912 companies (91%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 411 also gave face-to-face interviews.

# Barbados

## Key indicators

Population (million)	0.3
GDP (\$ billion)	4.5
GDP per capita (\$)	15,912
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.8
Tariff preference margin (percentage points)	5.3
Imports and exports (goods and services), share of GDP (%)	95.7
Services exports, share of total exports (%)	75.5
Geographic region	Latin America and the Caribbean
Development group	SIDS
Income group	High income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	36.3	79.4	38.6
	Medium	74.0	84.7	50.1
	Large	81.7	<b>93.1</b>	74.1
	All	50.1	81.9	45.5
IMMEDIATE BUSINESS ENVIRONMENT		72.0	61.9	51.0
NATIONAL ENVIRONMENT		54.9	70.5	50.9

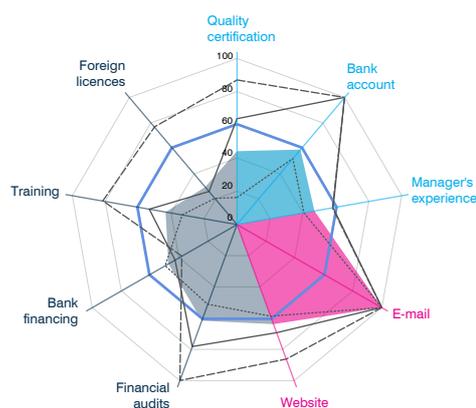
Reference level: 60.5 (a function of GDP per capita \$)

**Strengths are scores above: 90.7**      **Weaknesses are scores below: 30.2**

## SME Competitiveness Grid

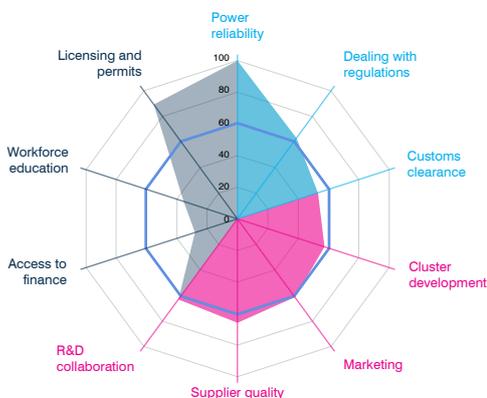
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>16.3</b>	63.7	87.1	44.2
Bank account	52.0	<b>100.0</b>	<b>100.0</b>	59.0
Capacity utilization	-	-	-	-
Manager's experience	40.7	58.4	58.0	47.1
Connect				
E-mail	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Firm website	58.7	69.4	86.2	63.9
Change				
Audited financial statement	51.1	78.2	<b>100.0</b>	61.7
Investment financed by banks	49.6	42.7	38.2	47.3
Formal training programme	33.2	53.2	81.4	43.3
Foreign technology licences	<b>20.6</b>	<b>26.0</b>	76.7	<b>29.5</b>



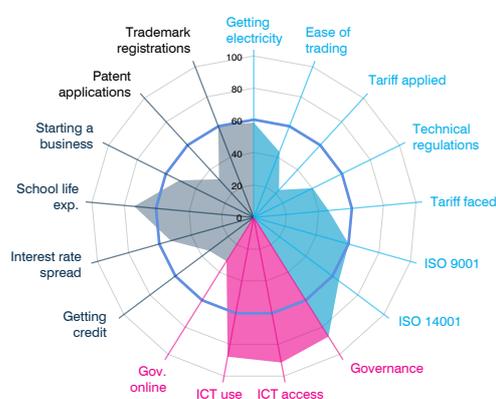
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>100.0</b>	<b>100.0</b>	82.3	<b>100.0</b>
Domestic shipping reliability	-	-	-	-
Dealing with regulations	69.7	52.3	56.8	63.0
Customs clearance efficiency	50.8	55.8	59.8	53.1
Connect				
State of cluster development				57.4
Extent of marketing				61.3
Local supplier quality				65.8
University-industry collaboration in R&D				63.1
Change				
Access to finance	<b>24.7</b>	42.1	<b>15.4</b>	<b>28.1</b>
Access to educated workforce	36.5	37.4	<b>24.1</b>	35.6
Business licensing and permits	<b>100.0</b>	75.7	81.5	89.3



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All	
Getting electricity	58.6	
Ease of trading across borders	43.4	
Applied tariff, trade-weighted average	<b>22.9</b>	
Prevalence of technical regulations	40.4	
Faced tariff, trade-weighted average	46.0	
Logistics performance index	-	
ISO 9001 quality certificates	60.6	
ISO 14001 environmental certificates	65.4	
Governance index	87.0	
Connect		
ICT access	<b>91.5</b>	
ICT use	87.8	
Government's online service	32.0	
Change		
Ease of getting credit	34.4	
Interest rate spread	53.1	
School life expectancy	73.9	
Ease of starting a business	51.3	
Patent applications	31.9	
Trademark registrations	60.8	



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Barbados is a high income island economy in the Caribbean with a population of 0.3 million and GDP of \$4.5 billion. Goods and services account for 24.5% and 75.5% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the chemical and processed food sector. *Beryllium* (a key element in the alloying of metals), *lobster, prepared or preserved*, and *insulin* are identified as top products for diversification.

Existing export products also have potential for increased exports. Estimates from ITC's export potential analysis suggest that this may be the case for the alcoholic drinks sector. *Rum and tafia* have an unrealized export potential of \$21 million. Other products with potential include *artificial body parts* (e.g. *prosthetic legs*) and *wirewound variable resistors*.

The SME Competitiveness Grid reveals that firms of all sizes have good connectivity scores. Small firms, however, perform less well in their capacity to compete and change. This is partially due to low scores on the use of internationally recognized quality certificates and foreign technology licences. Barbados's immediate business and national environments perform well on business licensing and permits.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Beryllium, including waste and scrap	8112Xa	6			3	■	■	■
Lobster, prepared or preserved	160530	10	16	17	7	■	■	■
Whiskies	220830	11	7	7	27	■	■	■
Insulin and its salts, used primarily as hormones	293712	13	52	58	8	■	■	■
Bovine, sheep & goat fats	1502	18	14	15	137	■	■	■
Turbo-propellers of a power exceeding 1100 KW	841122	21	19	20	17	■	■	■
Sheep cuts, bone in, fresh or chilled	020422	22	322	117	12	■	■	■
Tanks and other armoured fighting vehicles, motorised, and parts	871000	23	20	22	22	■	■	■
Wrist-watches w mech display,battery powered&with case of precious metal...	910111	25	17	19	46	■	■	■
Sheep cuts, bone in, frozen	020442	26	18	21	35	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Rum and tafia	220840	33.1	■	■	■	■	■	■	■
Udenaturd ethyl alcohol of an alcohol strngth by vol of 80% vol/...	220710	9.1	■	■	■	■	■	■	■
Artificial parts of the body (excl. artificial teeth and dental fitting)	902139	15.8	■	■	■	■	■	■	■
Raw cane sugar	1701XX	10.0	■	■	■	■	■	■	■
Miscellaneous chemical products	38XXXX	5.5	■	■	■	■	■	■	■
Wirewound variable resistors,includg rheostat & potentiometers...	853331	5.3	■	■	■	■	■	■	■
Paper labels of all kinds, printed	482110	7.4	■	■	■	■	■	■	■
Liqueurs and cordials	220870	4.5	■	■	■	■	■	■	■
Portland cement	252329	5.3	■	■	■	■	■	■	■
Stoppers,caps,lids,seals & other packing accessories of base...	830990	3.1	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

6.73

**Exports subject to regulation**

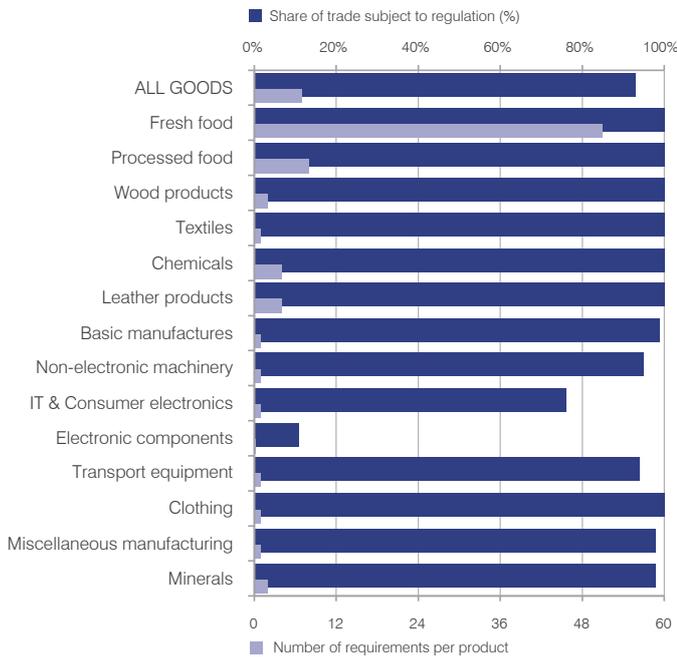


**Requirements per exported product**

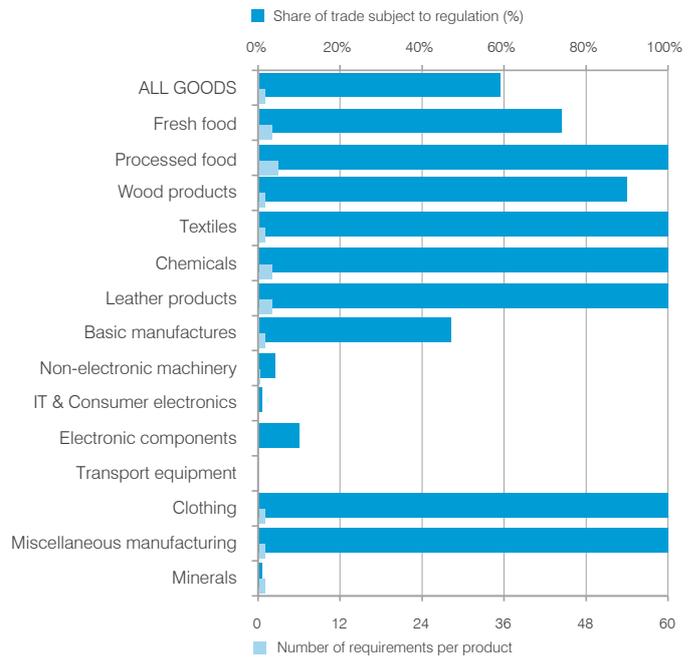
1.28

## Regulatory environment by sector

### Import regulations

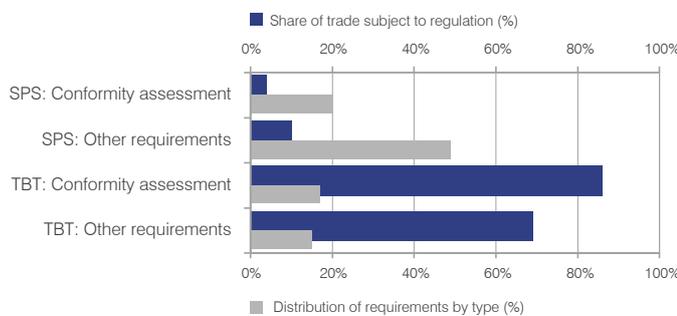


### Export regulations

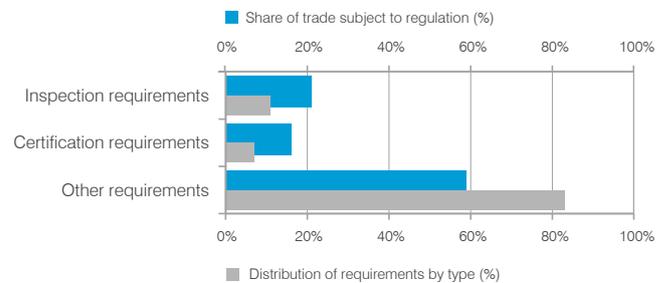


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 59 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2015. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# Burkina Faso

## Key indicators

Population (million)	17.9
GDP (\$ billion)	11.3
GDP per capita (\$)	631
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-7.9
Tariff preference margin (percentage points)	1.1
Imports and exports (goods and services), share of GDP (%)	73.3
Services exports, share of total exports (%)	15.8
Geographic region	Africa
Development group	LDC, LLDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	43.2	<b>11.6</b>	28.9
	Medium	48.6	31.4	43.6
	Large	<b>63.9</b>	37.9	<b>65.8</b>
	All	45.9	17.7	37.3
IMMEDIATE BUSINESS ENVIRONMENT		37.3	39.3	24.0
NATIONAL ENVIRONMENT		34.9	25.1	37.2

Reference level: 33.4 (a function of GDP per capita \$)

**Strengths are scores above: 50.2**      **Weaknesses are scores below: 16.7**

## SME Competitiveness Grid

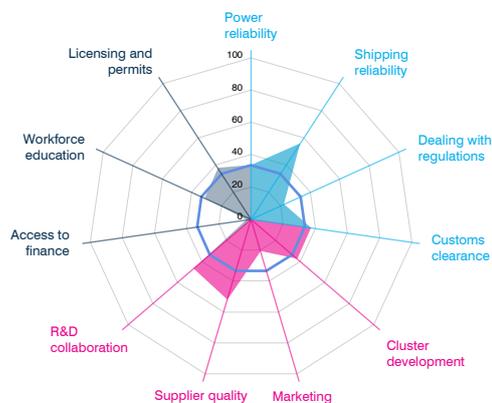
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	33.1	38.0	<b>64.0</b>	38.0
Bank account	<b>55.6</b>	<b>50.4</b>	<b>100.0</b>	<b>55.6</b>
Capacity utilization	43.9	<b>58.4</b>	41.2	47.1
Manager's experience	40.3	47.8	<b>50.4</b>	43.0
<b>Connect</b>				
E-mail	<b>15.4</b>	36.7	36.4	20.7
Firm website	<b>7.8</b>	26.1	39.3	<b>14.7</b>
<b>Change</b>				
Audited financial statement	29.0	45.2	<b>83.6</b>	37.0
Investment financed by banks	<b>51.3</b>	50.0	<b>68.2</b>	<b>53.3</b>
Formal training programme	22.5	47.8	47.6	31.5
Foreign technology licences	<b>12.7</b>	31.3	<b>63.7</b>	27.3



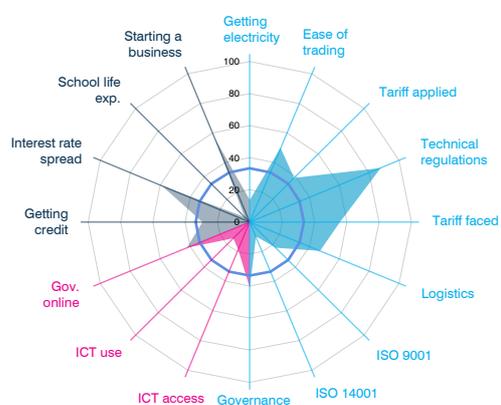
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	30.1	44.3	50.0	33.6
Domestic shipping reliability	<b>64.4</b>	41.9	45.5	<b>55.9</b>
Dealing with regulations	25.1	<b>14.6</b>	25.1	22.3
Customs clearance efficiency	<b>14.7</b>	40.4	<b>61.7</b>	37.4
<b>Connect</b>				
State of cluster development				37.7
Extent of marketing				20.7
Local supplier quality				<b>52.0</b>
University-industry collaboration in R&D				46.9
<b>Change</b>				
Access to finance	<b>0.0</b>	<b>8.5</b>	<b>12.8</b>	<b>3.0</b>
Access to educated workforce	34.9	26.1	22.8	31.3
Business licensing and permits	34.4	44.1	50.0	37.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>13.6</b>
Ease of trading across borders	50.0
Applied tariff, trade-weighted average	39.0
Prevalence of technical regulations	<b>87.7</b>
Faced tariff, trade-weighted average	<b>55.7</b>
Logistics performance index	46.9
ISO 9001 quality certificates	22.9
ISO 14001 environmental certificates	<b>9.8</b>
Governance index	41.1
<b>Connect</b>	
ICT access	18.9
ICT use	<b>14.5</b>
Government's online service	42.0
<b>Change</b>	
Ease of getting credit	29.4
Interest rate spread	<b>59.1</b>
School life expectancy	<b>4.4</b>
Ease of starting a business	<b>56.1</b>
Patent applications	-
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Burkina Faso is a low income country in West Africa with a population of 17.9 million and GDP of \$11.3 billion. Goods and services account for 84.2% and 15.8% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Burkina Faso's exports lie in the fresh and processed food sectors. Top products for diversification include *gum arabic* (otherwise known as chaar gund or meska), a natural hardened sap rich in sugars, *ground-nut oil*, *crude* and *cut flowers and flower buds for bouquets*.

Existing export products also have potential for increased exports. For example, *cotton, not carded or combed* has an unrealized export potential of \$160 million to non-OECD countries. Other products with potential include *sesamum seeds* and *cashew nuts*.

The SME Competitiveness Grid reveals that small firms underperform in their capacity to connect. Large firms, instead, perform well in the compete and change pillars of competitiveness. Burkina Faso's immediate business and national environments attain average scores in all three pillars of competitiveness.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Gum arabic	130120	2	1	3	2	■		
Ground-nut oil, crude	150810	3		2	5	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	4	3	6	3	■		
Dried pigeon peas and other leguminous vegetables, shelled	0713Xb	6	4	4	9	■		
Lentils dried, shelled, whether or not skinned or split	071340	7	6	5	10	■		
Jute and other textile bast fibres, raw or retted	530310	8	2	7	43	■		
Wattle extract	320120	9	56	8	11	■	■	■
Cashew nuts, without shell, fresh or dried	080132	10	13	10	6	■		
Technically specified natural rubber (TSNR)	400122	11	36	11	8	■		
Bananas and plantains, fresh or dried	0803	12	28	15	7	■		

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Cotton, not carded or combed	520100	381.9	■	■	■	■			■
Sesamum seeds, whether or not broken	120740	41.6		■	■	■			■
Cashew nuts, in shell, fresh or dried	080131	11.9		■		■			■
Veg fats & oils & their fractions, refined or not but not chemically ...	151590	9.1	■			■	■	■	■
Onions and shallots, fresh or chilled	070310	3.4	■			■			■
Guavas, mangoes and mangosteens, fresh or dried	080450	10.7				■			■
Cashew nuts, without shell, fresh or dried	080132	5.2				■			■
Tomatoes, fresh or chilled	070200	3.8				■			■
Raw hides and skins (other than furskins) and leather, of swine...	41XXXd	2.0				■	■	■	■
Locust beans (carob), sugar cane, chicory roots, fruit stones...	1212Xb	1.6				■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

Imports subject to regulation

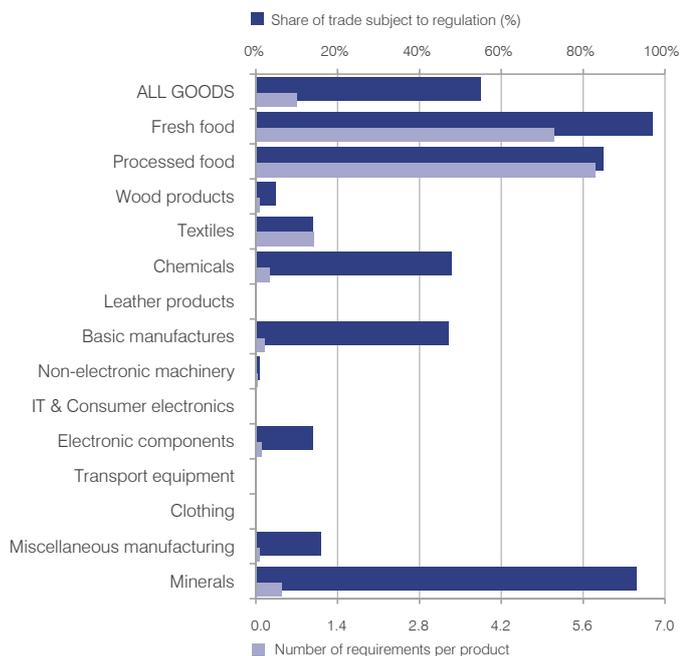


Requirements per imported product

0.72

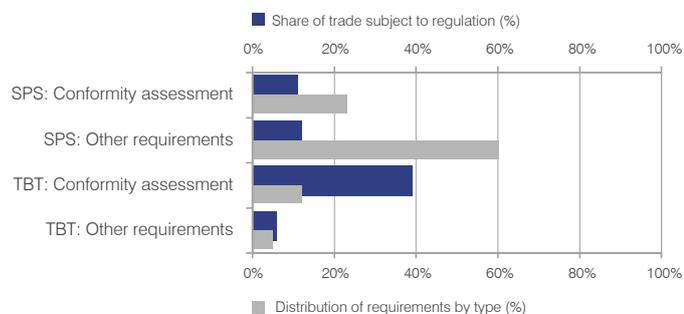
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 97 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2010. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

Technical regulations:  50% of reported problems

### Exporting firms

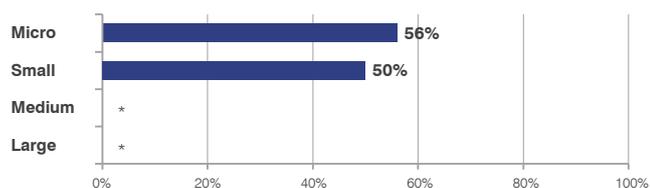
Technical regulations:  88% of reported problems

Main procedural obstacle: Time constraints

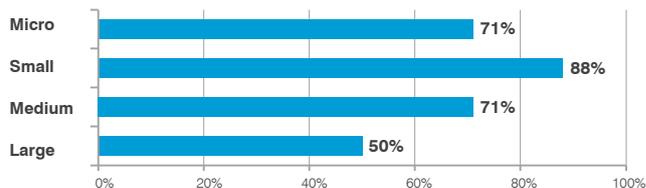
Main regulatory obstacle: Product certification

## Share of problems by company size

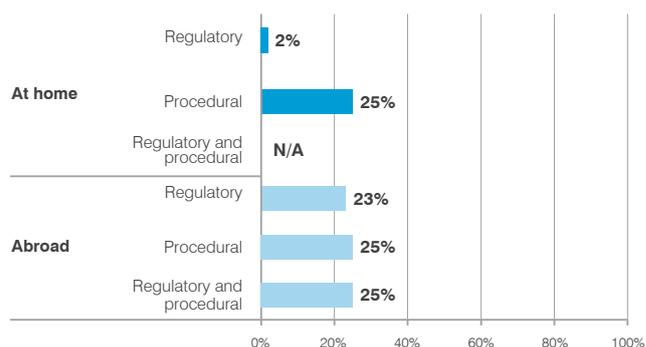
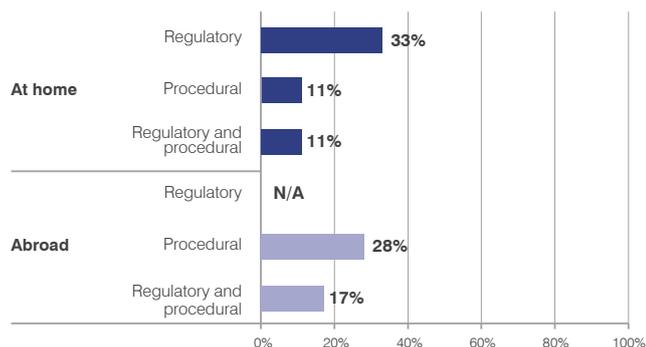
### Importing firms



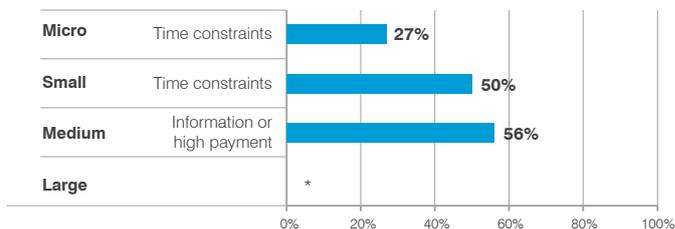
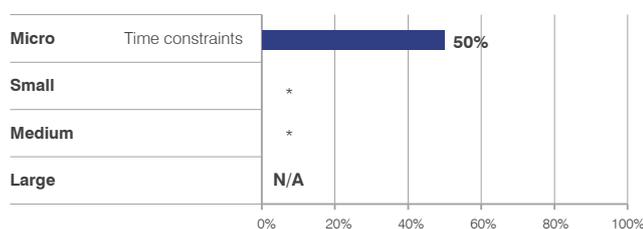
### Exporting firms



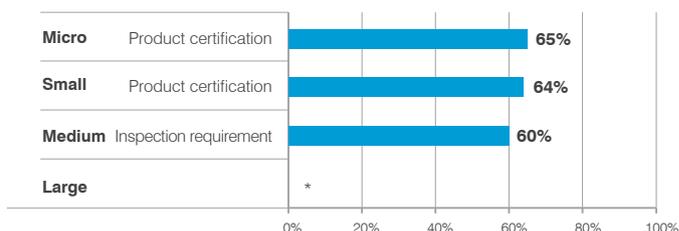
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/burkinafaso>. Survey field work ended in 2010, with 172 companies in phone interviews. Of those, 85 companies (49%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 57 also gave face-to-face interviews.

# Cambodia

## Key indicators

Population (million)	15.5
GDP (\$ billion)	17.7
GDP per capita (\$)	1,140
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-11.1
Tariff preference margin (percentage points)	8.9
Imports and exports (goods and services), share of GDP (%)	210.1
Services exports, share of total exports (%)	23.9
Geographic region	Asia-Pacific
Development group	LDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	32.6	21.3	37.9
	Medium	28.6	29.4	34.1
	Large	40.3	<b>61.4</b>	49.3
	All	32.0	24.3	39.0
IMMEDIATE BUSINESS ENVIRONMENT		<b>78.6</b>	46.5	56.2
NATIONAL ENVIRONMENT		45.4	27.2	36.7

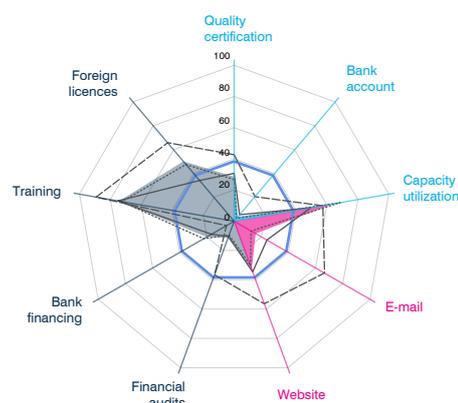
Reference level: 38.4 (a function of GDP per capita \$)

**Strengths are scores above: 57.6**      **Weaknesses are scores below: 19.2**

## SME Competitiveness Grid

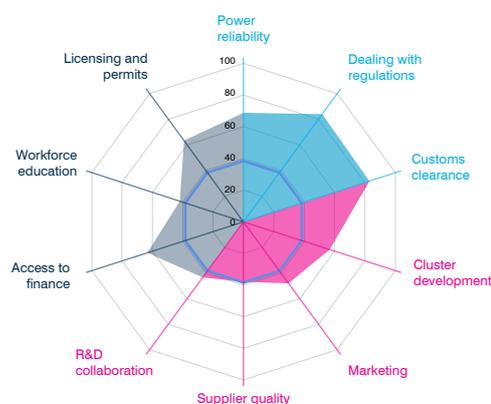
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All	
International quality certificate	26.6	30.7	42.7	28.6	
Bank account	<b>2.5</b>	<b>5.5</b>	20.7	<b>3.8</b>	
Capacity utilization	<b>68.6</b>	49.5	57.4	<b>63.6</b>	
Manager's experience	-	-	-	-	
Connect	E-mail	<b>12.4</b>	24.1	<b>66.5</b>	<b>15.9</b>
Firm website	30.3	34.6	56.4	32.8	
Change	Audited financial statement	<b>9.3</b>	<b>10.5</b>	36.5	<b>11.4</b>
Investment financed by banks	22.2	<b>16.7</b>	<b>5.5</b>	20.2	
Formal training programme	<b>72.8</b>	<b>75.2</b>	<b>89.3</b>	<b>74.4</b>	
Foreign technology licences	47.5	34.1	<b>65.8</b>	50.2	



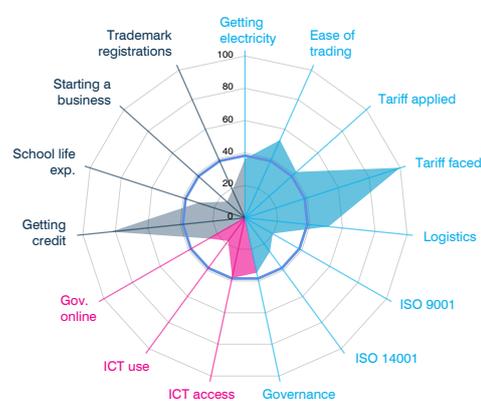
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All	
Power reliability	<b>74.2</b>	56.8	54.8	<b>68.8</b>	
Domestic shipping reliability	-	-	-	-	
Dealing with regulations	<b>86.1</b>	<b>81.1</b>	<b>77.6</b>	<b>84.0</b>	
Customs clearance efficiency	-	<b>87.4</b>	<b>82.5</b>	<b>83.0</b>	
Connect	State of cluster development	-	-	56.8	
Extent of marketing	-	-	-	48.0	
Local supplier quality	-	-	-	37.9	
University-industry collaboration in R&D	-	-	-	43.5	
Change	Access to finance	<b>63.7</b>	<b>58.5</b>	<b>70.8</b>	<b>63.3</b>
Access to educated workforce	43.8	43.2	25.1	42.0	
Business licensing and permits	<b>70.4</b>	51.2	40.9	<b>63.4</b>	



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All	
Getting electricity	36.5	
Ease of trading across borders	52.5	
Applied tariff, trade-weighted average	42.3	
Prevalence of technical regulations	-	
Faced tariff, trade-weighted average	<b>100.0</b>	
Logistics performance index	51.6	
ISO 9001 quality certificates	19.6	
ISO 14001 environmental certificates	25.9	
Governance index	34.7	
Connect	ICT access	38.1
ICT use	<b>17.8</b>	
Government's online service	25.7	
Change	Ease of getting credit	<b>82.7</b>
Interest rate spread	-	
School life expectancy	30.0	
Ease of starting a business	<b>14.9</b>	
Patent applications	-	
Trademark registrations	<b>18.9</b>	



**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Cambodia is a low income country in South-East Asia with a population of 15.5 million and GDP of \$17.7 billion. Goods and services account for 76.1% and 23.9% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Cambodia's exports lie in the textiles, processed food and metal sectors. Identified top products for diversification include *women/girls anoraks, men's/boys garments, prepared or preserved shrimps and prawns, and ferro-tungsten*.

Existing export products also have increased export potential. For example, *manioc, fresh or dried*, a type of root, has an unrealized potential of around \$730 million in exports to non-OECD countries. Other products with potential include *other footwear, outer soles and babies' garments*.

The SME Competitiveness Grid reveals that only few SMEs have bank accounts, use e-mails in day-to-day operations or have had an external body audit their financial statements. Furthermore, banks finance relatively few company investments. However, given that access to finance is not flagged as a constraint, it is likely that firms find other ways to finance investments (e.g. personal wealth or the informal banking sector). Cambodia's immediate business environment scores well on a range of indicators, particularly power reliability, dealing with regulations and business licensing and permits.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Womens/girls anoraks & similar article of man-made fibres, not knitted	620293	4	16	8	3	Green	Red	Green
Mens/boys garments, made up of impreg, ctd, cov, etc, textile woven fabric	621040	5	36	15	4	Red	Red	Green
Prepared or preserved shrimps and prawns	1605Xa	6	1	36	6	Green	Green	Red
Brassieres and parts thereof, of textile materials	621210	7	8	6	8	Red	Red	Green
Ferro-tungsten and ferro-silico-tungsten	720280	9	508	1729	7	Red	Green	Red
Diammonium phosphate, in packages weighing more than 10 kg	310530	10	6	2	26	Red	Red	Red
Coconut (copra) oil & its fractions refined but not chemically modified	151319	15	7	14	19	Green	Green	Red
Womens/girls anoraks and similar article of cotton, not knitted	620292	16	52	22	17	Green	Red	Green
Fish fats & oils & their fractions exc liver, refined/not, not chemically modified	150420	17	42	198	14	Red	Green	Red
Magnesium unwrought containing by weight at least 99.8% of magnesium	810411	18	18	26	18	Green	Green	Red

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Manioc (cassava), fresh or dried, whether or not sliced or pelleted	071410	176.1	0-1,000	0-1,000	0-1,000	Red			Green
Other footwear, outer soles of rubber/plastics uppers of leather	6403XX	474.0			0-1,000	Green	Green	Red	Green
Babies garments and clothing accessories of cotton, knitted	611120	185.7			0-1,000	Green	Red	Green	Green
Bicycles and other cycles (including delivery tricycles), not motorised	871200	272.9			0-1,000	Green	Green	Red	Green
Pullovers, cardigans and similar articles of cotton, knitted	611020	834.0			0-1,000	Green	Red	Red	Red
Technically specified natural rubber (TSNR)	400122	199.5			0-1,000	Red			Red
Pullovers, cardigans and similar articles of man-made fibres, ...	611030	573.8			0-1,000	Green	Red	Red	Red
Womens/girls trousers and shorts, of cotton, not knitted	620462	451.3			0-1,000	Green	Red	Green	Red
Mens/boys trousers and shorts, of cotton, not knitted	620342	447.8			0-1,000	Green	Red	Green	Red
Womens/girls trousers and shorts, of cotton, knitted	610462	315.1			0-1,000	Red	Red	Green	Green

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  19% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

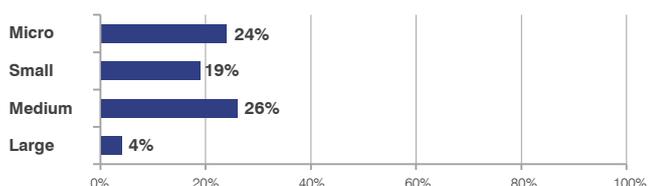
**Technical regulations:**  44% of reported problems

**Main procedural obstacle:** Informal or high payment

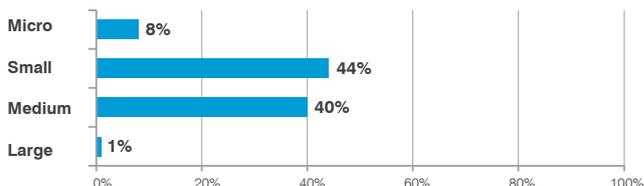
**Main regulatory obstacle:** Product certification

## Share of problems by company size

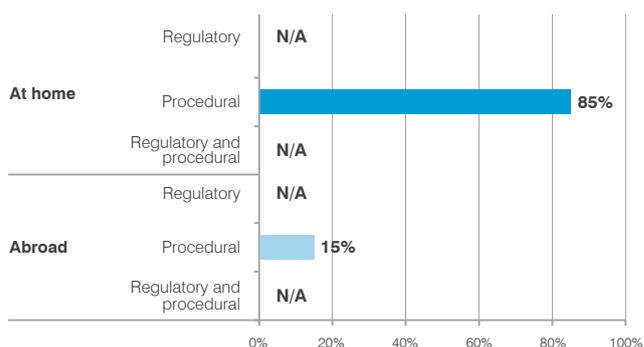
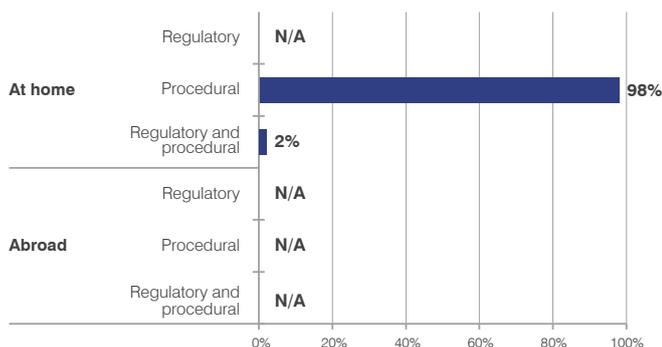
### Importing firms



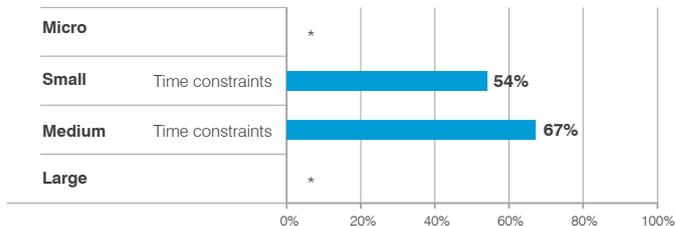
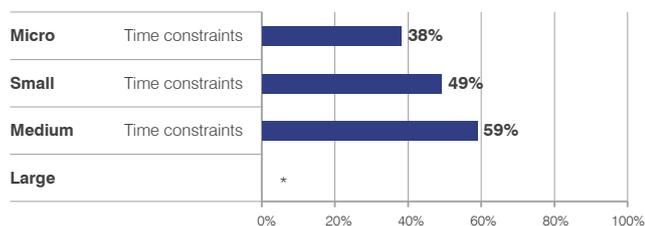
### Exporting firms



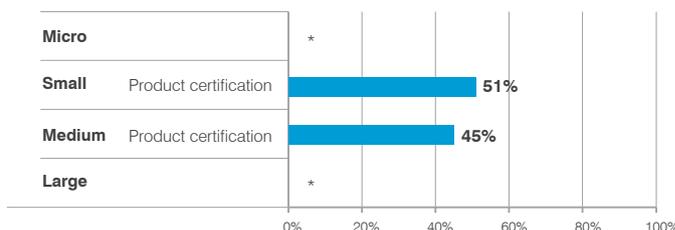
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/cambodia>. Survey field work ended in 2013, with 502 companies in phone interviews. Of those, 347 companies (69%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 242 also gave face-to-face interviews.

# China

## Key indicators

Population (million)	1375.0
GDP (\$ billion)	11384.8
GDP per capita (\$)	8,280
Share of world GDP (PPP\$, %)	17.2
Current account surplus/deficit, share of GDP (%)	3.1
Tariff preference margin (percentage points)	0.5
Imports and exports (goods and services), share of GDP (%)	47.5
Services exports, share of total exports (%)	9.1
Geographic region	Asia-Pacific
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	60.2	45.7	41.0
	Medium	66.5	65.1	60.3
	Large	73.9	71.5	66.1
	All	63.9	54.4	53.7
IMMEDIATE BUSINESS ENVIRONMENT		74.6	68.2	<b>89.3</b>
NATIONAL ENVIRONMENT		59.0	66.2	65.8

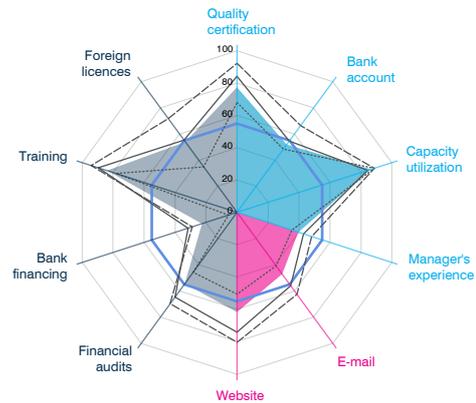
Reference level: 55.0 (a function of GDP per capita \$)

**Strengths are scores above: 82.5**      **Weaknesses are scores below: 27.5**

## SME Competitiveness Grid

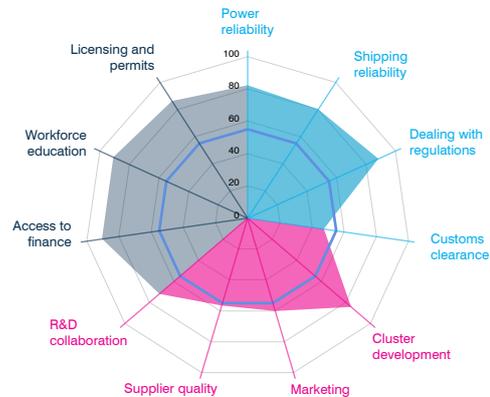
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	68.0	<b>84.2</b>	<b>92.3</b>	77.5
Bank account	48.6	54.6	66.5	52.0
Capacity utilization	<b>88.7</b>	<b>84.3</b>	<b>88.7</b>	<b>86.5</b>
Manager's experience	35.4	43.0	48.2	39.6
<b>Connect</b>				
E-mail	40.8	56.1	62.7	47.2
Firm website	50.6	74.1	80.3	61.7
<b>Change</b>				
Audited financial statement	45.8	64.7	69.7	54.5
Investment financed by banks	<b>5.5</b>	31.5	28.9	<b>22.6</b>
Formal training programme	78.0	<b>89.5</b>	<b>94.1</b>	<b>83.9</b>
Foreign technology licences	34.7	55.3	71.7	53.9



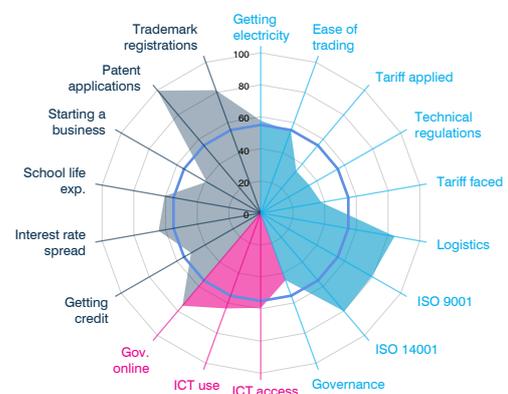
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	82.3	82.3	82.3	82.3
Domestic shipping reliability	80.2	70.7	64.4	80.2
Dealing with regulations	<b>89.6</b>	<b>86.1</b>	<b>86.1</b>	<b>88.4</b>
Customs clearance efficiency	47.3	46.8	47.1	47.3
<b>Connect</b>				
State of cluster development				<b>84.2</b>
Extent of marketing				60.1
Local supplier quality				56.6
University-industry collaboration in R&D				71.9
<b>Change</b>				
Access to finance	<b>92.9</b>	<b>87.2</b>	<b>90.9</b>	<b>90.6</b>
Access to educated workforce	<b>93.9</b>	<b>87.1</b>	<b>89.8</b>	<b>90.9</b>
Business licensing and permits	<b>85.5</b>	<b>87.0</b>	<b>91.0</b>	<b>86.2</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	57.6
Ease of trading across borders	54.2
Applied tariff, trade-weighted average	34.2
Prevalence of technical regulations	34.7
Faced tariff, trade-weighted average	38.0
Logistics performance index	<b>84.2</b>
ISO 9001 quality certificates	79.4
ISO 14001 environmental certificates	80.2
Governance index	44.7
<b>Connect</b>	
ICT access	59.3
ICT use	63.5
Government's online service	75.7
<b>Change</b>	
Ease of getting credit	50.0
Interest rate spread	64.4
School life expectancy	60.6
Ease of starting a business	38.8
Patent applications	<b>99.7</b>
Trademark registrations	81.6



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating a better outcome. Series with missing data are indicated as (-) in the tables and omitted from the radar charts.

**Source:** World Bank Enterprise Survey (2012) for firm level data; for other sources and methodology see Annex.

## SME Export Potential

China is an upper-middle income country with a population of 1.38 billion and GDP of \$11.4 trillion. Goods and services account for 90.9% and 9.1% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for China's exports lie in the electronic components, IT and consumer electronics, and basic manufactures sectors. *Bicycle parts* and *gymnasium equipment* are identified as other non-electronics related top products for diversification. These products fare well on the price stability indicator.

There is also potential for increased exports of existing export products. For example, ITC's export potential analysis estimates *telephone sets* to have an unrealized export potential of \$103 billion. Other products with potential include *automatic data processing machines* and *parts and accessories for printers*.

The SME Competitiveness Grid reveals that the capacity utilization of SMEs in China is high, indicating efficient use of existing resources. In addition, many firms offer formal training programmes to employees, facilitating workforce skills development. Firms of all sizes rely less than expected on banks financing their investments. China's immediate business and national environments perform well, particularly in accessing an educated workforce and dealing with regulations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Inductors, electric	850450	31	15	20	84	■	■	■
Transistors, other than photosensitive transistors	854129	46	18	24	133	■	■	■
Parts and accessories of apparatus of heading Nos 85.19 to 85.21	852290	47	17	23	162	■	■	■
Electrical capacitors, fixed, ceramic dielectric, multilayer	853224	52	22	28	116	■	■	■
Bicycle parts	871499	57	35	35	82	■	■	■
Gymnasium or athletics articles and equipment	950691	59	117	104	41	■	■	■
Vacuum cleaner, with self-contained electric motor	8508XX	64	92	134	42	■	■	■
Other yarn, single, untwisted or with a twist not > 50 turns per metre (other than...)	5402Xc	81	60	41	221	■	■	■
Flat rolled prod./has,painted,varnished or plast coated, >/=600mm wide	721070	83	72	54	168	■	■	■
Articles of glass	702000	89	42	61	151	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Telephone sets (excl. line telephone sets) and other voice and...	85XXXb	139558.0	■	■	■	■	■	■	■
Automatic data processing machines and units	8471XX	133564.6	■	■	■	■	■	■	■
Parts of telephone sets and other transmission apparatus	85XXXc	60201.2	■	■	■	■	■	■	■
Parts and accessories for printers, copying machines, computers &...	84XXXd	52345.2	■	■	■	■	■	■	■
Other footwear, outer soles/uppers of rubber or plastics	6402XX	17549.4	■	■	■	■	■	■	■
Other printers, copying & facsimile machines; computer input...	84XXXc	25422.8	■	■	■	■	■	■	■
Photosensitive semiconduct device,photovoltaic cells & light...	854140	21539.4	■	■	■	■	■	■	■
Printed circuits	853400	14683.6	■	■	■	■	■	■	■
Computer data storage units	847170	18049.2	■	■	■	■	■	■	■
Articles of jewellery and parts thereof, other than silver	711319	13947.8	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

8.13

**Exports subject to regulation**

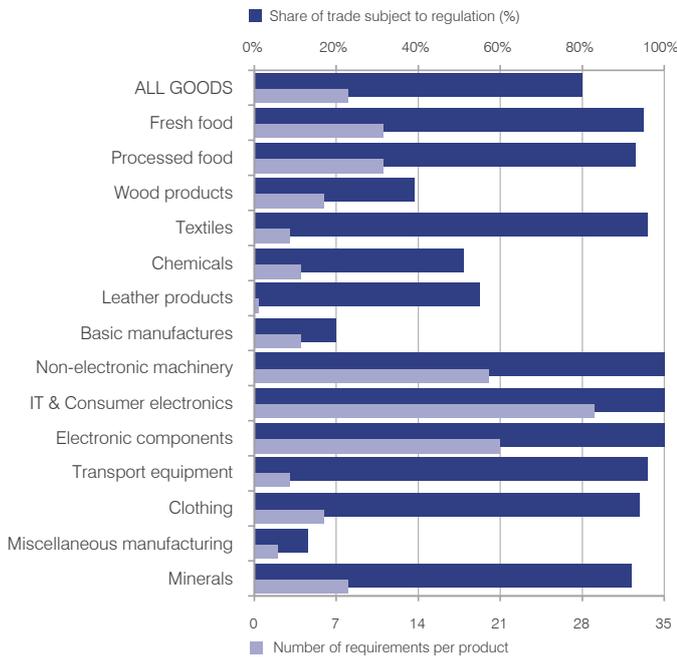


**Requirements per exported product**

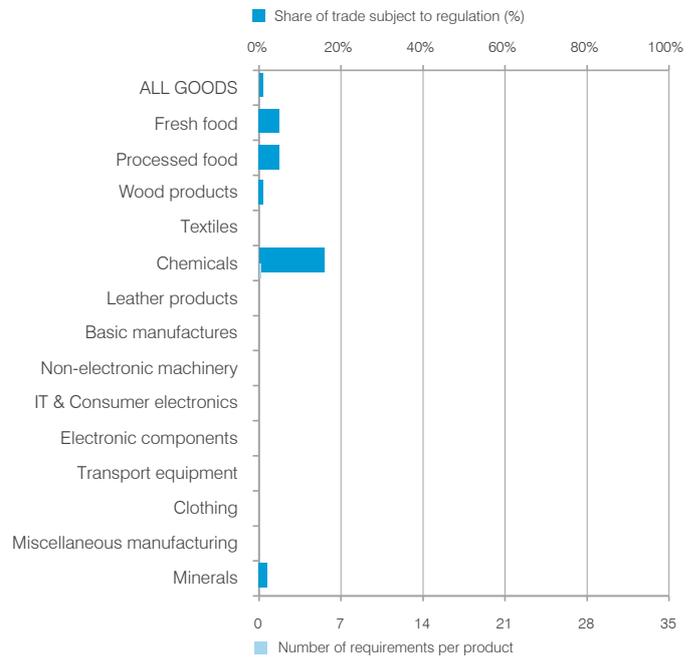
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## Regulatory environment by sector

### Import regulations

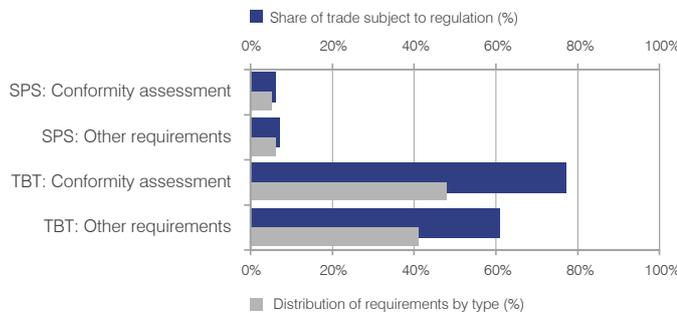


### Export regulations

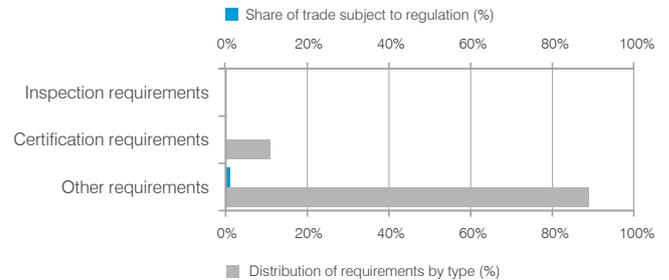


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 145 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# Colombia

## Key indicators

Population (million)	48.2
GDP (\$ billion)	274.2
GDP per capita (\$)	5,687
Share of world GDP (PPP\$, %)	0.6
Current account surplus/deficit, share of GDP (%)	-6.2
Tariff preference margin (percentage points)	2.2
Imports and exports (goods and services), share of GDP (%)	36.9
Services exports, share of total exports (%)	11.2
Geographic region	Latin America and the Caribbean
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	46.9	60.4	46.2
	Medium	67.0	<b>85.3</b>	58.3
	Large	<b>84.9</b>	<b>94.6</b>	<b>79.5</b>
	All	54.9	67.7	55.6
IMMEDIATE BUSINESS ENVIRONMENT		42.3	60.4	34.6
NATIONAL ENVIRONMENT		60.1	73.0	58.4

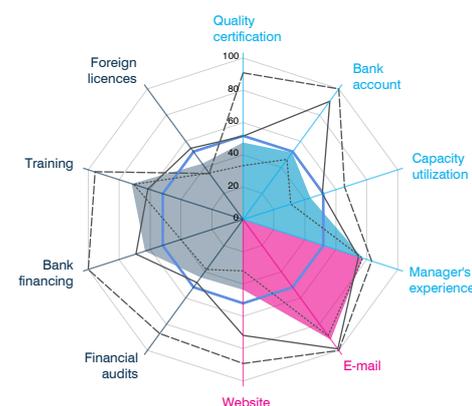
Reference level: 51.9 (a function of GDP per capita \$)

**Strengths are scores above: 77.8**      **Weaknesses are scores below: 25.9**

## SME Competitiveness Grid

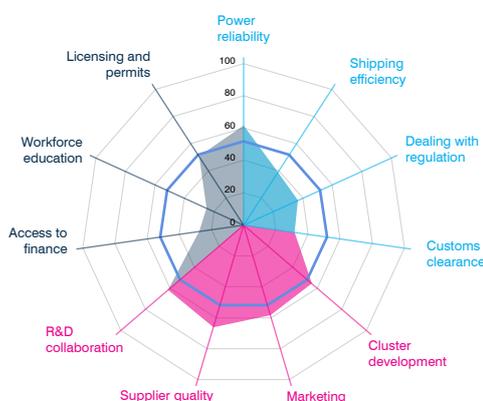
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	33.3	51.6	<b>90.8</b>	47.7
Bank account	46.0	<b>90.5</b>	<b>100.0</b>	51.1
Capacity utilization	30.8	51.4	65.5	43.5
Manager's experience	77.3	74.6	<b>83.1</b>	77.3
Connect	Small	Medium	Large	All
E-mail	<b>89.0</b>	<b>99.0</b>	<b>100.0</b>	<b>92.0</b>
Firm website	31.8	71.6	<b>89.2</b>	43.5
Change	Small	Medium	Large	All
Audited financial statement	38.3	48.1	<b>87.1</b>	44.4
Investment financed by banks	40.1	69.2	<b>100.0</b>	63.4
Formal training programme	70.6	61.6	<b>95.7</b>	72.0
Foreign technology licences	35.7	54.4	35.2	42.7



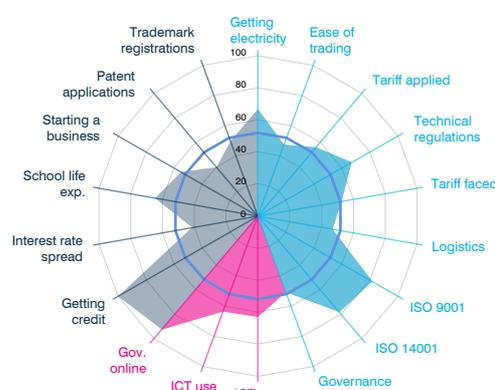
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	61.7	51.4	<b>100.0</b>	61.7
Domestic shipping reliability	40.3	33.9	45.5	38.9
Dealing with regulations	37.7	31.6	38.4	36.7
Customs clearance efficiency	<b>25.4</b>	56.1	<b>23.7</b>	31.8
Connect	Small	Medium	Large	All
State of cluster development				55.6
Extent of marketing				58.3
Local supplier quality				66.2
University-industry collaboration in R&D				61.6
Change	Small	Medium	Large	All
Access to finance	<b>18.9</b>	60.6	68.5	27.8
Access to educated workforce	<b>20.5</b>	37.7	47.1	<b>25.2</b>
Business licensing and permits	51.6	54.1	41.9	50.9



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	66.8
Ease of trading across borders	47.4
Applied tariff, trade-weighted average	56.2
Prevalence of technical regulations	67.1
Faced tariff, trade-weighted average	52.7
Logistics performance index	47.0
ISO 9001 quality certificates	<b>81.9</b>
ISO 14001 environmental certificates	<b>78.3</b>
Governance index	50.5
Connect	All
ICT access	63.1
ICT use	63.4
Government's online service	<b>92.5</b>
Change	All
Ease of getting credit	<b>100.0</b>
Interest rate spread	41.5
School life expectancy	64.8
Ease of starting a business	54.8
Patent applications	39.8
Trademark registrations	49.8



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Colombia is an upper-middle income country in South America with a population of 48.2 million and GDP of \$274.2 billion. Goods and services account for 88.8% and 11.2% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Colombia's exports lie in the basic manufactures, the fresh food and the chemical sectors. *Tin not alloyed unwrought, chemical wood pulp, and cranberries* are identified as top products for diversification.

Colombia traditionally has had comparative advantages in coffee and fruits. ITC's export potential analysis identifies an opportunity for increased exports of *coffee, not roasted, not decaffeinated* to OECD countries, representing an unrealized export potential of \$738 million. Another product with potential is *automobiles with 1500 - 3000cc piston engines*.

The SME Competitiveness Grid reveals that Colombia performs well in the connect pillar although small firms underperform when using websites. The most important bottlenecks for Colombian businesses seeking to expand into new markets are clearing goods through customs and loss of management time due to dealing with regulations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Tin not alloyed unwrought	800110	1	5	4	1	■	■	■
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/bleachd	470329	2	2	2	2	■	■	■
Soya-bean oil crude, whether or not degummed	150710	6	3	5	109	■	■	■
Maté	090300	10	7	12	9	■		
Cranberries, bilberries and other fruits of the genus Vaccinium, fresh	081040	13	236	115	10	■		
Soya-bean oil-cake&oth solid residues,whether or not ground or pellet	230400	31	17	24	87	■	■	■
Fowls (gallus domesticus), whole, frozen	020712	32	21	27	463	■	■	■
Semi-fin prod,iron/non-alloy steel,containg by weight .25%/more carbon	720720	40	23	32	259	■	■	■
Chicory&other coffee substitutes roasted&extracts,ess&conc thereof	210130	49	25	34	375	■	■	■
Gas powered trucks with a GVW not exceeding five tonnes	870431	78	81	74	58	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Coffee, not roasted, not decaffeinated	090111	2204.4	■	■	■	■			■
Bananas and plantains, fresh or dried	0803	1252.1	■	■	■	■			■
Insecticides, fungicides, herbicides packaged for retail sale	3808	368.5	■	■	■	■	■	■	■
Polyvinyl chloride, not mixed with any other substances	390410	299.8	■	■	■	■	■	■	■
Sugar confectionery (includg white chocolate),not containg...	170490	265.0	■	■	■	■	■	■	■
Live bovine animals	0102	151.4	■	■	■	■			■
Cut flowers and flower buds for bouquets, fresh	0603XX	1147.1	■	■	■	■			■
Refined cane or beet sugar, solid, without flavouring or colouring...	170199	360.7	■	■	■	■	■	■	■
Coffee extracts, essences, concentrates	210111	254.1	■	■	■	■	■	■	■
Automobiles w reciprocating piston engine displacg > 1500 cc...	870323	250.8	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

Imports subject to regulation

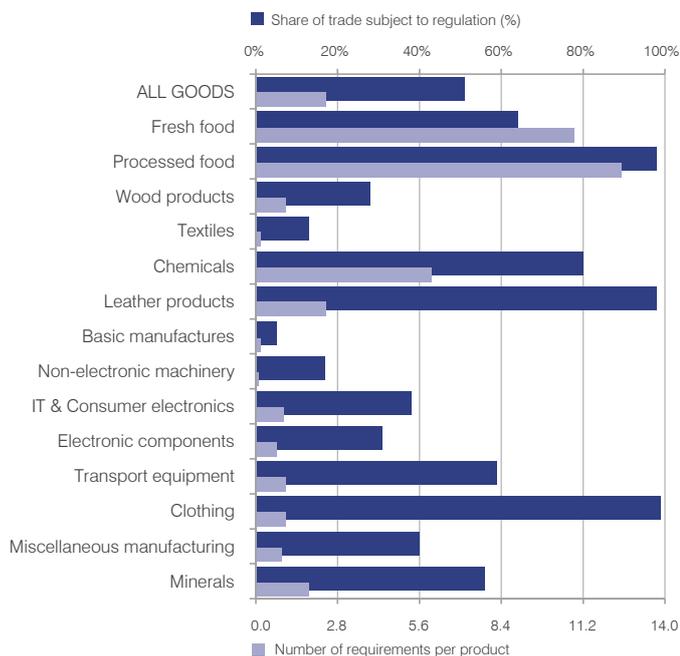


Requirements per imported product

2.43

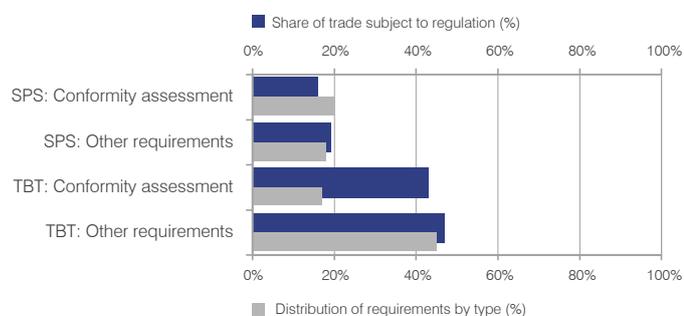
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 231 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

Technical regulations:  12% of reported problems

### Exporting firms

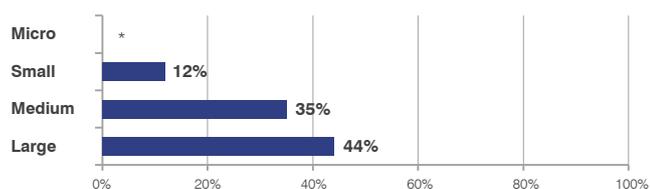
Technical regulations:  76% of reported problems

Main procedural obstacle: Time constraints

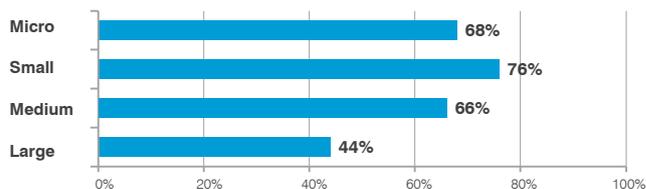
Main regulatory obstacle: Product certification

## Share of problems by company size

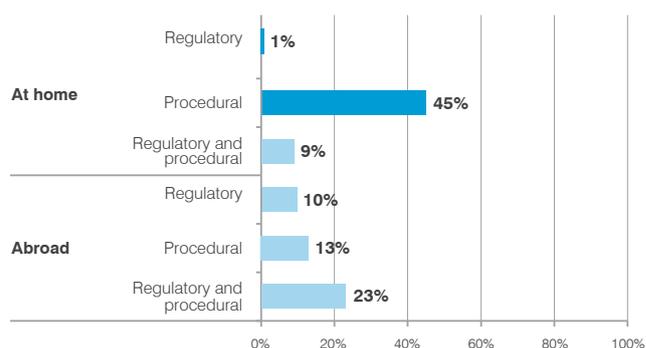
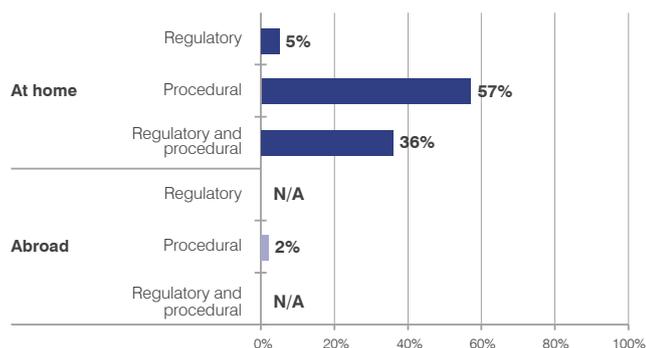
### Importing firms



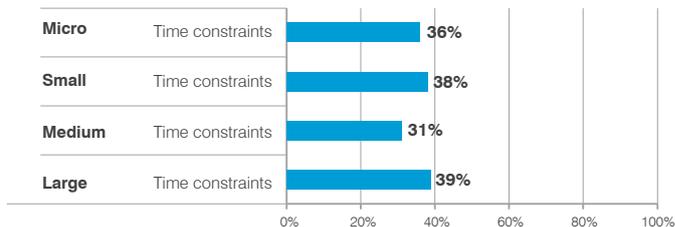
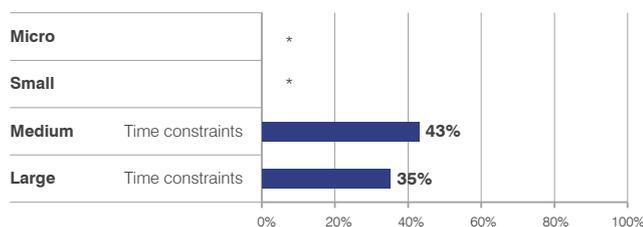
### Exporting firms



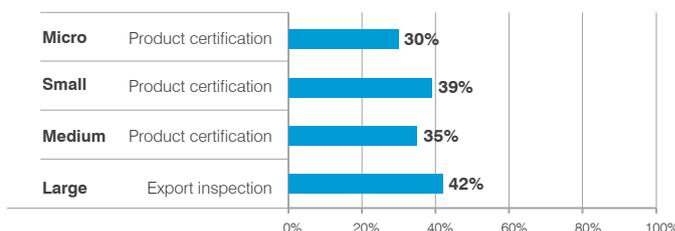
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



Note: Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

Source: ITC Business Surveys on NTMs, <http://ntmsurvey.org/colombia>. Survey field work ended in 2014, with 731 companies in phone interviews. Of those, 304 companies (42%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 143 also gave face-to-face interviews.

# Costa Rica

## Key indicators

Population (million)	4.8
GDP (\$ billion)	51.6
GDP per capita (\$)	10,672
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-3.8
Tariff preference margin (percentage points)	1.2
Imports and exports (goods and services), share of GDP (%)	75.6
Services exports, share of total exports (%)	37.9
Geographic region	Latin America and the Caribbean
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	38.6	34.6	33.8
	Medium	54.9	79.3	60.8
	Large	68.9	<b>96.5</b>	76.4
	All	47.6	51.4	50.4
IMMEDIATE BUSINESS ENVIRONMENT		50.4	65.0	<b>27.2</b>
NATIONAL ENVIRONMENT		67.4	75.0	59.8

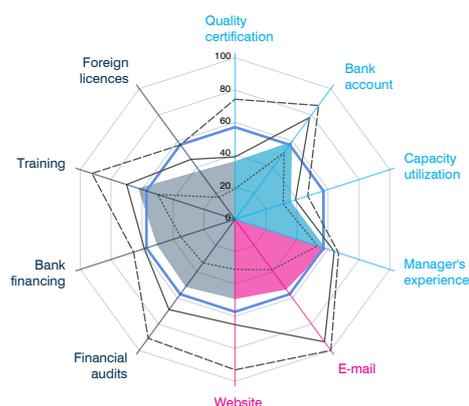
Reference level: 57.1 (a function of GDP per capita \$)

**Strengths are scores above: 85.7**      **Weaknesses are scores below: 28.6**

## SME Competitiveness Grid

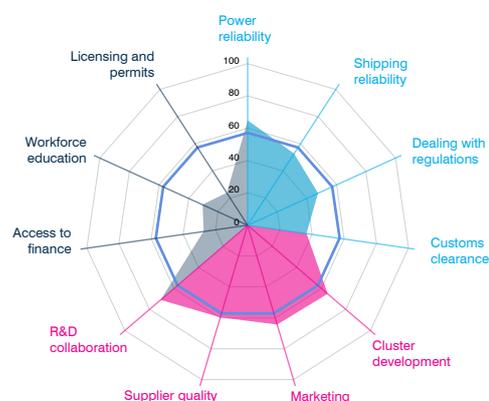
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>18.9</b>	38.7	74.4	36.1
Bank account	51.1	78.0	<b>87.2</b>	59.6
Capacity utilization	31.0	39.0	47.1	36.1
Manager's experience	53.3	64.1	66.9	58.7
<b>Connect</b>				
E-mail	38.4	<b>93.6</b>	<b>100.0</b>	53.6
Firm website	30.8	65.1	<b>93.0</b>	49.2
<b>Change</b>				
Audited financial statement	33.4	68.9	<b>90.8</b>	51.6
Investment financed by banks	35.0	58.5	65.5	50.4
Formal training programme	50.0	69.9	<b>92.3</b>	62.5
Foreign technology licences	<b>16.8</b>	46.0	57.1	37.2



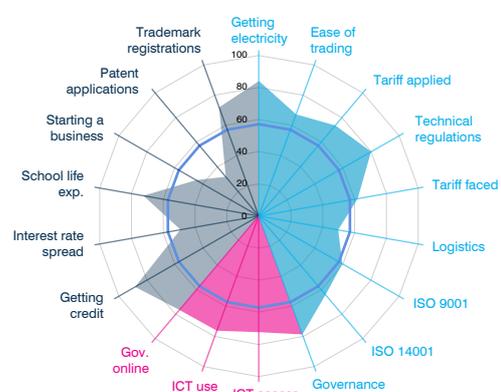
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	61.7	64.8	82.3	64.8
Domestic shipping reliability	52.7	47.6	59.6	52.7
Dealing with regulations	44.0	51.0	54.8	47.6
Customs clearance efficiency	49.6	<b>28.5</b>	42.5	36.5
<b>Connect</b>				
State of cluster development				65.1
Extent of marketing				64.3
Local supplier quality				59.7
University-industry collaboration in R&D				70.9
<b>Change</b>				
Access to finance	29.4	<b>24.5</b>	<b>28.1</b>	<b>27.4</b>
Access to educated workforce	35.8	<b>24.2</b>	30.6	30.5
Business licensing and permits	<b>23.2</b>	<b>25.6</b>	<b>19.8</b>	<b>23.8</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	84.0
Ease of trading across borders	67.3
Applied tariff, trade-weighted average	73.5
Prevalence of technical regulations	80.1
Faced tariff, trade-weighted average	62.0
Logistics performance index	49.8
ISO 9001 quality certificates	59.6
ISO 14001 environmental certificates	64.1
Governance index	78.6
<b>Connect</b>	
ICT access	72.4
ICT use	76.1
Government's online service	76.5
<b>Change</b>	
Ease of getting credit	<b>88.4</b>
Interest rate spread	49.3
School life expectancy	72.5
Ease of starting a business	44.7
Patent applications	31.9
Trademark registrations	72.0



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Costa Rica is an upper-middle income country in Central America with a population of 4.8 million and GDP of \$51.6 billion. Goods and services account for 62.1% and 37.9% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Costa Rica's exports lie in the chemical sector. Top products for diversification are *6-Hexanelactam* (a chemical compound), *buta-1, 3-diene and isoprene* and *P-xylene*. These products are also characterized by price stability and a strong SME presence in production.

Existing export products also have potential for increased exports. Estimates from ITC's export potential analysis suggest that *pineapples, fresh or dried* have an unrealized export potential of \$2.1 billion to OECD countries alone. Other products with potential include *instruments and appliances used in medical or veterinary sciences*.

The SME Competitiveness Grid shows that the performance of domestic SMEs is broadly in line with expectations. However, small firms underperform in quality certificates and foreign technology licences. Large firms, meanwhile, do well in the connectivity pillar and offer formal training programmes to their employees. Costa Rica's immediate business environment suffers from relatively low scores in customs clearance and business licensing.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
6-hexanelactam (epsilon-caprolactam)	293371	31	55	22	71	■	■	■
Raw mink furskins, whole	430110	44		33	101	■		
Buta-1, 3-diene and isoprene	290124	66	58	126	43	■	■	■
P-xylene	290243	92	50	120	70	■	■	■
Benzene	290220	159	552	239	91	■	■	■
Vinyl chloride (chloroethylene)	290321	164	97	226	103	■	■	■
Swine cuts, frozen	020329	171	131	135	214	■	■	■
Methyloxirane (propylene oxide)	291020	175	147	174	143	■	■	■
O-xylene	290241	180	130	230	113	■	■	■
Propene (propylene)	290122	182	135	169	158	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Pineapples, fresh or dried	080430	1085.5	■	■	■	■			■
Bananas and plantains, fresh or dried	0803	1138.5	■	■	■	■			■
Smart cards; electronic integrated circuits; other electrical...	85XXXd	9448.1	■	■	■	■	■	■	■
Instruments and appliances used in medical or veterinary sciences...	901890	656.1	■	■	■	■	■	■	■
Needles, catheters, cannulae and the like	901839	463.3	■	■	■	■	■	■	■
Food preparations	210690	304.1	■	■	■	■	■	■	■
Coffee, not roasted, not decaffeinated	090111	353.9	■	■	■	■			■
Palm oil, crude	151110	124.4	■	■	■	■	■	■	■
Pineapple juice, unfermented	2009Xd	108.4	■	■	■	■	■	■	■
Artificial parts of the body (excl. artificial teeth and dental fitting)	902139	254.7	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

1.25

**Exports subject to regulation**

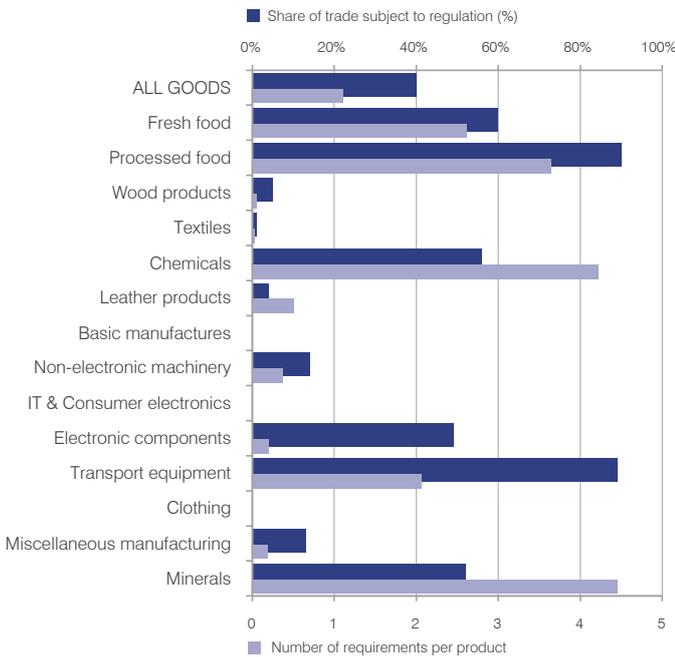


**Requirements per exported product**

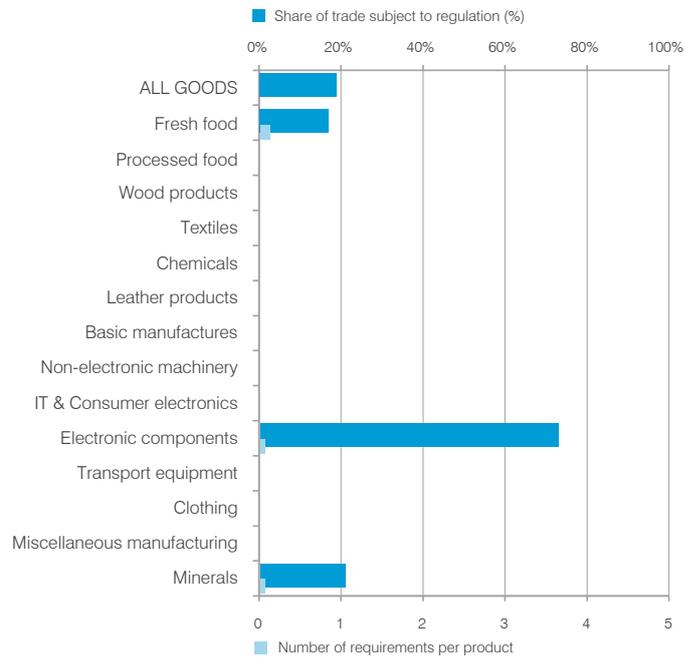
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## Regulatory environment by sector

### Import regulations

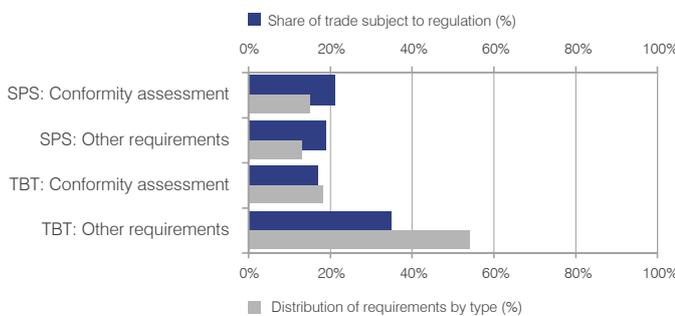


### Export regulations

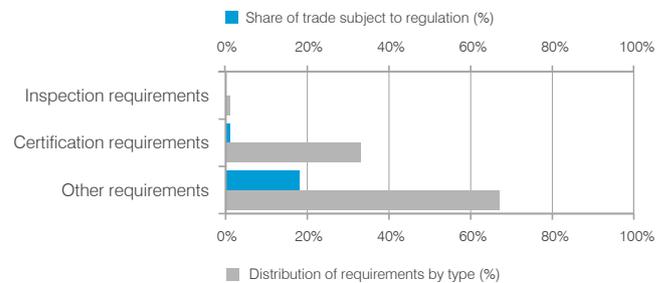


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 50 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# Côte d'Ivoire

## Key indicators

Population (million)	23.7
GDP (\$ billion)	31.3
GDP per capita (\$)	1,319
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-1.0
Tariff preference margin (percentage points)	3.4
Imports and exports (goods and services), share of GDP (%)	91.8
Services exports, share of total exports (%)	7.2
Geographic region	Africa
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	23.7	<b>4.5</b>	<b>11.0</b>
	Medium	30.9	<b>18.6</b>	29.6
	Large	52.4	46.5	56.8
	All	25.8	<b>6.7</b>	<b>17.3</b>
IMMEDIATE BUSINESS ENVIRONMENT		42.7	51.8	35.7
NATIONAL ENVIRONMENT		39.0	29.0	36.9

Reference level: 39.6 (a function of GDP per capita \$)

**Strengths are scores above: 59.4** | **Weaknesses are scores below: 19.8**

## SME Competitiveness Grid

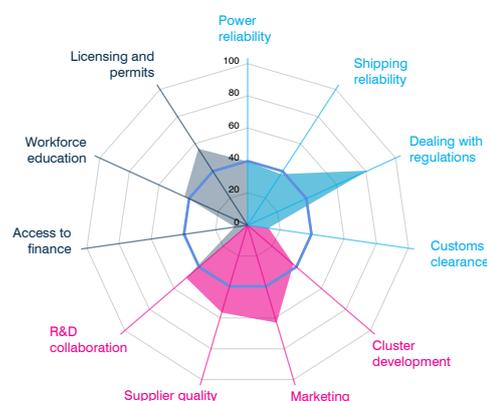
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>15.2</b>	<b>9.7</b>	44.6	<b>15.5</b>
Bank account	<b>14.8</b>	21.4	48.6	<b>15.9</b>
Capacity utilization	41.0	51.8	53.7	45.0
Manager's experience	23.8	40.7	<b>62.7</b>	26.9
<b>Connect</b>				
E-mail	<b>2.3</b>	<b>18.5</b>	43.0	<b>4.3</b>
Firm website	<b>6.7</b>	<b>18.8</b>	49.9	<b>9.1</b>
<b>Change</b>				
Audited financial statement	<b>2.4</b>	23.2	<b>74.5</b>	<b>6.1</b>
Investment financed by banks	<b>17.6</b>	22.2	32.2	<b>19.3</b>
Formal training programme	<b>18.1</b>	35.9	<b>72.0</b>	24.8
Foreign technology licences	<b>5.7</b>	37.0	48.6	<b>19.0</b>



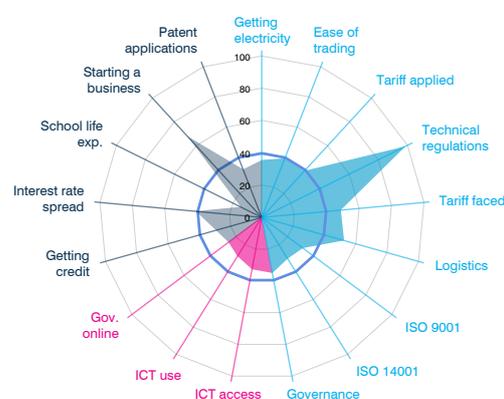
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	39.4	40.1	35.7	39.4
Domestic shipping reliability	31.9	<b>64.4</b>	43.6	37.5
Dealing with regulations	<b>83.0</b>	<b>78.4</b>	47.0	<b>81.1</b>
Customs clearance efficiency	-	<b>6.4</b>	31.0	<b>13.0</b>
<b>Connect</b>				
State of cluster development				37.2
Extent of marketing				<b>63.2</b>
Local supplier quality				56.6
University-industry collaboration in R&D				50.1
<b>Change</b>				
Access to finance	<b>8.3</b>	<b>4.0</b>	24.1	<b>8.1</b>
Access to educated workforce	45.5	30.0	23.1	42.7
Business licensing and permits	58.2	45.4	43.5	56.2



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	35.5
Ease of trading across borders	39.2
Applied tariff, trade-weighted average	39.0
Prevalence of technical regulations	<b>98.6</b>
Faced tariff, trade-weighted average	48.7
Logistics performance index	52.5
ISO 9001 quality certificates	31.6
ISO 14001 environmental certificates	30.1
Governance index	35.1
<b>Connect</b>	
ICT access	32.8
ICT use	28.5
Government's online service	25.7
<b>Change</b>	
Ease of getting credit	29.4
Interest rate spread	40.8
School life expectancy	<b>14.6</b>
Ease of starting a business	<b>67.9</b>
Patent applications	31.9
Trademark registrations	-



■ Compete ■ Connect ■ Change  
 — Reference level ..... Small — Medium - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Côte d'Ivoire is a lower-middle income country located in West Africa, with a population of 23.7 million and GDP of \$31.3 billion. Goods and services account for 92.8% and 7.2% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the metal and fresh food sectors. Top products for diversification are *tin not alloyed unwrought* and *natural rubber latex*. Other identified top products include *raw sugar cane* and *wood in chips*. The prominence of SMEs in the sector adds a development dimension.

Existing exports such as cocoa-based products also have increased export potential. For example, ITC's export potential analysis estimates *cocoa beans, whole or broken* to have an unrealized export potential of \$2 billion.

The SME Competitiveness Grid reveals that Côte d'Ivoire's national environment scores well in the compete pillar, notably on measures related to trade policy and border processes. Domestic SMEs underperform in a range of indicators, from using e-mails and websites to having internationally recognized quality certificates. Large firms, meanwhile, perform well in formal training programmes and audited financial statements. Côte d'Ivoire's national environment underperforms in the capacity to connect, due to a low level of ICT use.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Tin not alloyed unwrought	800110	1	4	3	1	■	■	■
Natural rubber latex, whether or not prevulcanised	400110	2	8	1	2	■		
Raw cane sugar	1701XX	3	1	2	13	■	■	■
Wood in chips, non-coniferous	440122	4	21	4	3	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	5	7	7	4	■		
Ferro-nickel	720260	6	16	10	5	■	■	■
Palm oil, crude	151110	7	2	5	10	■	■	■
Cashew nuts, without shell, fresh or dried	080132	8	24	13	6	■		
Cloves	0907	9	5	6	11	■		
Vegetable waxes exclugd triglycerides,whether or not refined or coloured	152110	10	13	14	7	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Cocoa beans, whole or broken, raw or roasted	180100	2901.4				■			■
Cashew nuts, in shell, fresh or dried	080131	395.5				■			■
Soap & organic surface-active products & preparations	340119	61.8				■	■	■	■
Coffee, not roasted, not decaffeinated	090111	151.4				■			■
Soups and broths and preparations thereof	210410	38.4				■	■	■	■
Bananas and plantains, fresh or dried	0803	201.5				■			■
Palm oil and its fractions refined but not chemically modified	151190	148.6				■	■	■	■
Technically specified natural rubber (TSNR)	400122	645.8				■			■
Cocoa paste not defatted	180310	646.1				■	■	■	■
Coffee extracts, essences, concentrates	210111	72.7				■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

0.14

**Exports subject to regulation**

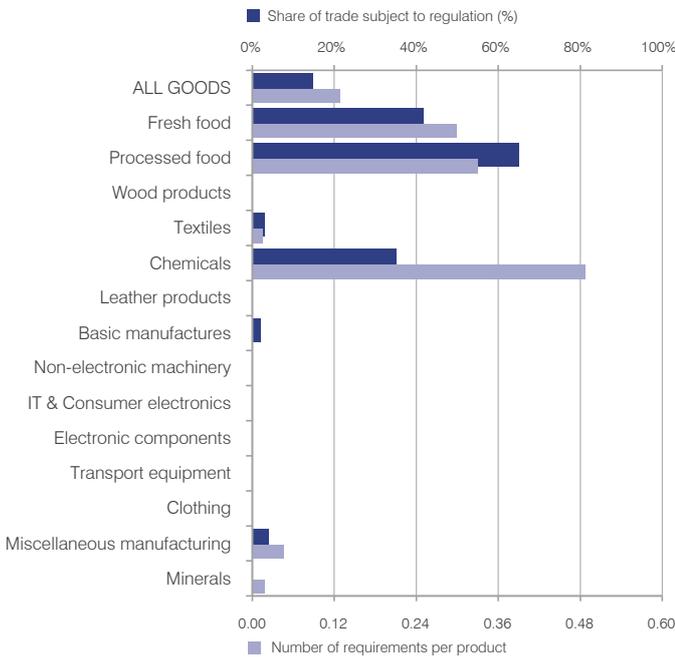


**Requirements per exported product**

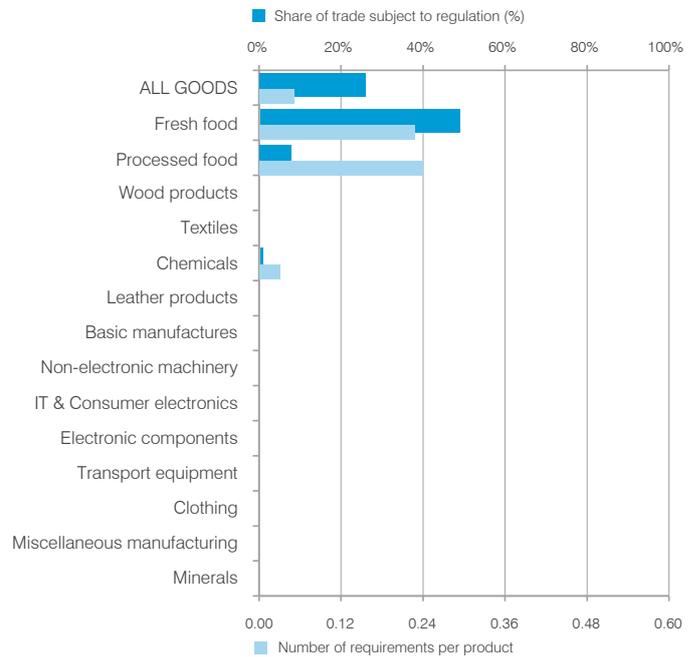
0.05

## Regulatory environment by sector

### Import regulations

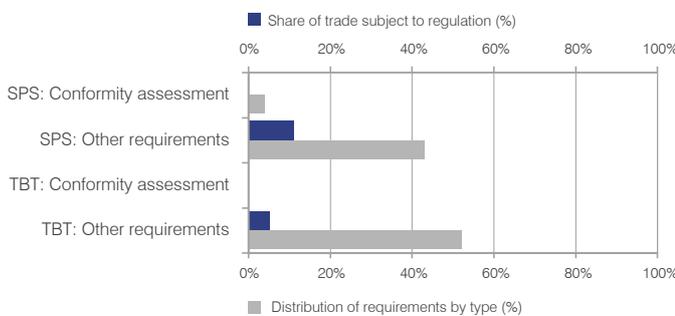


### Export regulations

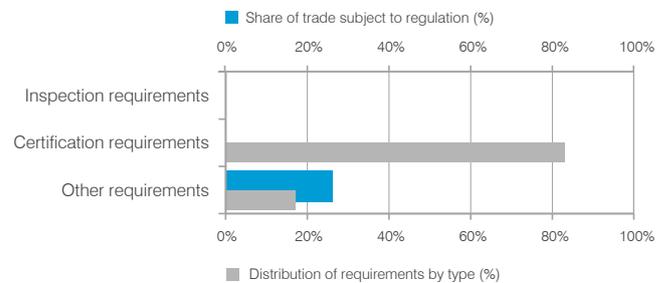


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 41 technical regulations; excluding 1 regulation covering all products.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  2% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

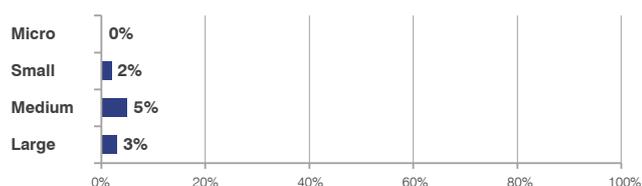
**Technical regulations:**  23% of reported problems

**Main procedural obstacle:** Time constraints

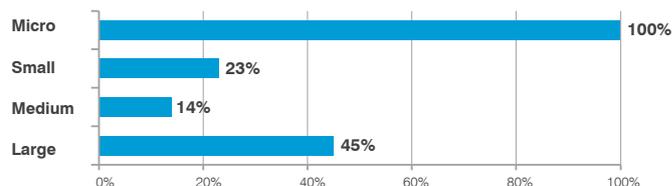
**Main regulatory obstacle:** Product certification

### Share of problems by company size

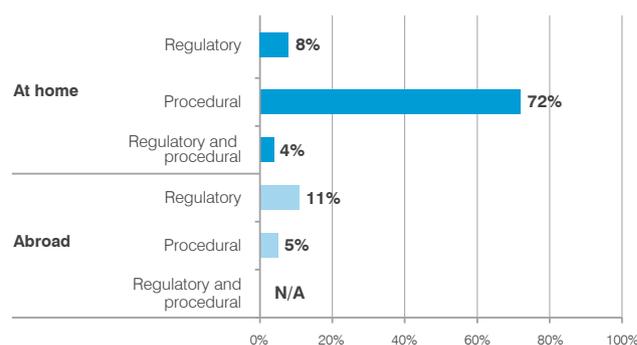
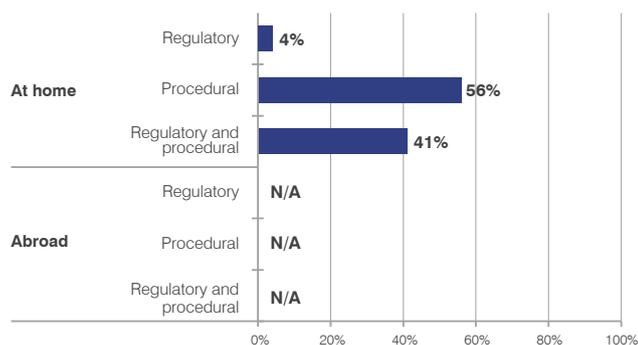
#### Importing firms



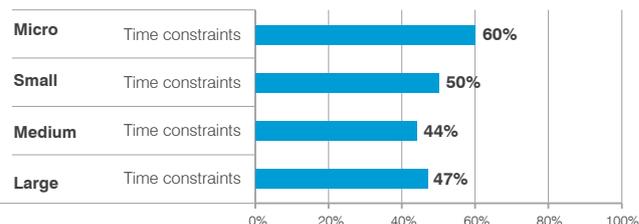
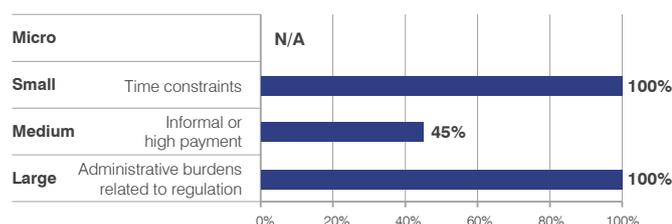
#### Exporting firms



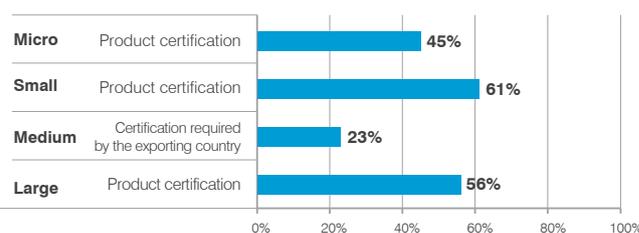
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/ivorycoast>. Survey field work ended in 2012, with 587 companies in phone interviews. Of those, 422 companies (72%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 215 also gave face-to-face interviews.

# Ecuador

## Key indicators

Population (million)	16.3
GDP (\$ billion)	98.9
GDP per capita (\$)	6,077
Share of world GDP (PPP\$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-2.6
Tariff preference margin (percentage points)	3.4
Imports and exports (goods and services), share of GDP (%)	58.8
Services exports, share of total exports (%)	8.3
Geographic region	Latin America and the Caribbean
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	51.3	65.9	41.7
	Medium	60.0	74.1	60.6
	Large	<b>79.7</b>	<b>83.9</b>	67.3
	All	58.5	69.6	51.4
IMMEDIATE BUSINESS ENVIRONMENT		34.3	56.2	41.9
NATIONAL ENVIRONMENT		50.0	58.0	42.8

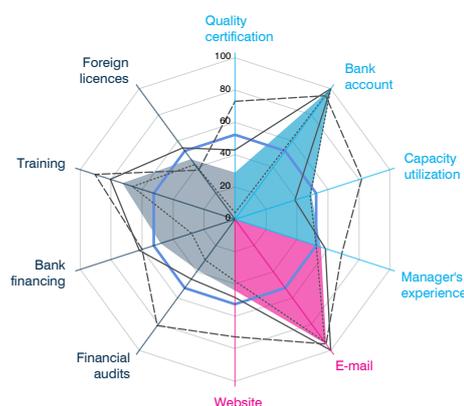
Reference level: 52.4 (a function of GDP per capita \$)

**Strengths are scores above: 78.6**      **Weaknesses are scores below: 26.2**

## SME Competitiveness Grid

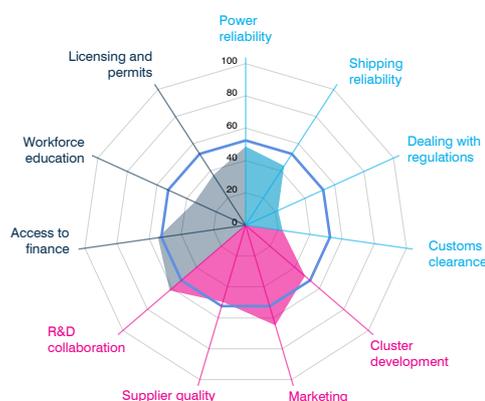
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>4.2</b>	43.0	73.1	29.0
Bank account	<b>100.0</b>	<b>100.0</b>	<b>94.6</b>	<b>100.0</b>
Capacity utilization	48.4	38.6	<b>81.9</b>	49.3
Manager's experience	52.6	58.4	69.0	55.5
<b>Connect</b>				
E-mail	<b>93.6</b>	<b>100.0</b>	<b>95.3</b>	<b>95.3</b>
Firm website	38.2	48.2	72.6	44.0
<b>Change</b>				
Audited financial statement	30.9	45.6	<b>81.0</b>	38.9
Investment financed by banks	27.8	61.8	60.1	48.0
Formal training programme	66.2	<b>80.5</b>	<b>90.4</b>	72.7
Foreign technology licences	41.9	54.7	37.7	46.2



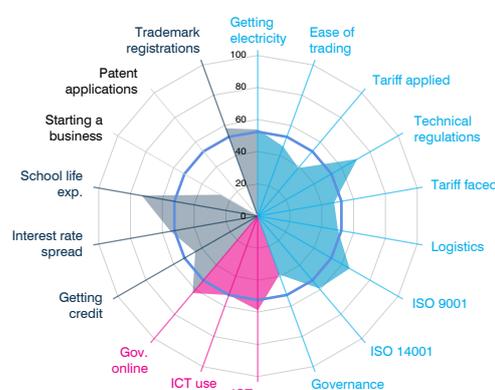
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	46.3	51.4	59.0	48.7
Domestic shipping reliability	40.3	50.0	52.7	43.6
Dealing with regulations	<b>18.6</b>	28.2	32.4	<b>21.9</b>
Customs clearance efficiency	37.0	<b>15.6</b>	<b>22.0</b>	<b>22.9</b>
<b>Connect</b>				
State of cluster development				48.3
Extent of marketing				64.8
Local supplier quality				49.8
University-industry collaboration in R&D				62.0
<b>Change</b>				
Access to finance	54.1	54.1	58.7	54.6
Access to educated workforce	31.2	42.9	33.4	34.5
Business licensing and permits	38.6	30.0	52.3	36.8



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	53.9
Ease of trading across borders	45.9
Applied tariff, trade-weighted average	39.0
Prevalence of technical regulations	71.0
Faced tariff, trade-weighted average	47.9
Logistics performance index	50.2
ISO 9001 quality certificates	65.5
ISO 14001 environmental certificates	59.0
Governance index	38.9
<b>Connect</b>	
ICT access	58.8
ICT use	52.5
Government's online service	62.8
<b>Change</b>	
Ease of getting credit	44.8
Interest rate spread	54.9
School life expectancy	72.9
Ease of starting a business	26.4
Patent applications	<b>0.0</b>
Trademark registrations	58.1



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Ecuador is an upper-middle income country located in South America with a population of 16.3 million and GDP of \$98.9 billion. Goods and services account for 91.7% and 8.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the basic manufactures sector, and in fresh and processed food. Top products for diversification are *tin not alloyed unwrought*, *palm oil and its fractions*, and *technically specified natural rubber*.

There is also increased export potential of existing export products such as *bananas and plantains, fresh or dried*. For these products, ITC's export potential analysis estimates an unrealized export potential of \$923 million to OECD countries. Other products with potential include *tunas* and *frozen shrimps and prawns*.

The SME Competitiveness Grid reveals that Ecuadorian SMEs perform well in a number of indicators such as the use of bank accounts, e-mails and the prevalence of employee training programmes. However, few small firms have an internationally recognized quality certificate. The country's large firms perform relatively well, buoyed by good scores in the use of bank accounts and high levels of capacity utilization. Ecuador's immediate business and national environments attain average scores in general but are characterized by weaknesses in customs clearance and regulatory efficiency.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Tin not alloyed unwrought	800110	2	2	3	2	■	■	■
Raw cane sugar	1701XX	3	3	2	10	■	■	■
Palm oil and its fractions refined but not chemically modified	151190	4	5	5	7	■	■	■
Bovine cuts boneless, frozen	020230	5	4	4	18	■	■	■
Coconut (copra) oil&its fractions refined but not chemically modified	151319	6	13	6	4	■	■	■
Cashew nuts, without shell, fresh or dried	080132	7	11	7	3	■	■	■
Technically specified natural rubber (TSNR)	400122	8	7	9	6	■	■	■
Pineapples, fresh or dried	080430	9	8	11	5	■	■	■
Natural rubber latex, whether or not prevulcanised	400110	10	6	8	12	■	■	■
Cashew nuts, in shell, fresh or dried	080131	11	30	12	9	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Bananas and plantains, fresh or dried	0803	2969.4	0	0	0	■	■	■	■
Tunas, skipjack&Atl bonito, prepartd/preservd, whole/in pieces,...	160414	900.5	0	0	0	■	■	■	■
Frozen shrimps and prawns	0306Xb	1474.3	0	0	0	■	■	■	■
Cocoa beans, whole or broken, raw or roasted	180100	447.0	0	0	0	■	■	■	■
Palm hearts, o/w prep o presvd, whether o not sugard, sweet...	200891	73.1	0	0	0	■	■	■	■
Palm oil, crude	151110	164.8	0	0	0	■	■	■	■
Flour, meal&pellet of fish, crust, mol/oth aqua invert, unfit human...	230120	122.9	0	0	0	■	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	711.3	0	0	0	■	■	■	■
Coffee extracts, essences, concentrates	210111	177.3	0	0	0	■	■	■	■
Wood sawn/chipped lengthwise, sliced/peeled	4407Xa	81.7	0	0	0	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**

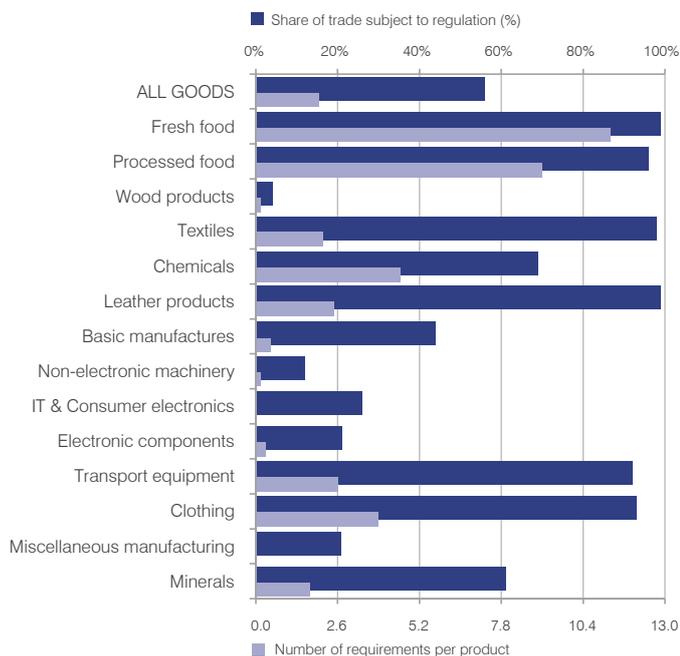


**Requirements per imported product**

2.03

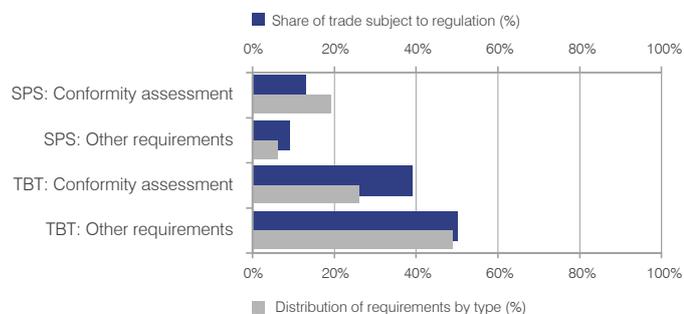
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 263 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# Egypt

## Key indicators

Population (million)	88.4
GDP (\$ billion)	286.4
GDP per capita (\$)	3,304
Share of world GDP (PPP\$, %)	0.9
Current account surplus/deficit, share of GDP (%)	-3.7
Tariff preference margin (percentage points)	3.9
Imports and exports (goods and services), share of GDP (%)	48.0
Services exports, share of total exports (%)	45.0
Geographic region	Arab States
Development group	
Income group	Lower-middle income

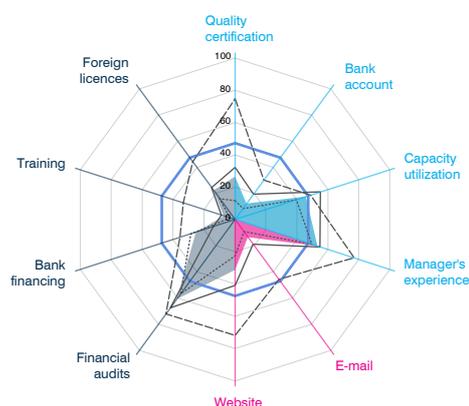
## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	27.4	<b>15.9</b>	26.2
	Medium	40.4	29.9	28.7
	Large	57.7	58.8	46.4
	All	34.5	<b>22.3</b>	29.0
IMMEDIATE BUSINESS ENVIRONMENT		47.6	48.1	48.6
NATIONAL ENVIRONMENT		41.6	60.6	49.4
Reference level: 47.3 (a function of GDP per capita \$)				
<b>Strengths are scores above: 71.0</b>		<b>Weaknesses are scores below: 23.7</b>		

## SME Competitiveness Grid

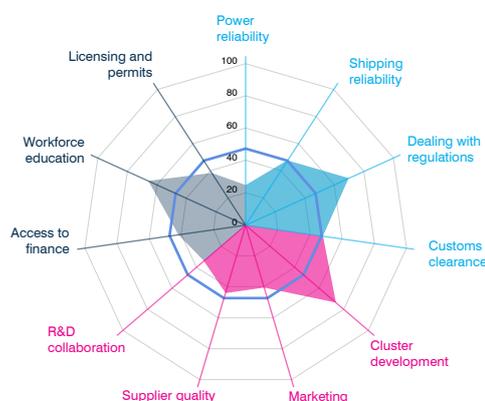
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>11.7</b>	32.3	<b>74.8</b>	26.6
Bank account	<b>8.5</b>	<b>19.3</b>	30.2	<b>12.1</b>
Capacity utilization	39.6	55.2	48.9	45.8
Manager's experience	49.6	54.7	<b>77.0</b>	53.3
<b>Connect</b>				
E-mail	<b>9.3</b>	<b>18.9</b>	45.8	<b>13.5</b>
Firm website	<b>22.6</b>	40.9	<b>71.8</b>	31.1
<b>Change</b>				
Audited financial statement	56.8	67.6	<b>72.2</b>	61.0
Investment financed by banks	28.5	<b>13.9</b>	35.6	25.3
Formal training programme	<b>3.4</b>	<b>8.6</b>	33.5	<b>7.2</b>
Foreign technology licences	<b>16.0</b>	24.6	44.2	<b>22.5</b>



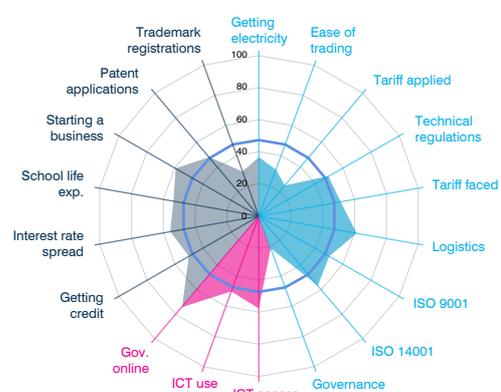
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	24.6	25.1	26.6	24.8
Domestic shipping reliability	41.9	59.6	40.3	47.6
Dealing with regulations	<b>74.5</b>	61.6	66.2	69.7
Customs clearance efficiency	58.8	43.2	48.6	48.1
<b>Connect</b>				
State of cluster development				<b>73.5</b>
Extent of marketing				40.5
Local supplier quality				44.0
University-industry collaboration in R&D				34.1
<b>Change</b>				
Access to finance	38.2	47.9	50.6	41.7
Access to educated workforce	62.2	<b>72.0</b>	<b>76.1</b>	65.9
Business licensing and permits	38.9	37.3	37.9	38.3



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	36.6
Ease of trading across borders	30.8
Applied tariff, trade-weighted average	24.8
Prevalence of technical regulations	49.6
Faced tariff, trade-weighted average	51.4
Logistics performance index	61.4
ISO 9001 quality certificates	50.1
ISO 14001 environmental certificates	56.6
Governance index	<b>21.2</b>
<b>Connect</b>	
ICT access	57.6
ICT use	50.0
Government's online service	<b>74.1</b>
<b>Change</b>	
Ease of getting credit	50.0
Interest rate spread	55.7
School life expectancy	53.6
Ease of starting a business	59.6
Patent applications	48.0
Trademark registrations	29.6



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Egypt is a lower-middle income country with a population of 88.4 million and GDP of \$286.4 billion. Goods and services account for 55% and 45% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the basic manufactures and the fresh food sectors. Top products for diversification include *pistachios*, *pig iron*, and *carpets of man-made textile*. The latter product is characterized by price stability and a high presence of female employment.

There is also increased export potential of existing export products such as *tiles*, *glazed ceramic*. ITC estimates that this product has an unrealized export potential of just over \$1 billion to non-OECD countries. Other products with potential include *cheese processed, not grated or powdered* and *urea-ammonium nitrate* (an organic compound used in fertilizers).

The SME Competitiveness Grid reveals that Egypt's immediate business and national environments attain average scores. The country does well in online government services and in regard to educational indicators. However, few Egyptian SMEs have an internationally recognized quality certificate or offer formal training programmes to employees. In addition, SMEs underperform in using e-mails in day-to-day operations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Carpets of man-made textile mat, of woven pile construction	570242	2	1	1	15	Green	Red	Green
Mucilages & thickeners derived from locust beans & seeds or guar seeds	130232	16	25	21	7	Red		
Pistachios	0802Xb	19	4	10	20	Green		
Pig iron, non-alloy, containing by weight <=0.5% phosphorus in primary form	720110	21	123	86	11	Red	Red	Red
Carpets of wool/fine animal hair, of woven pile construction	470329	29	45	64	17	Green	Red	Red
Carpets of wool/fine animal hair, of woven pile construction, not made up	570231	36	202	22	171	Red	Red	Green
Stranded wire, cables, plaited bands, etc, alum, steel core, not electric insulated	761410	37	63	24	239	Green	Green	Red
Durum wheat	1001Xa	56	20	36	85	Green		
Horse, ass, mule or hinny meat, fresh, chilled or frozen	020500	58	197	205	27	Green	Green	Green
Bars & rods, iron or non-alloy steel forged	721410	59	147	40	196	Red	Red	Red

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Tiles, cubes and sim <7 cm rect or not etc, glazed ceramics	690810	157.9	0-2,000	0-2,000	0-2,000	Red	Green	Red	Red
Cheese processed, not grated or powdered	040630	224.6	0-2,000	0-2,000	0-2,000	Green	Green	Green	Green
Monumental/building stone, cut/sawn flat/even, marble/travertine/...	680221	130.8	0-2,000	0-2,000	0-2,000	Red	Green	Red	Red
Urea, with/without in aqueous solution in packages weighing more than 10 kg	310210	997.7	0-2,000	0-2,000	0-2,000	Green	Red	Red	Red
Oranges, fresh or dried	080510	549.6	0-2,000	0-2,000	0-2,000	Green			Red
Mixed alkylbenzenes and mixed alkylnaphthalenes produced...	381700	223.7	0-2,000	0-2,000	0-2,000	Green	Red	Red	Green
Mens/boys trousers and shorts, of cotton, not knitted	620342	252.5	0-2,000	0-2,000	0-2,000	Green	Red	Green	Red
Refined cane or beet sugar, solid, without flavouring or colouring...	170199	164.1	0-2,000	0-2,000	0-2,000	Red	Green	Green	Red
Beet-pulp, bagasse and other waste of sugar manufacture	230320	92.2	0-2,000	0-2,000	0-2,000	Green			Green
Reception apparatus for television	8528Xb	184.7	0-2,000	0-2,000	0-2,000	Red	Red	Green	Green

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

## Imports subject to regulation



## Requirements per imported product

4.88

## Exports subject to regulation

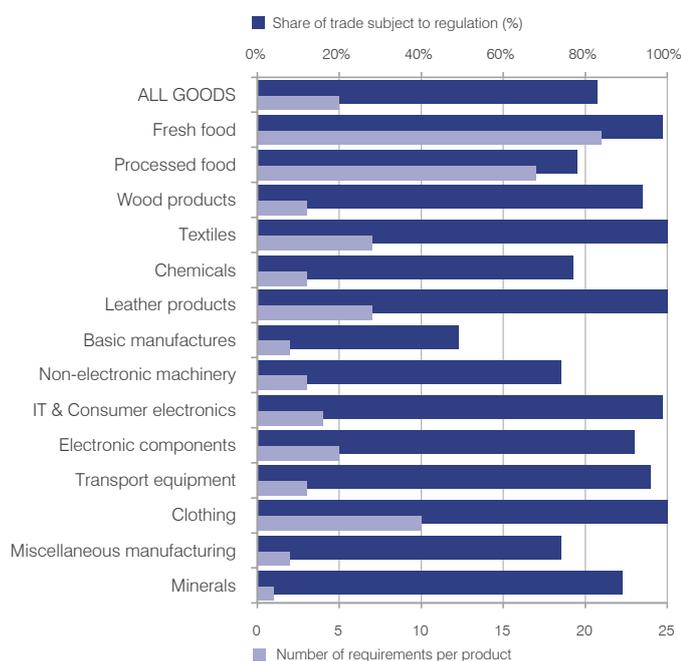


## Requirements per exported product

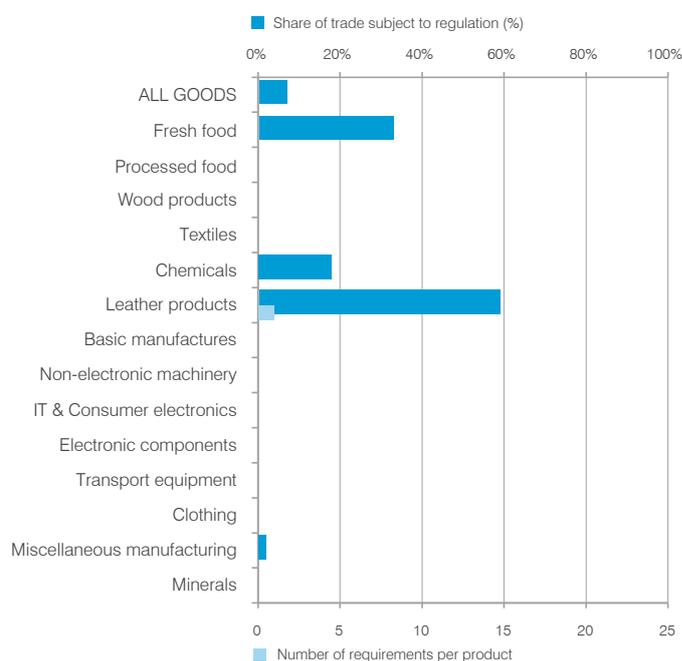
0.1

## Regulatory environment by sector

### Import regulations

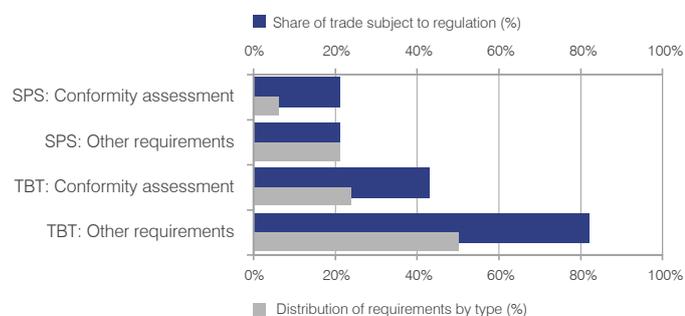


### Export regulations

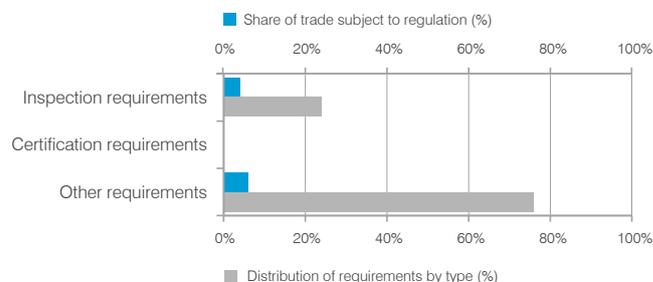


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 97 technical regulations; excluding 2 regulations covering all products.

**Source:** ITC-UNCTAD-WB joint data collection, 2014. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  45% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

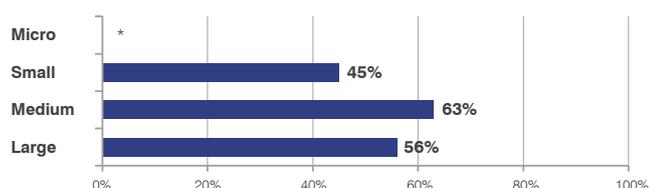
**Technical regulations:**  55% of reported problems

**Main procedural obstacle:** Informal or high payment

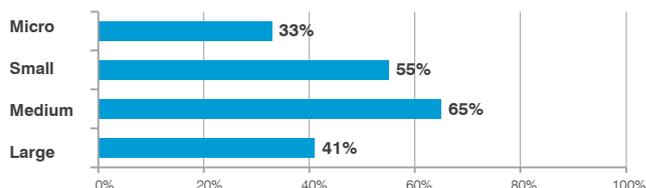
**Main regulatory obstacle:** Export inspection

## Share of problems by company size

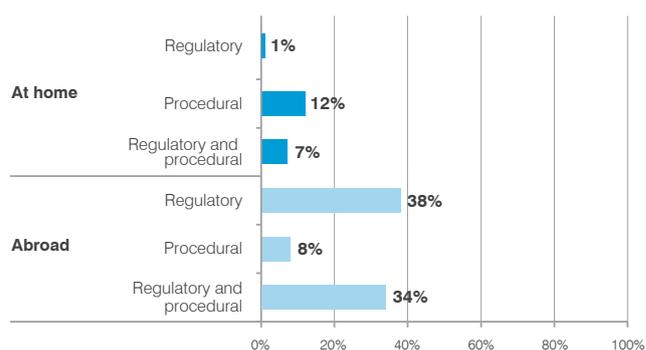
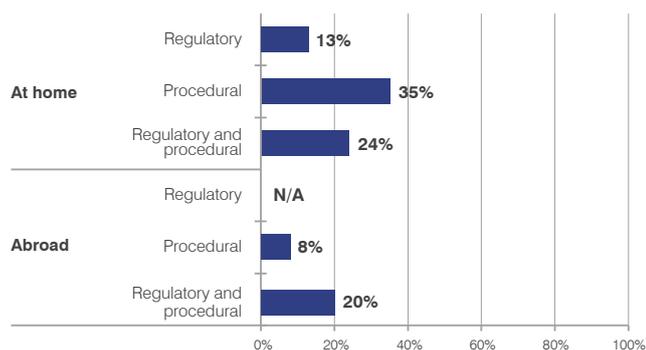
### Importing firms



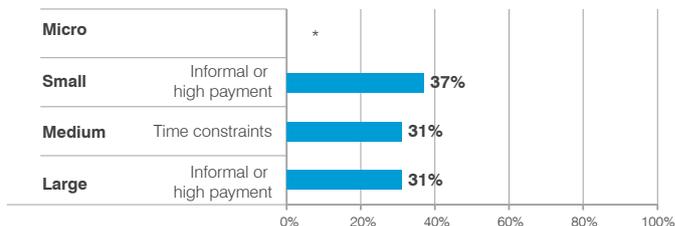
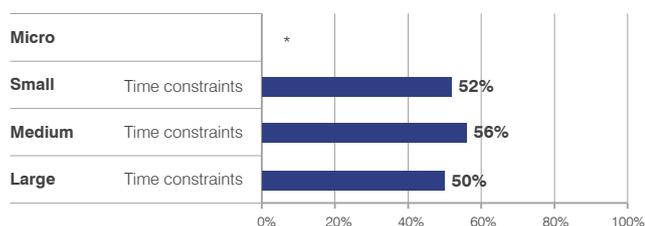
### Exporting firms



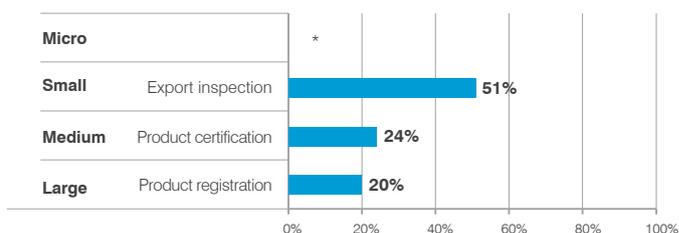
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/egypt>. Survey field work ended in 2011, with 869 companies in phone interviews. Of those, 327 companies (38%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 187 also gave face-to-face interviews.

# Guinea

## Key indicators

Population (million)	12.3
GDP (\$ billion)	6.7
GDP per capita (\$)	546
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-16.7
Tariff preference margin (percentage points)	0.1
Imports and exports (goods and services), share of GDP (%)	80.9
Services exports, share of total exports (%)	5.5
Geographic region	Africa
Development group	LDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	20.8	<b>4.1</b>	<b>11.7</b>
	Medium	30.9	<b>8.1</b>	20.0
	Large	<b>51.7</b>	36.1	<b>53.3</b>
	All	22.9	<b>5.3</b>	<b>15.1</b>
IMMEDIATE BUSINESS ENVIRONMENT		43.8	27.7	38.4
NATIONAL ENVIRONMENT		31.9	<b>4.1</b>	30.0

Reference level: 32.2 (a function of GDP per capita \$)

**Strengths are scores above: 48.3**      **Weaknesses are scores below: 16.1**

## SME Competitiveness Grid

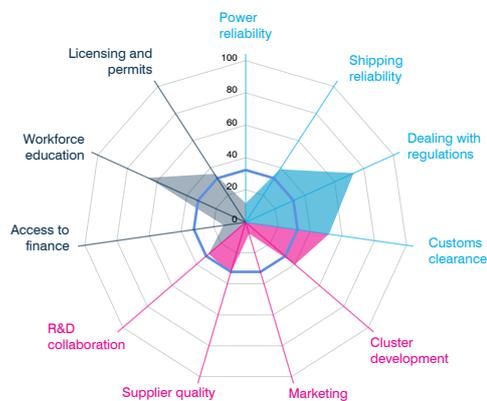
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>15.8</b>	17.2	<b>54.9</b>	18.1
Bank account	<b>8.6</b>	19.1	29.9	<b>9.8</b>
Capacity utilization	36.0	36.7	<b>87.6</b>	37.7
Manager's experience	23.0	<b>50.4</b>	34.3	26.2
Connect	Small	Medium	Large	All
E-mail	<b>3.1</b>	<b>8.3</b>	<b>6.0</b>	<b>3.6</b>
Firm website	<b>5.1</b>	<b>7.9</b>	<b>66.2</b>	<b>7.1</b>
Change	Small	Medium	Large	All
Audited financial statement	<b>2.6</b>	<b>9.1</b>	32.4	<b>4.0</b>
Investment financed by banks	<b>0.0</b>	<b>10.4</b>	30.6	<b>3.1</b>
Formal training programme	23.6	18.3	<b>100.0</b>	27.2
Foreign technology licences	20.6	42.1	<b>50.2</b>	26.0



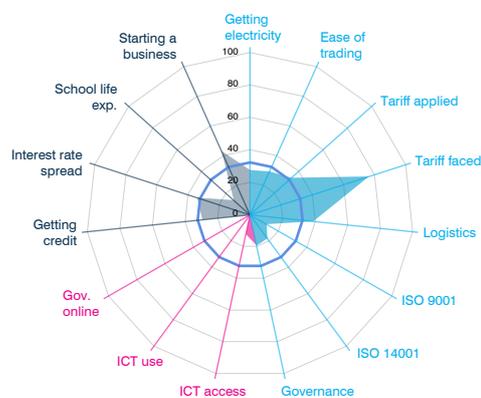
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>11.4</b>	<b>13.4</b>	-	<b>11.6</b>
Domestic shipping reliability	37.5	<b>52.7</b>	30.0	38.9
Dealing with regulations	<b>74.5</b>	<b>65.6</b>	<b>55.2</b>	<b>73.0</b>
Customs clearance efficiency	47.9	-	-	<b>51.8</b>
Connect	Small	Medium	Large	All
State of cluster development	-	-	-	40.1
Extent of marketing	-	-	-	<b>7.5</b>
Local supplier quality	-	-	-	33.0
University-industry collaboration in R&D	-	-	-	30.2
Change	Small	Medium	Large	All
Access to finance	<b>12.3</b>	17.0	<b>65.1</b>	<b>13.8</b>
Access to educated workforce	<b>66.7</b>	<b>70.8</b>	41.3	<b>65.9</b>
Business licensing and permits	38.3	16.7	42.6	35.5



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	27.5
Ease of trading across borders	29.2
Applied tariff, trade-weighted average	34.0
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	<b>76.3</b>
Logistics performance index	38.9
ISO 9001 quality certificates	<b>11.6</b>
ISO 14001 environmental certificates	18.0
Governance index	19.4
Connect	All
ICT access	<b>12.3</b>
ICT use	<b>0.0</b>
Government's online service	<b>0.0</b>
Change	All
Ease of getting credit	29.4
Interest rate spread	34.1
School life expectancy	<b>13.4</b>
Ease of starting a business	43.0
Patent applications	-
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Guinea is a low income country in West Africa with a population of 12.3 million and GDP of \$6.7 billion. Goods and services account for 94.5% and 5.5% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Guinea's exports lie in the fresh and processed food sectors. Top products for diversification are *gum arabic* (otherwise known as chaar gund or meska), *fish meal and pellets* (which score well on all the development indicators), and *natural rubber*.

Existing export products also have increased export potential. ITC estimates that *frozen sardines*, for example, have an unrealized export potential of over \$24 million to non-OECD countries. Other products with potential include *cashew nuts* and *coffee, not roasted, not decaffeinated*.

The SME Competitiveness Grid reveals that Guinea's national environment scores relatively well on trade policy-related indicators but poorly on the capacity to connect, due to low ICT use and access, and government online services. Guinea's SMEs underperform in connectivity, and banks finance few investments. In addition, only a few small firms have bank accounts.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Gum arabic	130120	1	1	1	3	■		
Flour,meal&pellet of fish,crust,mol/oth aqua invert.unfit human consumption	230120	2	2	2	20	■	■	■
Natural rubber in other forms	400129	3	3	3	34	■		
Cashew nuts, without shell, fresh or dried	080132	4	27	5	2	■		
Copper unrefined, copper anodes for electrolytic refining	740200	5	45	7	1	■	■	■
Lobsters, frozen, in shell or not, including boiled in shell	030612	6	104	4	6	■	■	■
Jute and other textile bast fibres, raw or retted	530310	7	4	6	111	■		
Bananas and plantains, fresh or dried	0803	8	6	8	4	■		
Rock lobster&oth sea crawfish not fz,in shell/not,incl boild in shell	030621	9		9	66	■		
Coconut (copra) oil crude	151311	10	32	17	5	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Frozen Sardines , sardinella, brisling or sprats	030353	6.4	■	■	■	■	■	■	■
Cashew nuts, in shell, fresh or dried	080131	27.3	■	■	■	■			■
Coffee, not roasted, not decaffeinated	090111	31.9	■	■	■	■			■
Other frozen fish, whole	0303Xa	25.8	■	■	■	■	■	■	■
Cocoa beans, whole or broken, raw or roasted	180100	20.0	■	■	■	■			■
Technically specified natural rubber (TSNR)	400122	31.3	■	■	■	■			■
Other logs of wood	4403XX	18.3	■	■	■	■			■
Sesamum seeds, whether or not broken	120740	2.2	■	■	■	■			■
Other cured fish; fins, heads, tails, maws and other edible fish...	0305Xb	5.3	■	■	■	■	■	■	■
Frozen turbot and other flatfish, whole	0303Xb	2.8	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  16% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

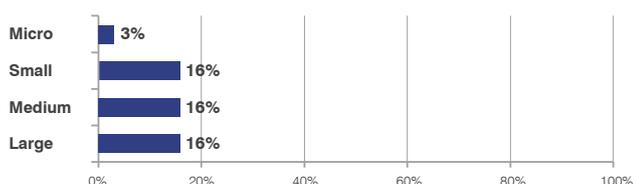
**Technical regulations:**  38% of reported problems

**Main procedural obstacle:** Time constraints

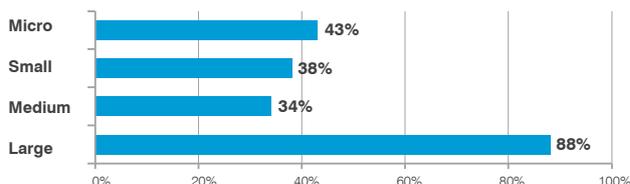
**Main regulatory obstacle:** Export inspection

## Share of problems by company size

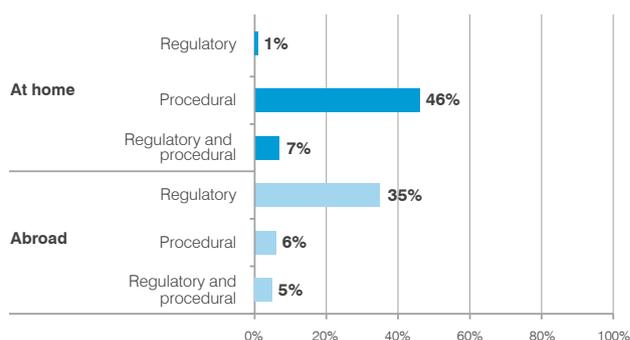
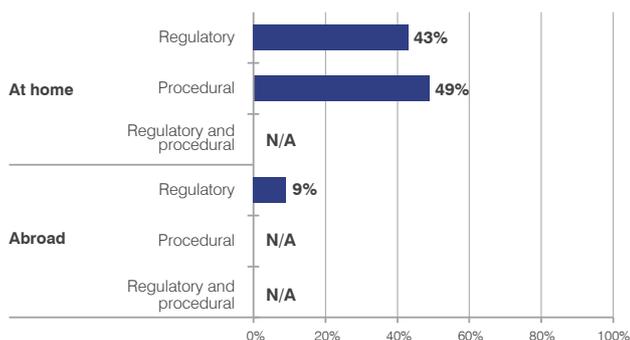
### Importing firms



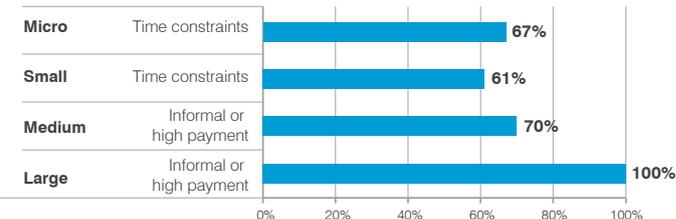
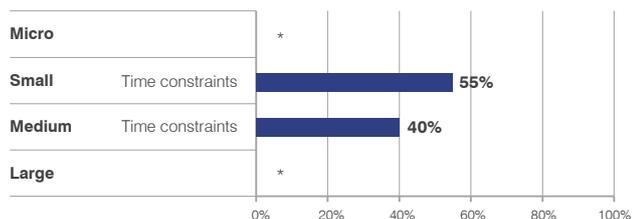
### Exporting firms



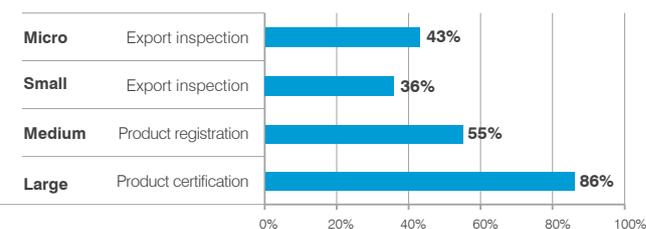
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://www.ntmsurvey.org/guinea>. Survey field work ended in 2012, with 331 companies in phone interviews. Of those, 314 companies (95%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 165 also gave face-to-face interviews.

# India

## Key indicators

Population (million)	1292.7
GDP (\$ billion)	2182.6
GDP per capita (\$)	1,688
Share of world GDP (PPP\$, %)	7.1
Current account surplus/deficit, share of GDP (%)	-1.4
Tariff preference margin (percentage points)	0.7
Imports and exports (goods and services), share of GDP (%)	52.7
Services exports, share of total exports (%)	33.0
Geographic region	Asia-Pacific
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	40.5	26.9	40.6
	Medium	44.7	48.6	51.4
	Large	62.4	<b>73.2</b>	<b>65.4</b>
	All	45.5	41.0	50.2
IMMEDIATE BUSINESS ENVIRONMENT		60.6	61.3	60.4
NATIONAL ENVIRONMENT		49.5	38.8	43.5

Reference level: 41.7 (a function of GDP per capita \$)

**Strengths are scores above: 62.5**      **Weaknesses are scores below: 20.8**

## SME Competitiveness Grid

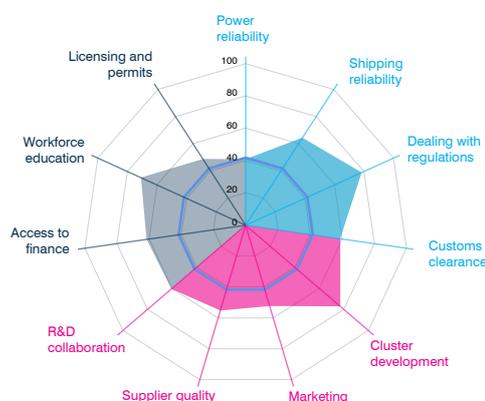
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	37.5	60.3	<b>78.7</b>	55.9
Bank account	32.8	26.4	59.6	31.3
Capacity utilization	<b>68.6</b>	<b>67.5</b>	<b>77.2</b>	<b>69.5</b>
Manager's experience	23.0	24.6	34.3	25.4
Connect	Small	Medium	Large	All
E-mail	26.6	46.4	<b>67.5</b>	37.7
Firm website	27.3	50.9	<b>79.0</b>	44.2
Change	Small	Medium	Large	All
Audited financial statement	57.5	60.3	<b>81.0</b>	61.8
Investment financed by banks	54.5	59.7	58.1	58.1
Formal training programme	32.2	46.8	<b>66.6</b>	43.8
Foreign technology licences	<b>18.1</b>	38.7	55.8	37.2



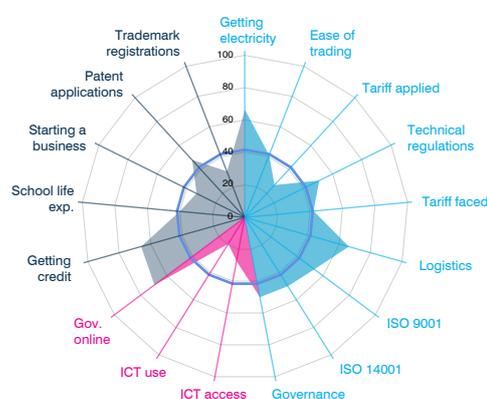
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	41.7	41.7	39.4	40.9
Domestic shipping reliability	<b>70.7</b>	<b>64.4</b>	<b>70.7</b>	<b>64.4</b>
Dealing with regulations	<b>82.0</b>	<b>77.6</b>	<b>71.6</b>	<b>78.4</b>
Customs clearance efficiency	53.8	59.5	58.8	58.8
Connect	Small	Medium	Large	All
State of cluster development				<b>77.0</b>
Extent of marketing				52.4
Local supplier quality				55.3
University-industry collaboration in R&D				60.5
Change	Small	Medium	Large	All
Access to finance	55.0	<b>65.8</b>	<b>71.5</b>	61.7
Access to educated workforce	<b>72.9</b>	<b>67.5</b>	<b>75.6</b>	<b>70.8</b>
Business licensing and permits	46.4	52.1	45.4	48.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>66.4</b>
Ease of trading across borders	41.1
Applied tariff, trade-weighted average	26.9
Prevalence of technical regulations	50.8
Faced tariff, trade-weighted average	42.2
Logistics performance index	<b>66.2</b>
ISO 9001 quality certificates	53.3
ISO 14001 environmental certificates	50.0
Governance index	50.2
Connect	All
ICT access	27.7
ICT use	<b>19.3</b>
Government's online service	<b>69.4</b>
Change	All
Ease of getting credit	<b>66.1</b>
Interest rate spread	-
School life expectancy	40.0
Ease of starting a business	33.1
Patent applications	48.0
Trademark registrations	30.4



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

India is a lower-middle income country with a population of 1.3 billion and GDP of \$2.2 trillion. Goods and services account for 67% and 33% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for India's exports lie in the metal, non-electric machinery and IT & consumer electronics sectors. ITC identifies *automatic data processing machines and units*, *wrist-watches* (a product produced mostly by women in India), and *cyclic amides* as top products for diversification.

There is also increased export potential of existing export products such as *rice, semi or wholly milled*, mainly to non-OECD countries. Other products with potential include *articles of jewellery, mucilage* (a substance used in the storage of food), and *pharmaceutical products*.

The SME Competitiveness Grid reveals that the capacity utilization of SMEs is high. However, few Indian SMEs hold foreign technology licences, use e-mails or have websites. India's immediate business environment attains good scores on several metrics, in particular on cluster development and management time devoted to regulations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Automatic data processing machines and units	8471XX	7	98	8	8	■	■	■
Wrist-watches, battery/accum powerd w opto-electronic display only	910212	37	79	37	41	■	■	■
Other cyclic amides (including acyclic carbamates) and their derivatives; salts...	2924Xb	41	103	79	24	■	■	■
Air conditioning machines, window or wall types; other air conditioning...	8415XX	42	96	33	97	■	■	■
Angles, shapes and sections, as, o/t stainless	722870	60	124	38	434	■	■	■
Fans: table, roof etc w a self-cont elec mtr of an output nt excd g 125W	841451	64	64	50	93	■	■	■
Reception apparatus for television	8528Xb	67	199	69	55	■	■	■
Tiles, cubes and sim, unglazed ceramics	690790	109	136	81	289	■	■	■
Radio-broadcast receivers, for mains operation only	852791	115	352	121	94	■	■	■
Electrical capacitors, fixed, tantalum	853221	116	889	90	233	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Rice, semi-milled or wholly milled, whether or not polished or...	100630	5192.8				■	■	■	■
Articles of jewellery and parts thereof, other than silver	711319	11479.1				■	■	■	■
Mucilages & thickeners derived from locust beans & seeds or...	130232	2214.3				■	■	■	■
Pharmaceutical products	30XXXX	10311.4				■	■	■	■
Motorcycles with reciprocating piston engine displacg > 50 cc to...	871120	1257.3				■	■	■	■
Frozen shrimps and prawns	0306Xb	2049.5				■	■	■	■
Cotton, not carded or combed	520100	3568.8				■	■	■	■
Soya-bean oil-cake&both solid residues, whether or not ground or...	230400	2017.1				■	■	■	■
Copper cathodes and sections of cathodes unwrought	740311	2515.9				■	■	■	■
Articles of jewellery&pts thereof of silver w/h platted/clad w/o...	711311	896.4				■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

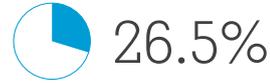
**Imports subject to regulation**



**Requirements per imported product**

4.67

**Exports subject to regulation**

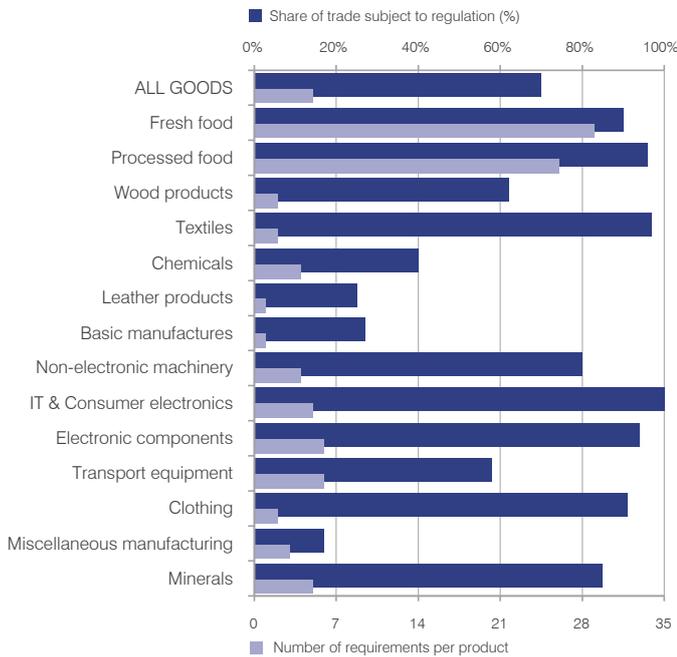


**Requirements per exported product**

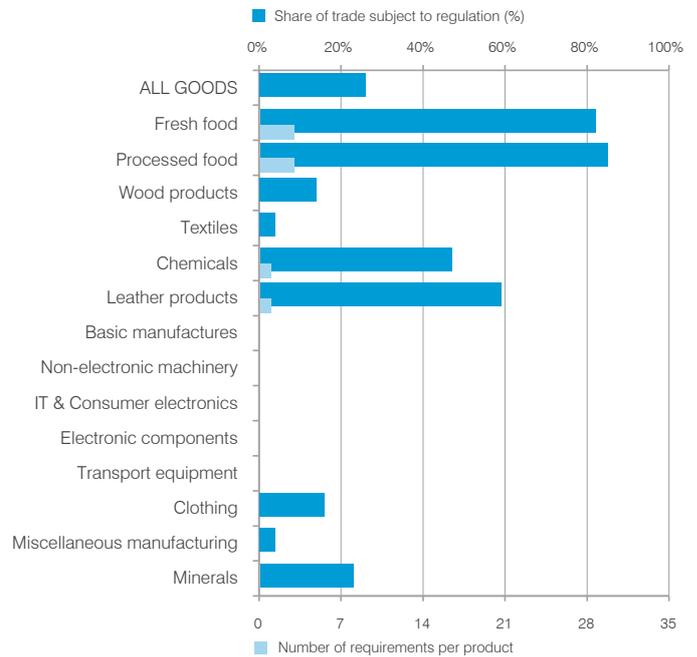
0.48

## Regulatory environment by sector

### Import regulations

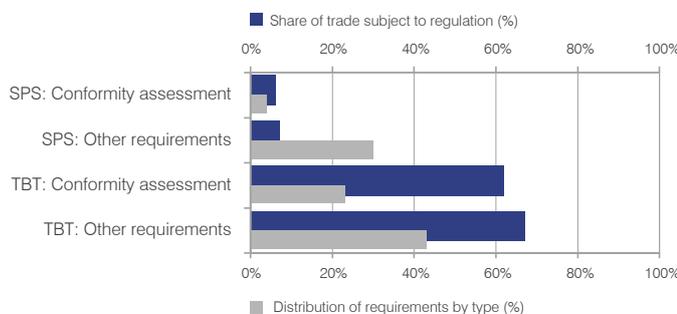


### Export regulations

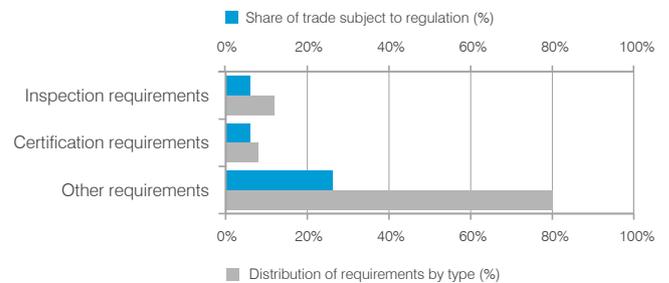


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 231 technical regulations; excluding 1 regulation covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2015. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

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For further information visit <http://ntmsurvey.org>.

# Indonesia

## Key indicators

Population (million)	255.5
GDP (\$ billion)	872.6
GDP per capita (\$)	3,416
Share of world GDP (PPP\$, %)	2.5
Current account surplus/deficit, share of GDP (%)	-2.2
Tariff preference margin (percentage points)	2.2
Imports and exports (goods and services), share of GDP (%)	46.3
Services exports, share of total exports (%)	11.8
Geographic region	Asia-Pacific
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	32.9	1.9	11.2
	Medium	40.6	7.7	23.2
	Large	54.4	41.6	49.9
	All	34.1	3.1	14.2
IMMEDIATE BUSINESS ENVIRONMENT		67.3	70.2	70.7
NATIONAL ENVIRONMENT		59.4	45.5	40.4

Reference level: 47.6 (a function of GDP per capita \$)

**Strengths are scores above: 71.4**      **Weaknesses are scores below: 23.8**

## SME Competitiveness Grid

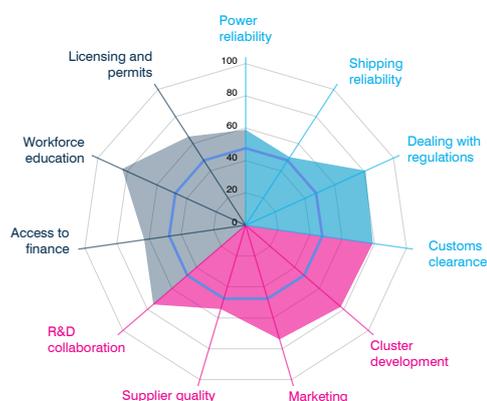
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	6.5	21.0	68.4	11.0
Bank account	7.1	35.0	41.4	8.9
Capacity utilization	84.0	72.5	76.2	82.6
Manager's experience	33.9	33.9	31.6	33.9
<b>Connect</b>				
E-mail	0.2	7.7	42.5	1.4
Firm website	3.5	7.8	40.7	4.8
<b>Change</b>				
Audited financial statement	0.0	6.1	42.2	1.4
Investment financed by banks	27.1	29.9	36.2	28.2
Formal training programme	3.9	17.6	45.5	6.5
Foreign technology licences	13.7	39.4	75.8	20.6



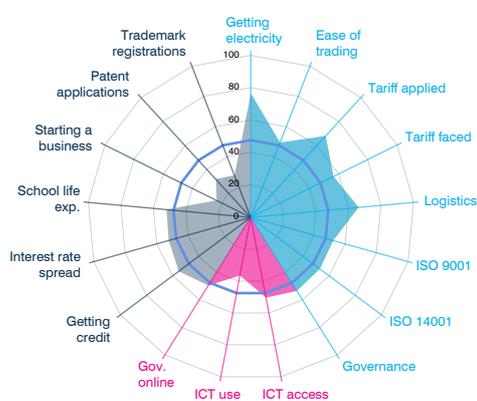
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	61.7	54.8	56.8	59.0
Domestic shipping reliability	52.7	40.3	64.4	50.0
Dealing with regulations	84.0	69.1	52.3	81.1
Customs clearance efficiency	-	82.5	73.9	79.1
<b>Connect</b>				
State of cluster development				77.4
Extent of marketing				73.9
Local supplier quality				54.3
University-industry collaboration in R&D				75.2
<b>Change</b>				
Access to finance	62.2	66.8	82.4	63.2
Access to educated workforce	83.7	86.2	78.5	83.7
Business licensing and permits	65.2	64.1	61.0	65.2



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	76.4
Ease of trading across borders	49.4
Applied tariff, trade-weighted average	68.0
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	56.6
Logistics performance index	66.2
ISO 9001 quality certificates	52.5
ISO 14001 environmental certificates	52.9
Governance index	53.5
<b>Connect</b>	
ICT access	50.4
ICT use	36.5
Government's online service	49.5
<b>Change</b>	
Ease of getting credit	55.3
Interest rate spread	52.3
School life expectancy	51.9
Ease of starting a business	23.4
Patent applications	31.9
Trademark registrations	27.8



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Indonesia is a lower-middle income country composed of more than 17,000 islands with a total population of 255.5 million and GDP of \$872.6 billion. Goods and services account for 88.2% and 11.8% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Indonesia's exports lie in the metal, chemical and IT & consumer electronics sectors. ITC identifies *cold rolled iron and steel*, *plain weave cotton fabric* and *footwear of rubber or plastic* as top products for diversification. The prevalence of SMEs and female participation in the production of the latter two goods add a development dimension.

Existing export products also have increased export potential such as *palm oil and its fractions*. In particular, *technically specified natural rubber* and *tin not alloyed unwrought* have unrealized export potential in all regions.

The SME Competitiveness Grid reveals that the immediate business environment performs well, especially in university-industry collaboration and customs clearance efficiency. However, the vast majority of Indonesian SMEs are not electronically connected, do not hold internationally recognized quality certificates nor offer formal training programmes to their employees. The capacity utilization of firms of all sizes is relatively high.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Cold rolled iron/steel, coils >600mm x <0.5mm	720918	6	12	3	245	■	■	■
Plain weave cotton fabric, >/=85%, >100 g/m2 to 200 g/m2, printed	520852	7	90	4	220	■	■	■
Articles of jewellery and parts thereof, other than silver	711319	9	6	6	74	■	■	■
Air conditioning machines, window or wall types; other air conditioning...	8415XX	13	16	8	31	■	■	■
Footwear of rubber or plastics, upper straps assembled to sole by plugs	640220	16	32	10	92	■	■	■
Automatic data processing machines and units	8471XX	20	21	21	15	■	■	■
Diammonium phosphate, in packages weighing more than 10 kg	310530	28	29	17	59	■	■	■
Gloves of rubber	401519	30	43	39	12	■	■	■
Radio-broadcast receivers, for mains operation only	852791	32	51	24	35	■	■	■
Compounded rubber, unvulcanised in primary forms	400599	38	20	27	83	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Palm oil and its fractions refined but not chemically modified	151190	9375.3	■	■	■	■	■	■	■
Palm oil, crude	151110	7072.8	■	■	■	■	■	■	■
Technically specified natural rubber (TSNR)	400122	7274.4	■	■	■	■	■	■	■
Tin not alloyed unwrought	800110	2158.1	■	■	■	■	■	■	■
Palm kernel/babassu oil their fract,refind but not chemically...	151329	757.9	■	■	■	■	■	■	■
Industrial fatty acids, acid oils	382319	975.7	■	■	■	■	■	■	■
Plywood, veneered panels and similar laminated...	44XXXX	1844.6	■	■	■	■	■	■	■
Palm kernel or babassu oil, crude	151321	939.5	■	■	■	■	■	■	■
Miscellaneous chemical products	38XXXX	1206.4	■	■	■	■	■	■	■
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/...	470329	1678.4	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

Technical regulations:  0% of reported problems

### Exporting firms

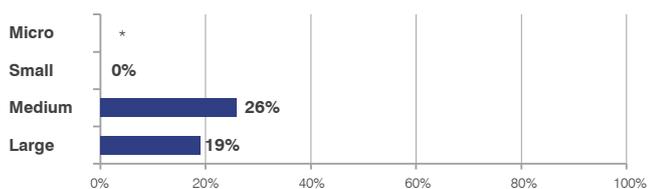
Technical regulations:  68% of reported problems

Main procedural obstacle: Informal or high payment

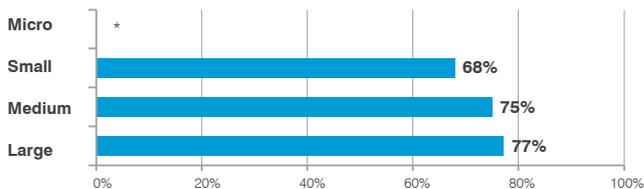
Main regulatory obstacle: Export inspection

## Share of problems by company size

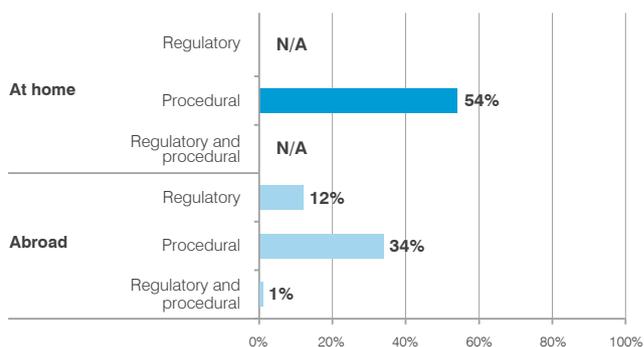
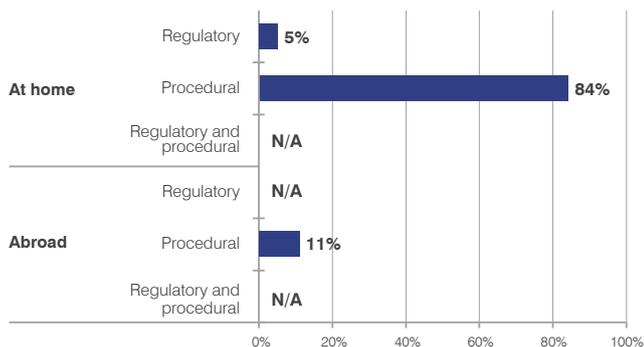
### Importing firms



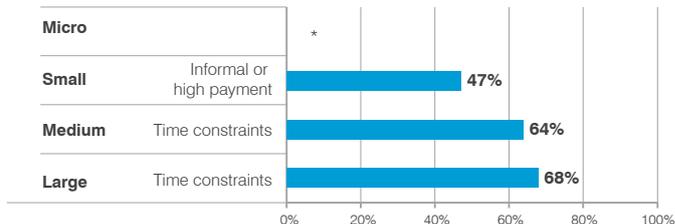
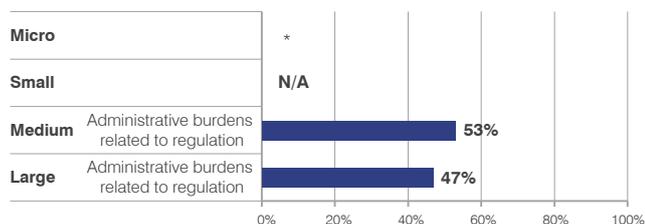
### Exporting firms



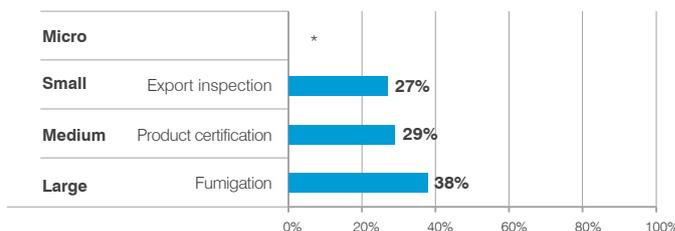
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



Note: Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

Source: ITC Business Surveys on NTMs, <http://ntmsurvey.org/indonesia>. Survey field work ended in 2013, with 951 companies in phone interviews. Of those, 350 companies (37%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 211 also gave face-to-face interviews.

# Jamaica

## Key indicators

Population (million)	2.8
GDP (\$ billion)	13.8
GDP per capita (\$)	4,912
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.6
Tariff preference margin (percentage points)	5.9
Imports and exports (goods and services), share of GDP (%)	89.5
Services exports, share of total exports (%)	66.1
Geographic region	Latin America and the Caribbean
Development group	SIDS
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	55.1	29.2	39.8
	Medium	62.7	36.9	63.8
	Large	71.3	73.3	74.9
	All	58.3	32.2	51.5
IMMEDIATE BUSINESS ENVIRONMENT		68.6	57.3	41.5
NATIONAL ENVIRONMENT		48.3	48.2	65.5

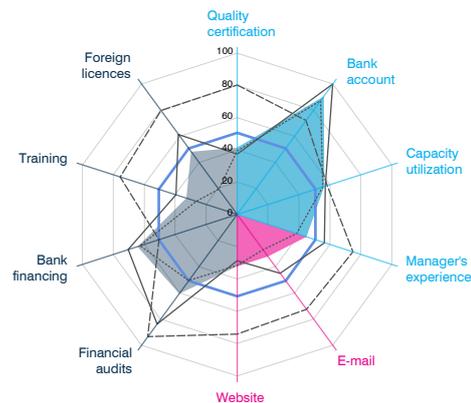
Reference level: 50.6 (a function of GDP per capita \$)

**Strengths are scores above: 76.0**      **Weaknesses are scores below: 25.3**

## SME Competitiveness Grid

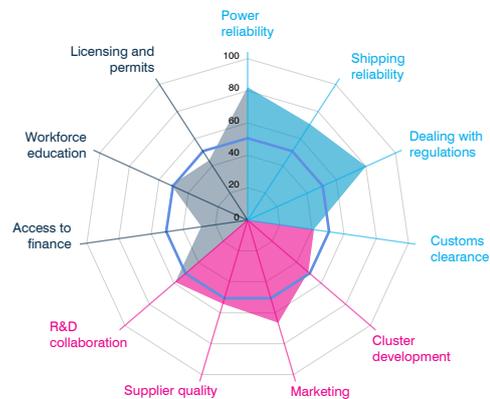
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	39.5	37.5	<b>80.3</b>	41.5
Bank account	<b>87.2</b>	<b>100.0</b>	71.9	<b>90.5</b>
Capacity utilization	55.4	56.9	58.1	56.4
Manager's experience	38.5	56.6	74.9	44.8
Connect				
E-mail	27.0	45.2	72.5	32.2
Firm website	31.5	28.7	74.1	32.2
Change				
Audited financial statement	50.5	<b>83.9</b>	<b>93.5</b>	60.7
Investment financed by banks	62.8	70.4	50.6	64.4
Formal training programme	26.4	39.7	75.6	32.8
Foreign technology licences	<b>19.4</b>	61.4	<b>79.8</b>	48.2



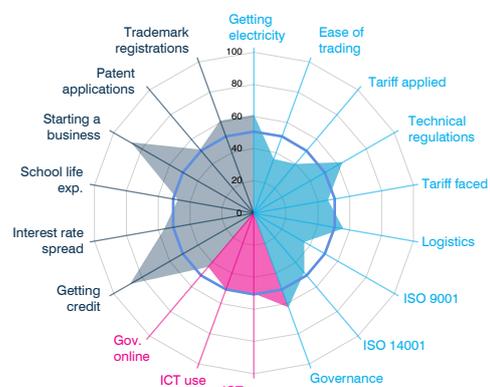
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>82.3</b>	74.2	<b>100.0</b>	<b>82.3</b>
Domestic shipping reliability	<b>80.2</b>	59.6	64.4	70.7
Dealing with regulations	<b>84.0</b>	73.0	75.2	<b>80.2</b>
Customs clearance efficiency	<b>12.9</b>	56.3	36.4	41.3
Connect				
State of cluster development				49.5
Extent of marketing				66.5
Local supplier quality				54.3
University-industry collaboration in R&D				58.9
Change				
Access to finance	<b>22.6</b>	41.3	69.9	28.7
Access to educated workforce	51.3	54.2	43.2	51.7
Business licensing and permits	43.2	45.2	50.2	44.1



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	61.1
Ease of trading across borders	35.9
Applied tariff, trade-weighted average	40.0
Prevalence of technical regulations	63.1
Faced tariff, trade-weighted average	46.5
Logistics performance index	56.0
ISO 9001 quality certificates	35.9
ISO 14001 environmental certificates	48.3
Governance index	62.5
Connect	
ICT access	50.0
ICT use	50.7
Government's online service	43.9
Change	
Ease of getting credit	<b>88.4</b>
Interest rate spread	56.4
School life expectancy	47.6
Ease of starting a business	<b>87.8</b>
Patent applications	51.7
Trademark registrations	61.2



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Jamaica is an upper-middle income country in the Caribbean with a population of 2.8 million and GDP of \$13.8 billion. Goods and services account for 33.9% and 66.1% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the fresh food and raw agro-based product sectors, and in the basic manufactures sector. ITC identifies *cut flowers and flower buds for bouquets*, *pineapple juice, unfermented*, and *wood in chips* as top products for diversification.

Existing export products also have increased export potential such as *beverages*, *spirits*, *vinegar*, and *edible vegetables and roots*. *Rum and tafia* have strong expansion opportunities within the region and elsewhere.

The SME Competitiveness Grid reveals that the country's national environment performs well in the capacity to change pillar. This is due to good scores on the ease of getting credits and starting a business. The most important bottleneck for Jamaican SMEs seeking to expand internationally is access to relevant market information (revealed by an underperformance in the connectivity pillar). However, almost all Jamaican firms have bank accounts, and financial losses due to power outages and domestic shipping are relatively low.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Cut flowers and flower buds for bouquets, fresh	0603XX	1	1	1	1	■		
Pineapple juice, unfermented	2009Xd	4	2	2	117	■	■	■
Wood in chips, non-coniferous	440122	6	14	14	4	■	■	■
Brussels sprouts, fresh or chilled	070420	8	4	5	105	■		
Portland cement	252329	11	6	6	168	■	■	■
Palm oil and its fractions refined but not chemically modified	151190	13	8	8	37	■	■	■
Bovine cuts boneless, frozen	020230	15	9	9	47	■	■	■
Goat meat, fresh, chilled or frozen	020450	20	12	12	61	■	■	■
Copper unrefined, copper anodes for electrolytic refining	740200	21	35	31	13	■	■	■
Bars and rods, of iron or non-alloy steel	721420	22	11	13	191	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Rum and tafia	220840	53.7	■	■	■	■	■	■	■
Arrowroot, salep (yams), etc	0714XX	23.3	■	■	■	■			■
Beer made from malt	220300	25.4	■	■	■	■	■	■	■
Coffee, not roasted, not decaffeinated	090111	18.4	■	■	■	■			■
Udenaturd ethyl alcohol of an alcohol strgth by vol of 80% vol/...	220710	76.9	■	■	■	■	■	■	■
Papaws (papayas), fresh	080720	3.7	■	■	■	■			■
Animal feed preparations	230990	8.7	■	■	■	■	■	■	■
Sauces and preparations and mixed condiments and mixed...	210390	13.8	■	■	■	■	■	■	■
Cranberries and other fruits, nuts and edible parts of plants,...	2008XX	11.3	■	■	■	■	■	■	■
Sweet potatoes, fresh or dried, whether or not sliced or pelleted	071420	3.3	■	■	■	■			■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

2.89

**Exports subject to regulation**

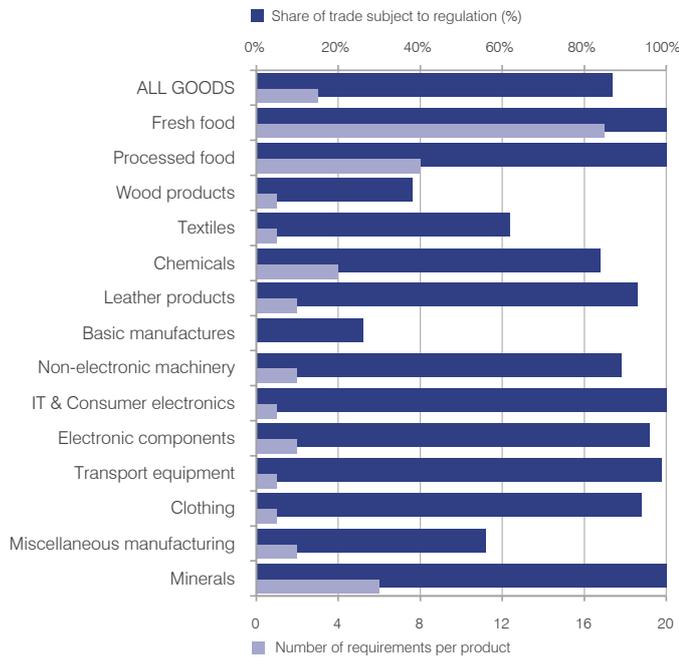


**Requirements per exported product**

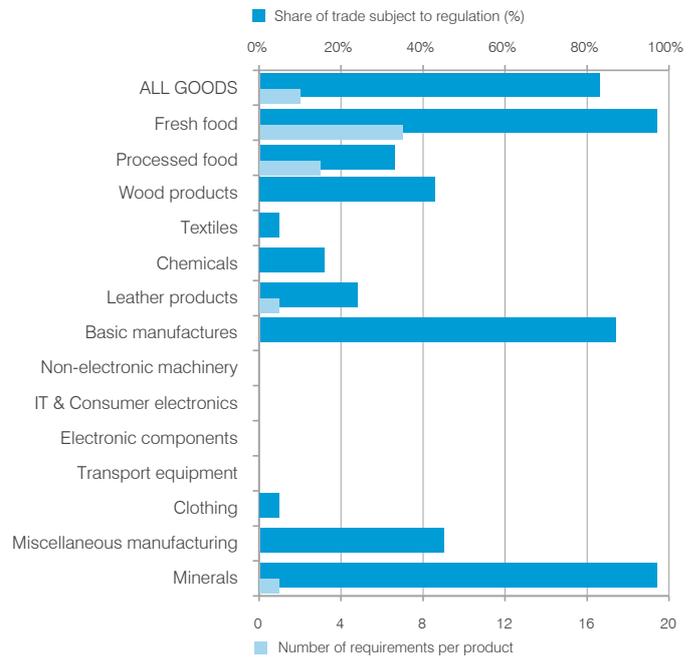
1.84

## Regulatory environment by sector

### Import regulations

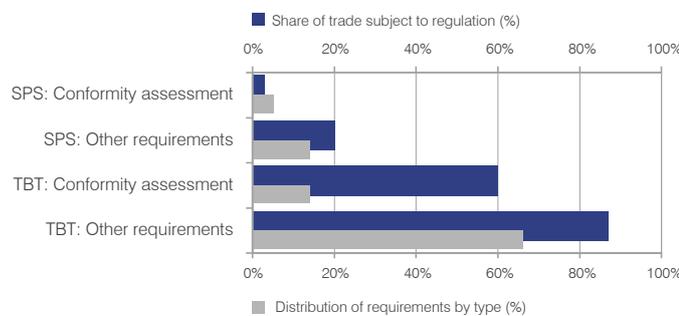


### Export regulations

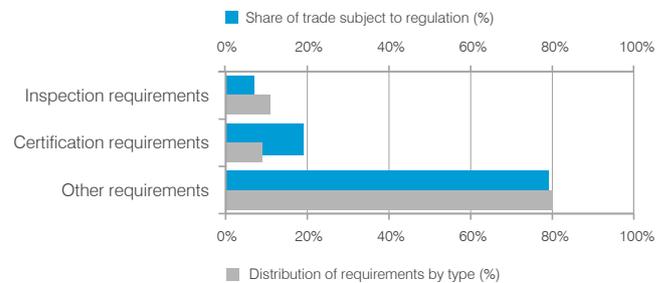


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 94 technical regulations; excluding 2 regulations covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2015. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  28% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

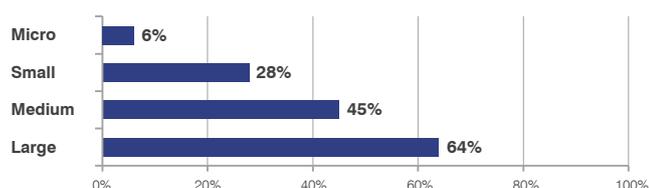
**Technical regulations:**  70% of reported problems

**Main procedural obstacle:** Time constraints

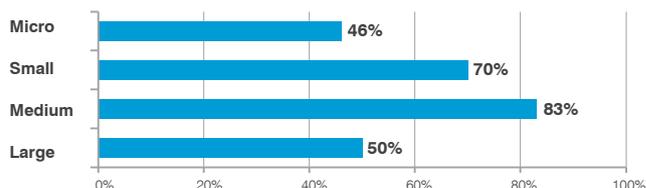
**Main regulatory obstacle:** Export inspection

## Share of problems by company size

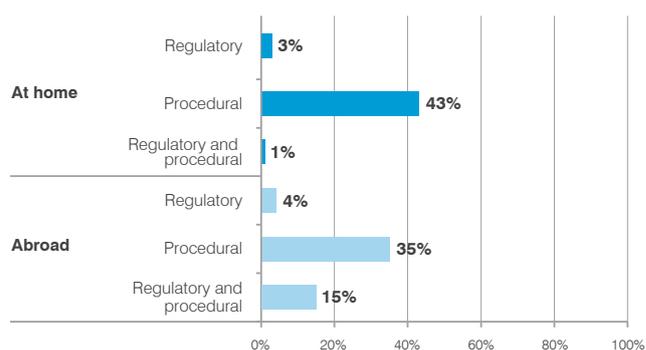
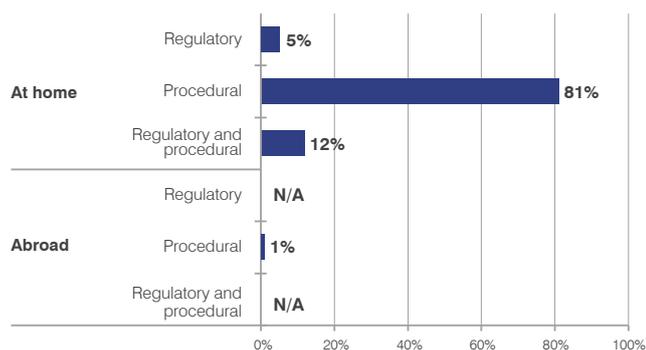
### Importing firms



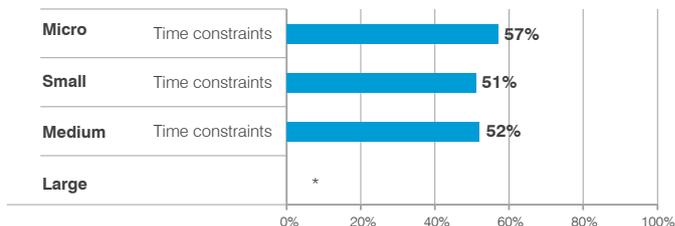
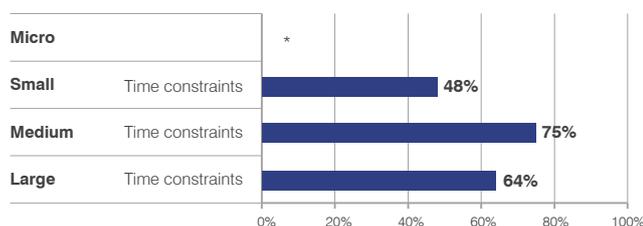
### Exporting firms



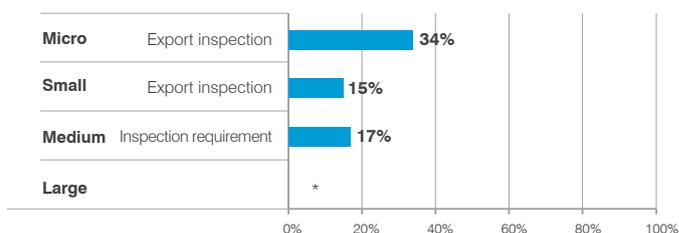
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/jamaica>. Survey field work ended in 2012, with 608 companies in phone interviews. Of those, 210 companies (35%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 122 also gave face-to-face interviews.

# Jordan

## Key indicators

Population (million)	6.8
GDP (\$ billion)	38.2
GDP per capita (\$)	5,600
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-7.4
Tariff preference margin (percentage points)	6.1
Imports and exports (goods and services), share of GDP (%)	119.4
Services exports, share of total exports (%)	45.9
Geographic region	Arab States
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	28.4	<b>24.6</b>	33.6
	Medium	42.1	47.1	44.1
	Large	55.0	71.3	48.7
	All	33.7	31.9	38.7
IMMEDIATE BUSINESS ENVIRONMENT		61.0	63.0	49.3
NATIONAL ENVIRONMENT		59.5	59.0	46.7

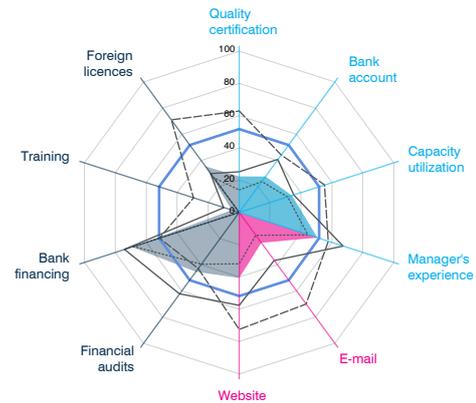
Reference level: 51.7 (a function of GDP per capita \$)

**Strengths are scores above: 77.6**      **Weaknesses are scores below: 25.9**

## SME Competitiveness Grid

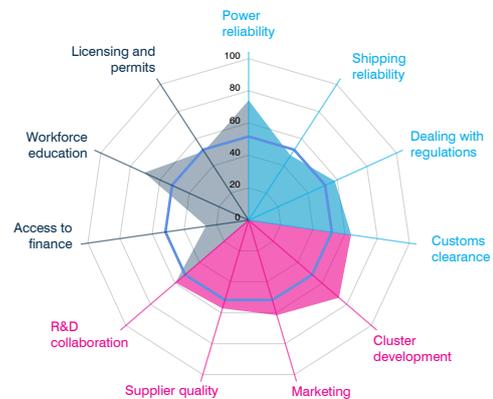
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>13.9</b>	<b>25.2</b>	62.9	<b>22.3</b>
Bank account	<b>23.6</b>	40.7	44.1	27.6
Capacity utilization	31.6	35.4	55.2	34.1
Manager's experience	44.5	67.3	57.6	50.7
<b>Connect</b>				
E-mail	<b>17.5</b>	36.6	70.2	<b>23.2</b>
Firm website	31.7	57.5	72.4	40.6
<b>Change</b>				
Audited financial statement	39.6	62.3	42.7	45.3
Investment financed by banks	68.3	74.1	51.5	69.2
Formal training programme	<b>0.0</b>	<b>10.1</b>	29.6	<b>4.7</b>
Foreign technology licences	26.7	29.8	71.1	35.4



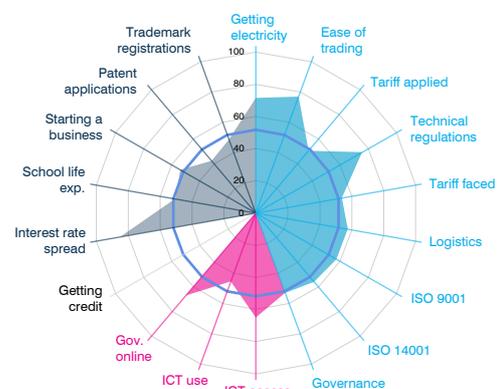
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>82.3</b>	64.8	<b>82.3</b>	74.2
Domestic shipping reliability	41.9	59.6	64.4	47.6
Dealing with regulations	61.6	52.0	59.7	58.4
Customs clearance efficiency	65.5	62.8	59.8	63.7
<b>Connect</b>				
State of cluster development				73.7
Extent of marketing				61.6
Local supplier quality				57.3
University-industry collaboration in R&D				59.5
<b>Change</b>				
Access to finance	<b>21.3</b>	36.3	55.5	26.5
Access to educated workforce	<b>79.1</b>	56.9	57.6	70.6
Business licensing and permits	54.9	41.9	56.2	50.9



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	71.7
Ease of trading across borders	77.0
Applied tariff, trade-weighted average	50.4
Prevalence of technical regulations	75.6
Faced tariff, trade-weighted average	53.8
Logistics performance index	57.4
ISO 9001 quality certificates	57.4
ISO 14001 environmental certificates	55.8
Governance index	52.8
<b>Connect</b>	
ICT access	65.0
ICT use	45.2
Government's online service	66.9
<b>Change</b>	
Ease of getting credit	<b>0.0</b>
Interest rate spread	<b>84.9</b>
School life expectancy	50.6
Ease of starting a business	53.9
Patent applications	42.4
Trademark registrations	48.6



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Jordan is an upper-middle income country in the Middle East with a population of 6.8 million and GDP of \$38.2 billion. Goods and services account for 54.1% and 45.9% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's export of goods lie in the fresh food and raw agro-based product sectors, and in the basic manufactures sector. *Flax fibre*, *urea-ammonium nitrate* (an organic compound used in fertilizers), and *chemical wood pulp* are the top products for diversification.

Existing export products also have increased export potential such as *sheep, live*. ITC estimates that this product has an unrealized export potential of over \$630 million to non-OECD countries. Other goods with potential include *mineral or chemical fertilizers* and *pharmaceutical products*.

The SME Competitiveness Grid reveals that Jordan's immediate business and national environments attain average scores in all three pillars of competitiveness. Jordanian SMEs nevertheless underperform in connectivity measures, using internationally recognized quality certificates and having bank accounts. In addition, access to finance is a constraint reported by all firms, particularly by small companies. However, the country performs well on power reliability.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Flax fibre, broken or scutched	530121	23	50	21	31	■	■	■
Urea/ammonium nitrate mx in aqueous/ammoniacal sol in pack of > 10 kg	310280	36	107	94	10	■	■	■
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/bleachd	470329	45	61	60	19	■	■	■
Durum wheat	1001Xa	56	34	46	261	■		
Ferro-chromium	720249	68	153	127	30	■	■	■
Automobiles with diesel engine displacing not more than 1500 cc	870331	70	48	62	96	■	■	■
Hydraulic cements	252390	79	55	65	458	■	■	■
Ammonium nitrate mixd w cal carb o non-frt subts in pack weighg >10 kg	310240	90	112	80	92	■	■	■
Bars & rods, hot-rolled, in irregularly wound coils of iron or non-alloy steel	721310	93	68	125	49	■	■	■
Flax fibre, otherwise processed but not spun	530129	100	67	83	254	■	■	■

## Unrealized potential: Existing export products

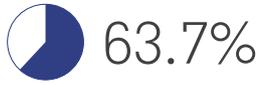
Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Sheep, live	010410	113.9	■	■	■	■			■
Mineral/chemical fertilizers,potassic,in pack weighg >10 kg	310490	362.1	■	■	■	■	■	■	■
Pharmaceutical products	30XXXX	626.7		■	■	■	■	■	■
Tomatoes, fresh or chilled	070200	255.6	■	■	■	■			■
Mineral or chem fertilizers nitrogenous,in pack weighing...	310290	186.9	■	■	■	■	■	■	■
Peaches, including nectarines, fresh	080930	66.5	■	■	■	■			■
Articles of jewellery and parts thereof, other than silver	711319	96.7		■	■	■	■	■	■
Insulated (including enamelled or anodised) winding wire of...	854411	81.2		■	■	■	■	■	■
Co-axial cable and other co-axial electric conductors	854420	73.4		■	■	■	■	■	■
Cucumbers and gherkins, fresh or chilled	070700	67.6	■	■	■	■			■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

1.61

**Exports subject to regulation**

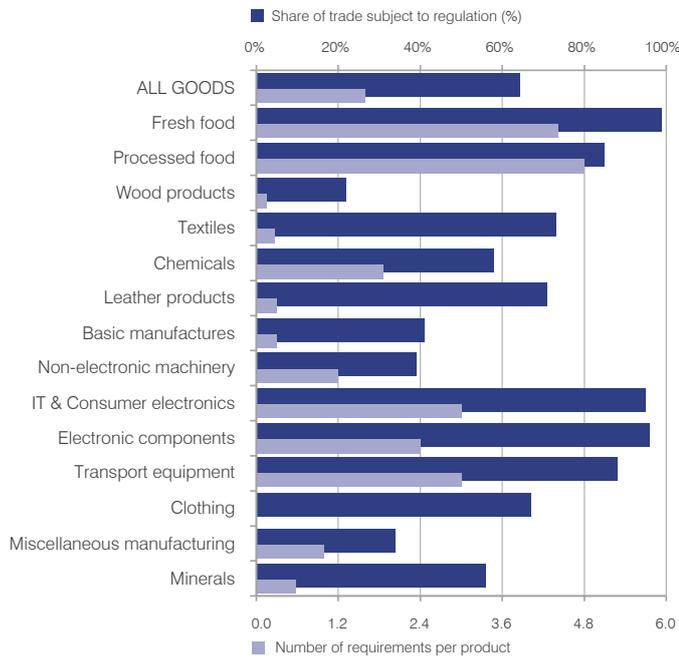


**Requirements per exported product**

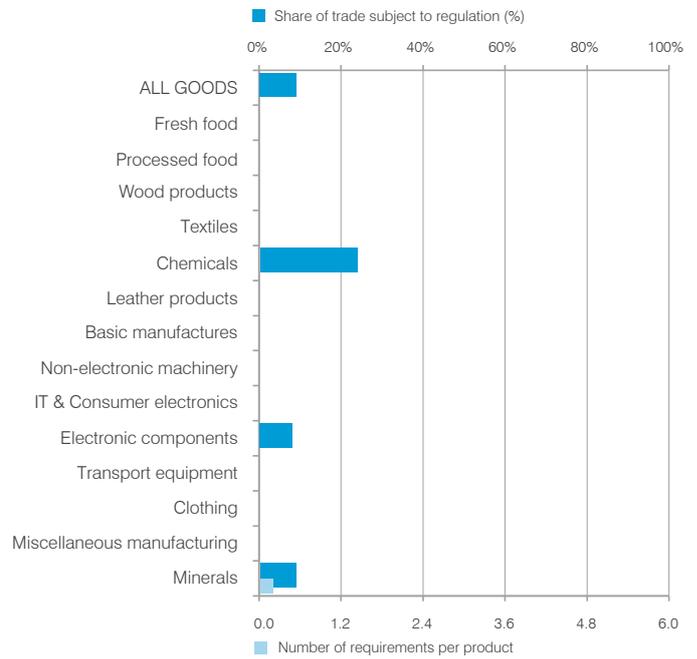
0.02

## Regulatory environment by sector

### Import regulations

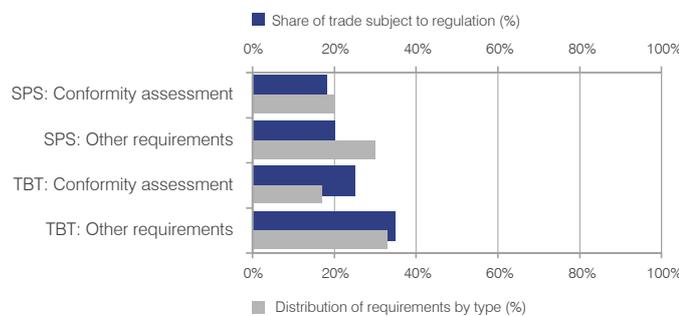


### Export regulations

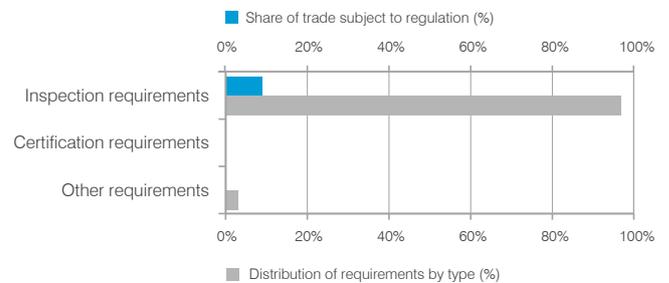


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 159 technical regulations; excluding 4 regulations covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2014. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# Kazakhstan

## Key indicators

Population (million)	17.7
GDP (\$ billion)	195.0
GDP per capita (\$)	11,028
Share of world GDP (PPP\$, %)	0.4
Current account surplus/deficit, share of GDP (%)	-3.0
Tariff preference margin (percentage points)	0.9
Imports and exports (goods and services), share of GDP (%)	64.8
Services exports, share of total exports (%)	7.6
Geographic region	Eastern Europe and Central Asia
Development group	LLDC
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	36.5	40.3	<b>22.6</b>
	Medium	45.2	50.8	32.4
	Large	61.3	74.4	47.9
	All	41.8	46.0	30.0
IMMEDIATE BUSINESS ENVIRONMENT		53.0	49.5	68.8
NATIONAL ENVIRONMENT		50.5	79.8	62.6

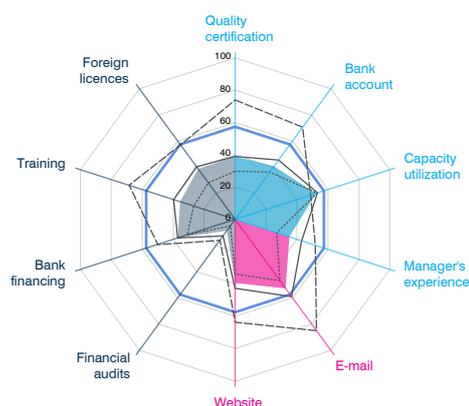
Reference level: 57.4 (a function of GDP per capita \$)

**Strengths are scores above: 86.1**      **Weaknesses are scores below: 28.7**

## SME Competitiveness Grid

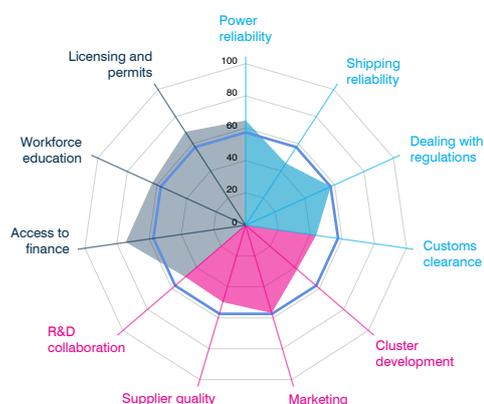
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	29.9	39.0	74.0	39.0
Bank account	36.1	45.5	70.7	40.7
Capacity utilization	53.0	53.2	48.7	52.3
Manager's experience	<b>26.9</b>	43.0	51.8	35.0
Connect	Small	Medium	Large	All
E-mail	46.8	59.1	85.1	52.8
Firm website	33.7	42.6	63.8	39.3
Change	Small	Medium	Large	All
Audited financial statement	<b>4.9</b>	<b>12.6</b>	<b>15.9</b>	<b>8.6</b>
Investment financed by banks	30.9	37.1	50.0	37.1
Formal training programme	<b>26.7</b>	39.7	68.4	35.5
Foreign technology licences	<b>28.0</b>	40.3	57.2	38.7



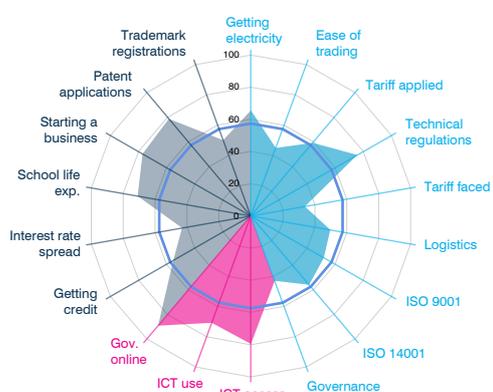
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	64.8	64.8	61.7	64.8
Domestic shipping reliability	50.0	41.9	52.7	45.5
Dealing with regulations	60.6	53.4	55.2	57.6
Customs clearance efficiency	<b>27.3</b>	50.0	52.9	43.8
Connect	Small	Medium	Large	All
State of cluster development				41.9
Extent of marketing				56.9
Local supplier quality				49.9
University-industry collaboration in R&D				49.2
Change	Small	Medium	Large	All
Access to finance	74.2	76.0	70.8	74.6
Access to educated workforce	67.8	60.0	50.9	63.1
Business licensing and permits	83.4	55.7	65.9	68.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	65.6
Ease of trading across borders	44.9
Applied tariff, trade-weighted average	59.3
Prevalence of technical regulations	75.8
Faced tariff, trade-weighted average	33.8
Logistics performance index	49.7
ISO 9001 quality certificates	51.9
ISO 14001 environmental certificates	55.9
Governance index	42.9
Connect	All
ICT access	79.6
ICT use	70.7
Government's online service	<b>89.0</b>
Change	All
Ease of getting credit	55.3
Interest rate spread	43.1
School life expectancy	70.9
Ease of starting a business	77.2
Patent applications	78.8
Trademark registrations	50.1



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Kazakhstan is an upper-middle income country in Central Asia with a population of 17.7 million and GDP of \$195 billion. Goods make up 92.4% of exports, and are primarily composed of oil and gas-related products, while services account for 7.6% of exports.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the chemical and the basic manufactures sector. ITC identifies *pig iron, non-alloy, potassium chloride, semi-finished products of iron or non-alloy steel, and potassium chloride* as top products for diversification.

Existing export products such as *metals* and *vegetable products* have increased export potential. For *wheat flour*, strong expansion opportunities lie in Europe and Central Asia, and non-OECD countries in general amounting to an unrealized export potential of \$930 million. The prominence of SMEs and female participation in the sector add a development dimension.

The SME Competitiveness Grid reveals that Kazakhstan's immediate business and national environments attain average scores in all three pillars of competitiveness. Nevertheless, the country underperforms on the ease of trading across borders. Few Kazakh firms have audited financial statements, and bank loans fund a relatively small proportion of investments. However, the country scores well on government online services.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Europe & Central Asia	non-OECD	OECD	Price stability	SME presence	Women employed
Pig iron, non-alloy, containing by weight ≤ 0.5% phosphorus in primary form	720110	1	1	1	1	■	■	■
Semi-finished products of iron or non-alloy steel, rectangular or square cross section, by weight < 25% carbon	720712	4	3	12	2	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	5	7	4	6	■	■	■
Pipe, line, or tube, longitudinally submerged arc welded, internal or external diameter > 406.4 mm	730511	7	5	6	113	■	■	■
Ferrous products obtained by direct reduction of iron ore	720310	8	11	11	4	■	■	■
Ammonium nitrate, whether or not in aqueous solution in package weight > 10 kg	310230	9	8	7	100	■	■	■
Logs, poles, coniferous	440320	11	10	9	39	■	■	■
Floor coverings consisting of a coating or covering applied on a textile backing	590490	12	12	10	407	■	■	■
Semi-chemical wood pulp	470500	15	28	15	9	■	■	■
Hot-rolled iron or steel, coil > 600 mm x < 3 mm	720839	16	14	16	67	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Europe & Central Asia	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Wheat or meslin flour	110100	569.4	■	■	■	■	■	■	■
Copper cathodes and sections of cathodes unwrought	740311	2374.0	■	■	■	■	■	■	■
Ferro-chromium containing by weight more than 4% of carbon	720241	1658.7	■	■	■	■	■	■	■
Aluminium unwrought, not alloyed	760110	407.1	■	■	■	■	■	■	■
Ferro-silico-manganese	720230	173.1	■	■	■	■	■	■	■
Wheat and meslin, except durum	1001Xb	1010.7	■	■	■	■	■	■	■
Titanium and articles thereof, including waste and scrap	8108XX	158.3	■	■	■	■	■	■	■
Zinc not alloyed unwrought containing by weight 99.99% or more	790111	583.1	■	■	■	■	■	■	■
Linseed, whether or not broken	120400	101.2	■	■	■	■	■	■	■
Cotton, not carded or combed	520100	79.6	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

1.59

**Exports subject to regulation**

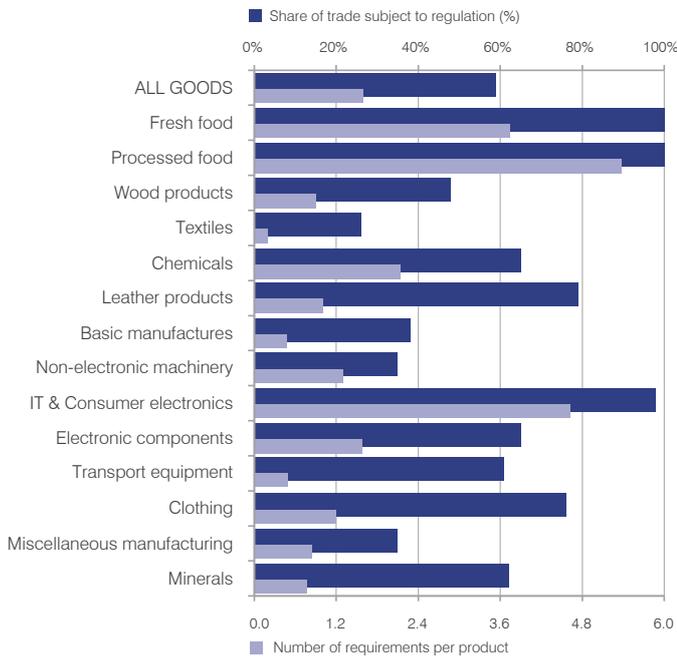


**Requirements per exported product**

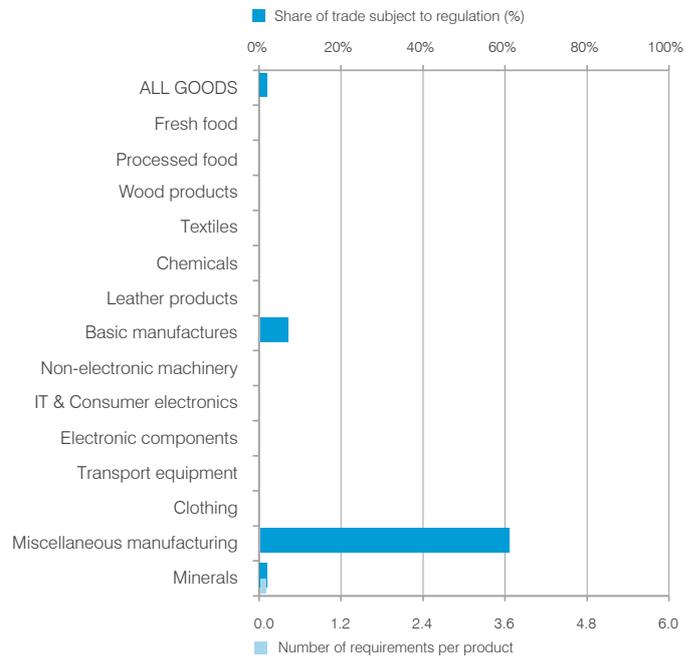
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## Regulatory environment by sector

### Import regulations

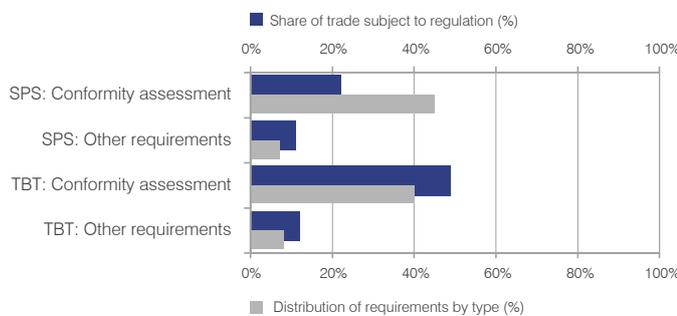


### Export regulations

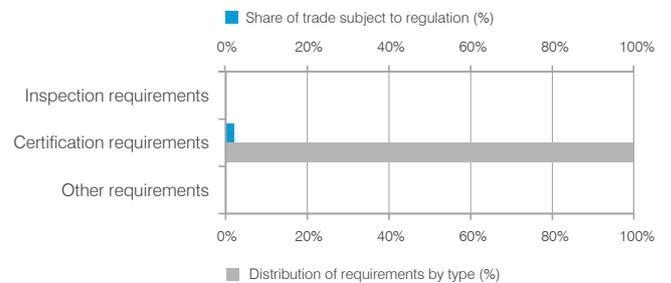


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 52 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  83% of reported problems

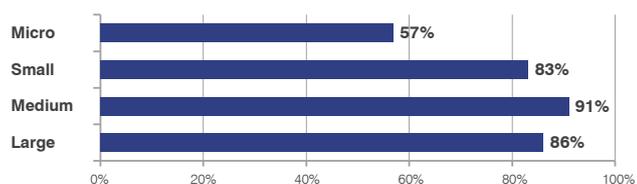
**Main procedural obstacle:** Lack of sector-specific facilities

### Exporting firms

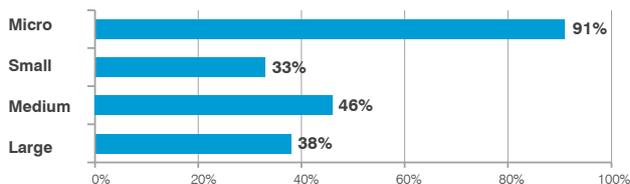
**Technical regulations:**  33% of reported problems

## Share of problems by company size

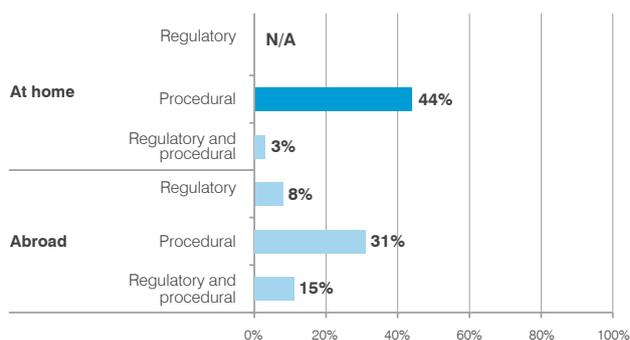
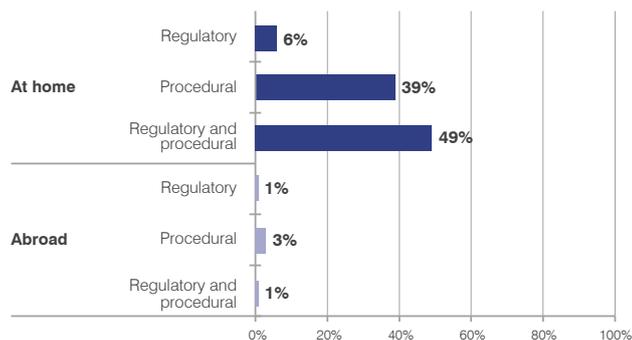
### Importing firms



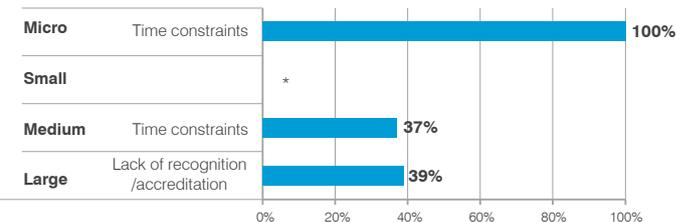
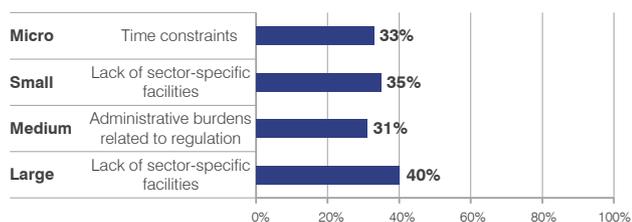
### Exporting firms



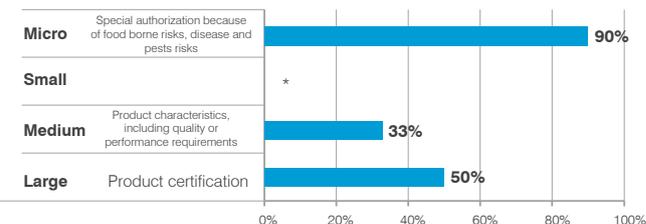
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/kazakhstan>. Survey field work ended in 2012, with 387 companies in phone interviews. Of those, 131 companies (34%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 64 also gave face-to-face interviews.

# Kenya

## Key indicators

Population (million)	44.1
GDP (\$ billion)	63.1
GDP per capita (\$)	1,432
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-9.6
Tariff preference margin (percentage points)	8.9
Imports and exports (goods and services), share of GDP (%)	55.8
Services exports, share of total exports (%)	44.0
Geographic region	Africa
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	40.0	25.6	54.1
	Medium	47.9	55.1	<b>67.1</b>
	Large	59.6	<b>64.0</b>	<b>77.2</b>
	All	45.7	36.9	<b>62.5</b>
IMMEDIATE BUSINESS ENVIRONMENT		34.1	<b>64.1</b>	44.4
NATIONAL ENVIRONMENT		43.2	41.1	39.0

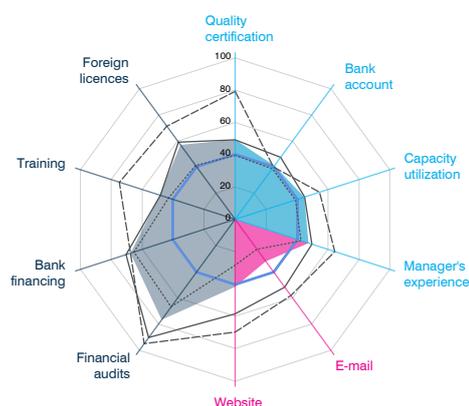
Reference level: 40.3 (a function of GDP per capita \$)

**Strengths are scores above: 60.5**      **Weaknesses are scores below: 20.2**

## SME Competitiveness Grid

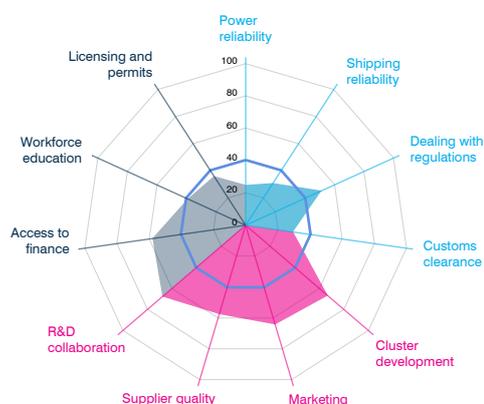
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	39.7	49.3	<b>79.3</b>	49.4
Bank account	38.9	47.6	40.1	41.2
Capacity utilization	39.0	45.0	54.4	44.7
Manager's experience	42.6	49.6	<b>64.4</b>	47.4
<b>Connect</b>				
E-mail	22.9	51.8	58.3	32.1
Firm website	28.3	58.4	<b>69.7</b>	41.7
<b>Change</b>				
Audited financial statement	<b>66.8</b>	<b>90.4</b>	<b>95.0</b>	<b>76.8</b>
Investment financed by banks	<b>65.3</b>	<b>70.4</b>	<b>67.4</b>	<b>67.6</b>
Formal training programme	43.0	48.3	<b>74.8</b>	48.7
Foreign technology licences	41.4	59.2	<b>71.4</b>	57.1



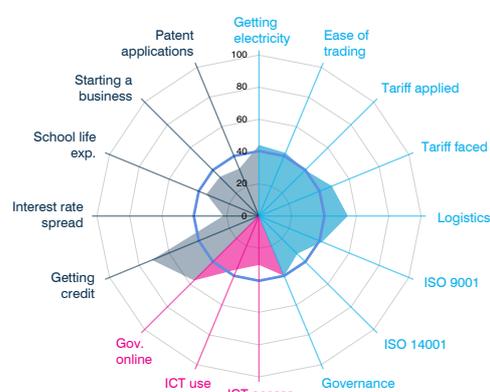
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	26.0	24.8	20.7	24.8
Domestic shipping reliability	24.0	45.5	31.9	30.9
Dealing with regulations	53.0	49.1	48.8	51.3
Customs clearance efficiency	<b>8.7</b>	30.5	32.4	29.4
<b>Connect</b>				
State of cluster development				<b>66.8</b>
Extent of marketing				<b>64.3</b>
Local supplier quality				57.6
University-industry collaboration in R&D				<b>67.8</b>
<b>Change</b>				
Access to finance	<b>61.7</b>	54.1	50.4	58.0
Access to educated workforce	35.1	50.1	36.0	39.2
Business licensing and permits	36.1	37.9	31.8	36.1



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	44.0
Ease of trading across borders	42.4
Applied tariff, trade-weighted average	40.3
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	48.5
Logistics performance index	54.7
ISO 9001 quality certificates	42.2
ISO 14001 environmental certificates	33.3
Governance index	40.4
<b>Connect</b>	
ICT access	30.5
ICT use	36.1
Government's online service	56.7
<b>Change</b>	
Ease of getting credit	<b>71.6</b>
Interest rate spread	22.1
School life expectancy	35.1
Ease of starting a business	34.3
Patent applications	31.9
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Kenya is a lower-middle income country in eastern Africa with a population of 44.1 million and GDP of \$63.1 billion. Goods and services account for 56% and 44% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Kenya's exports lie in the processed food and agro-based product sectors, and the basic manufactures sector. ITC identifies *coconut oil*, *mineral or chemical fertilizers*, and *binder or baler twine* as top products for diversification. The large number of women working in the production of all these products adds a development dimension.

Existing export products also have increased export potential such as *black tea*, both to OECD and non-OECD countries outside the region. The price stability of the product adds a development dimension.

The SME Competitiveness Grid reveals that medium-sized firms do well on the capacity to change pillar, and large firms perform well across the three pillars of competitiveness. Small firms tend to underperform in the connectivity pillar. Many Kenyan SMEs have audited financial statements and investments financed by banks. Kenya's immediate business environment attains good scores in the capacity to connect, but falls short in customs clearance.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Coconut (copra) oil&its fractions refined but not chemically modified	151319	7	4	5	13	■	■	■
Flat rolled prod./i/nas.pltd or ctd w zinc,corrugated,>/=600m wide	721041	8	3	6	650	■	■	■
Mineral/chemical fertilizers,phosphatic,in packages weighg > 10 kg	310390	9	5	7	175	■	■	■
Binder o baler twine,of sisal o oth textile fibres of the genus Agave	560721	11	8	10	225	■	■	■
Fertilizers cntg nitrogen,phosphorus&potassium in packs weighg <=10kg	310520	15	11	15	102	■	■	■
Wheat or meslin flour	110100	19	23	18	297	■	■	■
Rice, broken	100640	21	22	20	164	■	■	■
Waterproof footwear,outr sole/upper of rbr/plas, covering ankle	640192	23	18	21	152	■	■	■
Copper unrefined, copper anodes for electrolytic refining	740200	25	38	45	10	■	■	■
Bars and rods, of iron or non-alloy steel	721420	26	21	23	239	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Black tea (fermented) & partly fermented tea in packages...	090240	1224.0	■	■	■	■	■	■	■
Chewing gum containing sugar, except medicinal	170410	33.6	■	■	■	■	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	554.6	■	■	■	■	■	■	■
Coffee, not roasted, not decaffeinated	090111	241.6	■	■	■	■	■	■	■
Cuttings and slips, unrooted	060210	54.0	■	■	■	■	■	■	■
Margarine, excluding liquid margarine	151710	25.8	■	■	■	■	■	■	■
Vegetables, fresh or chilled	0709Xb	41.4	■	■	■	■	■	■	■
Pineapples, o/w prep or presvd,sugared,sweetened,spirited...	200820	65.9	■	■	■	■	■	■	■
Beans, shelled or unshelled, fresh or chilled	070820	130.3	■	■	■	■	■	■	■
Nuts	0802Xc	36.6	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

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ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  43% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

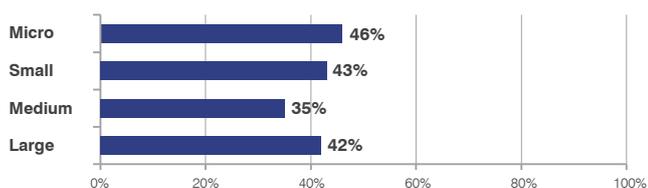
**Technical regulations:**  66% of reported problems

**Main procedural obstacle:** Time constraints

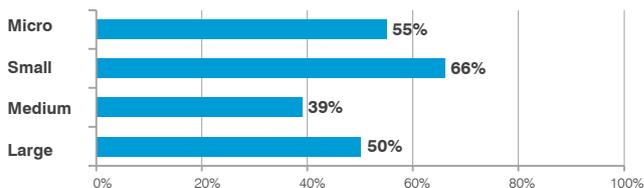
**Main regulatory obstacle:** Product certification

## Share of problems by company size

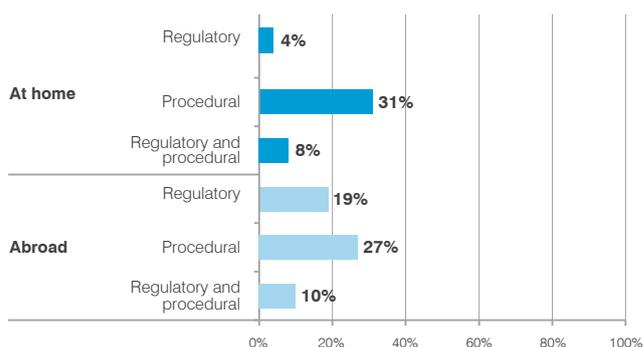
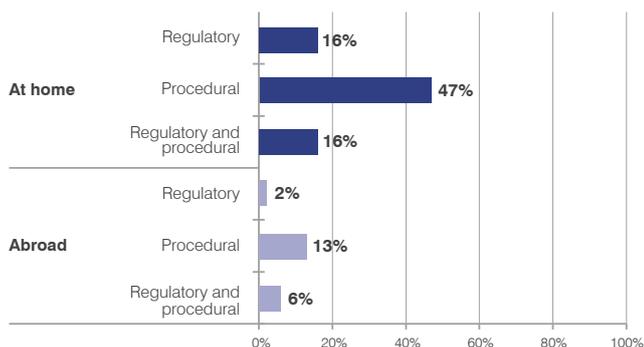
### Importing firms



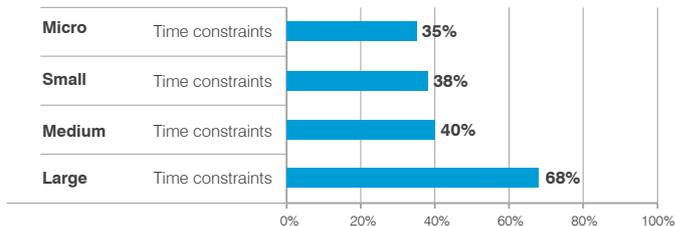
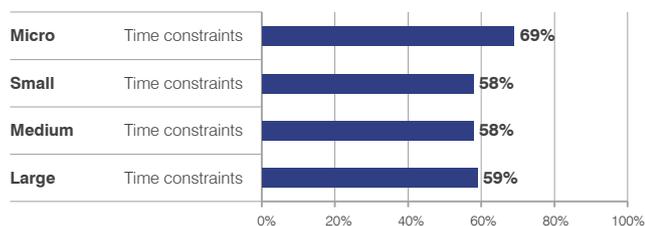
### Exporting firms



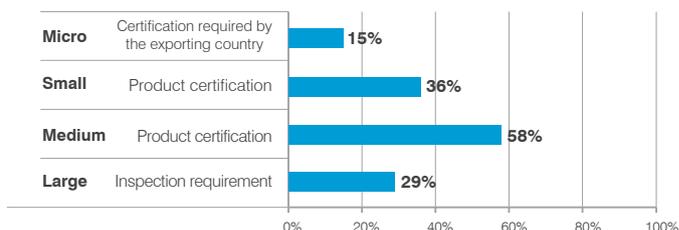
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/kenya>. Survey field work ended in 2011, with 791 companies in phone interviews. Of those, 561 companies (71%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 287 also gave face-to-face interviews.

# Lebanon

## Key indicators

Population (million)	4.6
GDP (\$ billion)	54.4
GDP per capita (\$)	11,945
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-21.0
Tariff preference margin (percentage points)	4.9
Imports and exports (goods and services), share of GDP (%)	100.0
Services exports, share of total exports (%)	80.3
Geographic region	Arab States
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	44.0	43.6	43.7
	Medium	60.7	62.9	65.7
	Large	84.4	<b>88.9</b>	66.6
	All	51.6	51.3	53.6
IMMEDIATE BUSINESS ENVIRONMENT		45.2	55.0	48.7
NATIONAL ENVIRONMENT		50.8	68.0	52.4

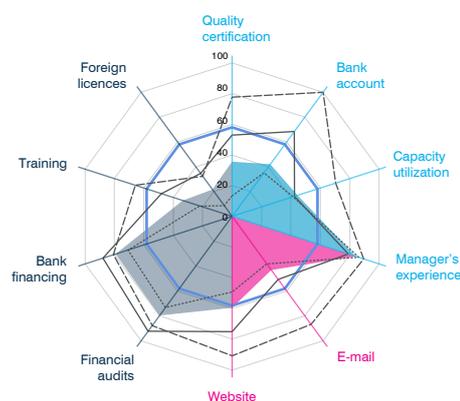
Reference level: 58.1 (a function of GDP per capita \$)

**Strengths are scores above: 87.1**      **Weaknesses are scores below: 29.0**

## SME Competitiveness Grid

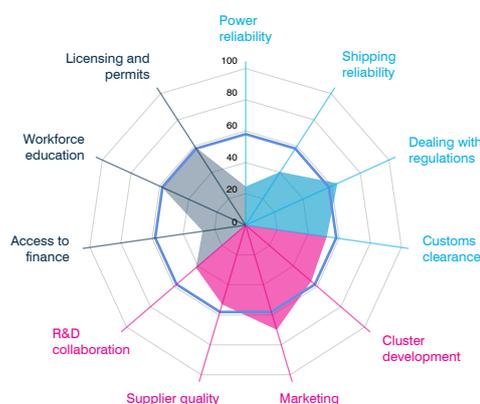
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>13.3</b>	53.0	77.9	35.7
Bank account	35.1	68.5	<b>100.0</b>	42.1
Capacity utilization	41.4	42.4	70.4	44.5
Manager's experience	86.1	79.0	<b>89.5</b>	84.1
<b>Connect</b>				
E-mail	38.1	50.7	87.0	43.1
Firm website	49.0	75.1	<b>90.8</b>	59.5
<b>Change</b>				
Audited financial statement	73.3	<b>92.4</b>	<b>87.8</b>	79.8
Investment financed by banks	70.7	<b>87.8</b>	<b>80.7</b>	79.2
Formal training programme	<b>22.0</b>	48.1	65.8	33.6
Foreign technology licences	<b>8.6</b>	34.7	32.2	<b>21.7</b>



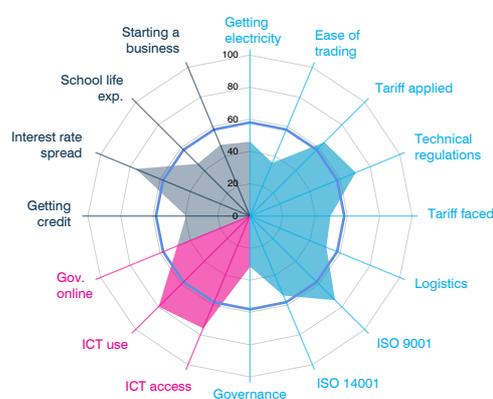
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>26.6</b>	<b>21.6</b>	<b>22.3</b>	<b>24.6</b>
Domestic shipping reliability	30.0	70.7	<b>100.0</b>	40.3
Dealing with regulations	62.0	67.9	67.3	64.0
Customs clearance efficiency	48.8	49.8	69.8	52.0
<b>Connect</b>				
State of cluster development				55.1
Extent of marketing				69.9
Local supplier quality				53.0
University-industry collaboration in R&D				41.8
<b>Change</b>				
Access to finance	<b>26.6</b>	29.5	29.8	<b>27.7</b>
Access to educated workforce	56.2	65.9	58.1	59.1
Business licensing and permits	67.1	53.3	36.5	59.4



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	46.1
Ease of trading across borders	35.7
Applied tariff, trade-weighted average	64.8
Prevalence of technical regulations	70.5
Faced tariff, trade-weighted average	49.6
Logistics performance index	50.9
ISO 9001 quality certificates	74.1
ISO 14001 environmental certificates	53.6
Governance index	31.6
<b>Connect</b>	
ICT access	75.6
ICT use	79.8
Government's online service	48.6
<b>Change</b>	
Ease of getting credit	39.6
Interest rate spread	76.3
School life expectancy	45.8
Ease of starting a business	47.8
Patent applications	-
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Lebanon is an upper-middle income country in the Middle East with a population of 4.6 million and GDP of \$54.4 billion. Goods and services account for 19.7% and 80.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in the transport equipment the basic manufactures sector. ITC identifies *chemical wood pulp, bars and rods of steel or iron, and ferro-chromium* as top products for diversification.

Existing export products also have increased export potential, for example *articles of jewellery*. ITC estimates that this product has an unrealized export potential of \$120 million to non-OECD countries. Other products with potential include *goats (live), refrigerators* and *diesel engines*.

The SME Competitiveness Grid reveals that large firms do well on the capacity to compete and connect pillars, while SMEs only attain average scores. In particular, many Lebanese SMEs do not hold internationally recognized quality certifications or foreign technology licences nor offer formal training programmes to their employees. Large firms, however, score well on connectivity measures. Lebanon's immediate business environment is on par with expectations, but underperforms in terms of power reliability. Small firms find it particularly difficult to access finance.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/bleachd	470329	34	43	61	12	■	■	■
Bars & rods, hot-rolled, in irregularly wound coils of iron or non-alloy steel	721310	37	162	33	65	■	■	■
Ferro-chromium,	720249	73	138	160	29	■	■	■
Quicklime	252210	75	324	62	393	■	■	■
Fire fighting vehicles	870530	80	80	66	328	■	■	■
Urea/ammonium nitrate mx in aqueous/ammoniacal sol in pack of > 10 kg	310280	85		555	31	■	■	■
Wire of iron or non-alloy steel, zinc plated/coated	721720	93	79	81	182	■	■	■
Carpets of man-made textile mat,of woven pile construct	570232	96	58	91	115	■	■	■
Corks, crown, of base metal	830910	105	289	87	541	■	■	■
Balls,grindg&similar articles of i or s,forged or stamped,not f/worked	732611	106	509	89	616	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Articles of jewellery and parts thereof, other than silver	711319	195.9	■	■	■	■	■	■	■
Goats, live	010420	4.2	■	■	■	■	■	■	■
Refrigerators, household type	841829	37.5	■	■	■	■	■	■	■
Generatg sets,diesel/semi-diesel engines	850211	56.0	■	■	■	■	■	■	■
Potatoes, fresh or chilled	070190	36.8	■	■	■	■	■	■	■
Books, brochures, leaflets and similar printed matter	490199	89.8	■	■	■	■	■	■	■
Apples, fresh	080810	27.3	■	■	■	■	■	■	■
Non-alcoholic beverages,excludg fruit/veg juices	220290	35.1	■	■	■	■	■	■	■
Generatg sets,diesel/semi-diesel exceedg 75 KVA	850212	34.9	■	■	■	■	■	■	■
Concrete or mortar mixers	847431	12.0	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

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# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

2.08

**Exports subject to regulation**

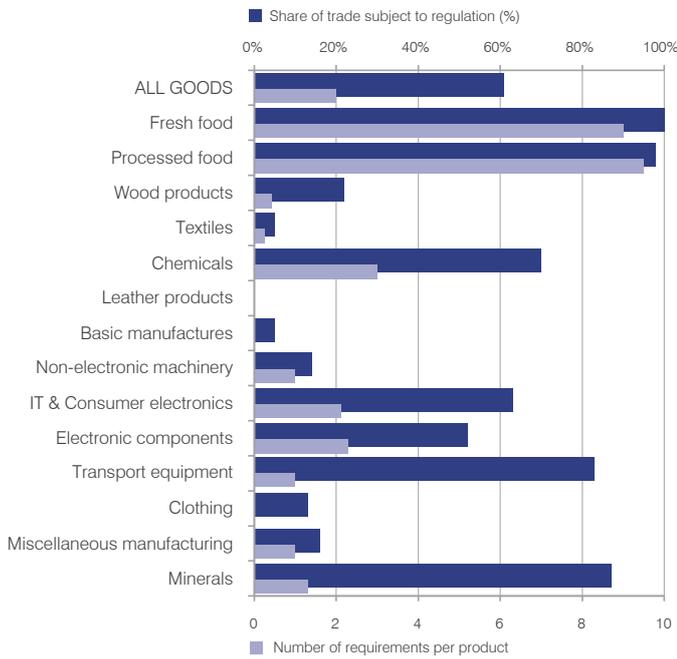


**Requirements per exported product**

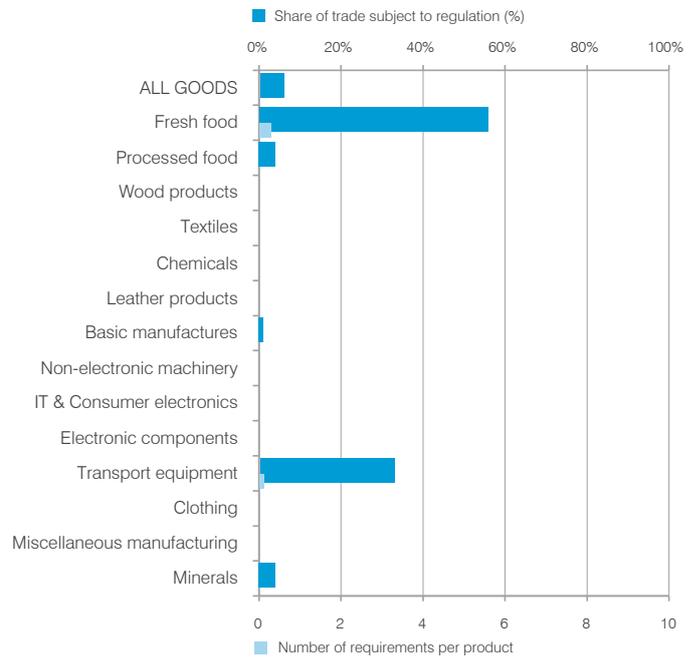
0.05

## Regulatory environment by sector

### Import regulations

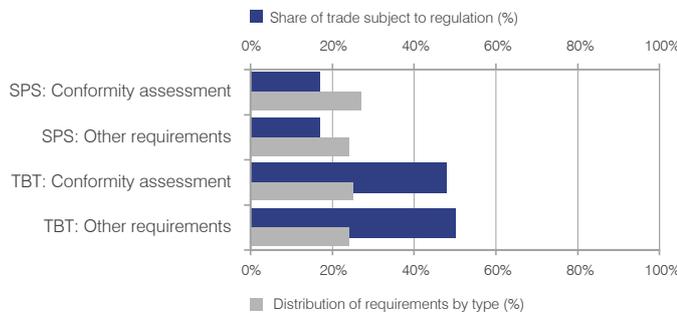


### Export regulations

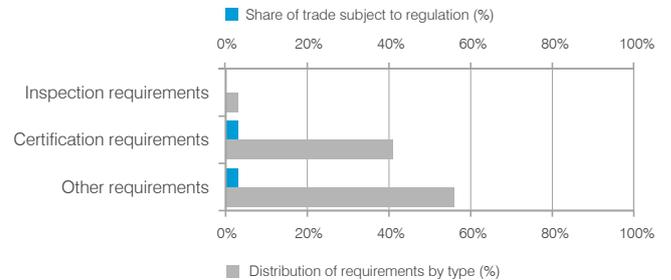


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 92 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2014. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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# Madagascar

## Key indicators

Population (million)	24.2
GDP (\$ billion)	9.5
GDP per capita (\$)	393
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-1.3
Tariff preference margin (percentage points)	7.5
Imports and exports (goods and services), share of GDP (%)	65.3
Services exports, share of total exports (%)	43.7
Geographic region	Africa
Development group	LDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	26.1	<b>12.8</b>	15.5
	Medium	34.7	42.2	<b>44.2</b>
	Large	<b>59.8</b>	<b>68.0</b>	<b>49.1</b>
	All	33.4	24.7	31.3
IMMEDIATE BUSINESS ENVIRONMENT		32.3	42.6	<b>66.4</b>
NATIONAL ENVIRONMENT		37.1	<b>14.2</b>	25.5

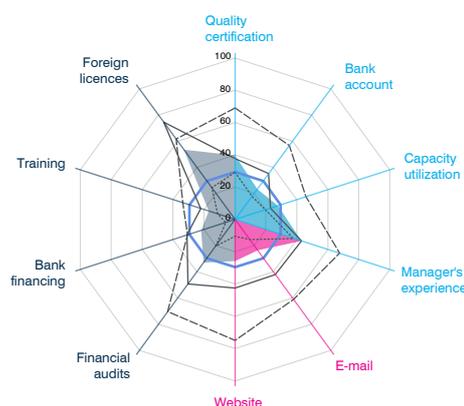
Reference level: 29.5 (a function of GDP per capita \$)

**Strengths are scores above: 44.2**      **Weaknesses are scores below: 14.7**

## SME Competitiveness Grid

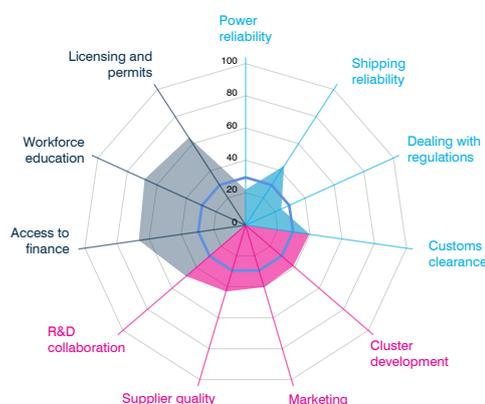
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	29.2	37.7	<b>69.1</b>	39.7
Bank account	17.7	35.3	<b>56.7</b>	23.3
Capacity utilization	19.7	23.0	<b>45.8</b>	27.7
Manager's experience	37.7	43.0	<b>67.6</b>	43.0
<b>Connect</b>				
E-mail	15.2	42.1	<b>61.1</b>	23.6
Firm website	<b>10.4</b>	42.4	<b>74.8</b>	25.8
<b>Change</b>				
Audited financial statement	20.3	<b>49.4</b>	<b>70.4</b>	33.0
Investment financed by banks	<b>6.1</b>	30.9	30.6	21.8
Formal training programme	<b>11.2</b>	22.0	33.7	17.0
Foreign technology licences	24.3	<b>74.6</b>	<b>61.6</b>	<b>53.5</b>



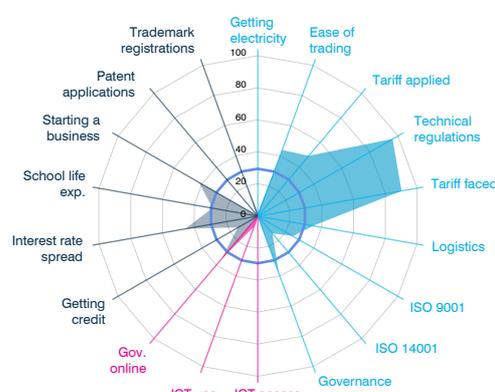
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	19.5	24.3	30.1	21.8
Domestic shipping reliability	<b>45.5</b>	<b>45.5</b>	38.9	43.6
Dealing with regulations	23.7	21.3	35.7	24.0
Customs clearance efficiency	38.6	37.4	39.5	39.6
<b>Connect</b>				
State of cluster development				38.8
Extent of marketing				40.2
Local supplier quality				43.0
University-industry collaboration in R&D				<b>48.5</b>
<b>Change</b>				
Access to finance	<b>76.5</b>	<b>50.7</b>	<b>66.8</b>	<b>66.4</b>
Access to educated workforce	<b>77.7</b>	<b>49.9</b>	<b>75.4</b>	<b>68.4</b>
Business licensing and permits	<b>72.7</b>	<b>54.6</b>	<b>55.7</b>	<b>64.4</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>2.5</b>
Ease of trading across borders	44.0
Applied tariff, trade-weighted average	<b>48.9</b>
Prevalence of technical regulations	<b>96.2</b>
Faced tariff, trade-weighted average	<b>90.3</b>
Logistics performance index	35.0
ISO 9001 quality certificates	25.1
ISO 14001 environmental certificates	<b>13.9</b>
Governance index	37.4
<b>Connect</b>	
ICT access	<b>0.0</b>
ICT use	<b>7.4</b>
Government's online service	35.1
<b>Change</b>	
Ease of getting credit	<b>14.5</b>
Interest rate spread	<b>45.7</b>
School life expectancy	28.5
Ease of starting a business	42.4
Patent applications	<b>0.0</b>
Trademark registrations	21.9



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Madagascar is a low income country with a population of 24.2 million and GDP of \$9.5 billion. Goods and services account for 56.3% and 43.7% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Madagascar's exports lie in the basic manufactures sector, in textiles and in processed food and agro-based products. ITC identifies *ferro-chromium*, *manioc starch*, and *yarn of jute* as top products for diversification.

Existing export products also have increased export potential. *Vanilla*, for instance, has an unrealized export potential of \$170 million to OECD countries according to ITC estimates. Other goods with potential include *nickel*, *unwrought*, *not alloyed*, and *frozen shrimps and prawns*.

The SME Competitiveness Grid reveals that Madagascar's immediate business environment scores well on the capacity to change, but the national environment falls short on connectivity. Accordingly, few small firms have a company website, limiting their ability to connect to suppliers and customers. Large firms nevertheless attain high scores on the availability of a company website, audited financial statements and use of internationally recognized quality certificates.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Ferro-chromium containing by weight more than 4% of carbon	720241	2	2	2	14	■	■	■
Manioc (cassava) starch	110814	9	7	6	15	■	■	■
Yarn of jute or of other textile bast fibres, single	530710	11	51	25	6	■	■	■
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	12	6	7	158	■	■	■
Womens/girls swimwear, of synthetic fibres, knitted	611241	14	25	30	9	■	■	■
Pineapples, o/w prep or presvd,sugared,sweetened,spirited or not	200820	15	21	19	11	■	■	■
Cotton yarn, >/=85%,single,combed, 714.29 >dtex>/=232.56, not put up	520522	16	8	10	100	■	■	■
Ground-nut oil, crude	150810	17	283	108	10	■	■	■
Lumber, Meranti (red, bakau) sawn lengthwise >6mm	440725	18	12	13	48	■	■	■
Floor coverings of coconut fibres (coir)	570220	19	11	15	30	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Vanilla	0905	76.0	0	0	170	■	■	■	■
Nickel unwrought, not alloyed	750210	190.7	0	190	0	■	■	■	■
Frozen shrimps and prawns	0306Xb	85.7	0	0	85	■	■	■	■
Cloves	0907	148.8	0	0	148	■	■	■	■
Jerseys, pullovers, cardigans, etc, knitted or crocheted, of wool...	6110XX	102.3	0	0	102	■	■	■	■
Tunas,skipjack&All bonito,prepard/preservd,whole/in pieces	160414	46.2	0	0	46	■	■	■	■
Essential oils,	330129	32.2	0	0	32	■	■	■	■
Coffee, not roasted, not decaffeinated	090111	12.7	0	0	12	■	■	■	■
Cocoa beans, whole or broken, raw or roasted	180100	19.6	0	0	19	■	■	■	■
Raw cane sugar	1701XX	19.8	0	0	19	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

0.25

**Exports subject to regulation**

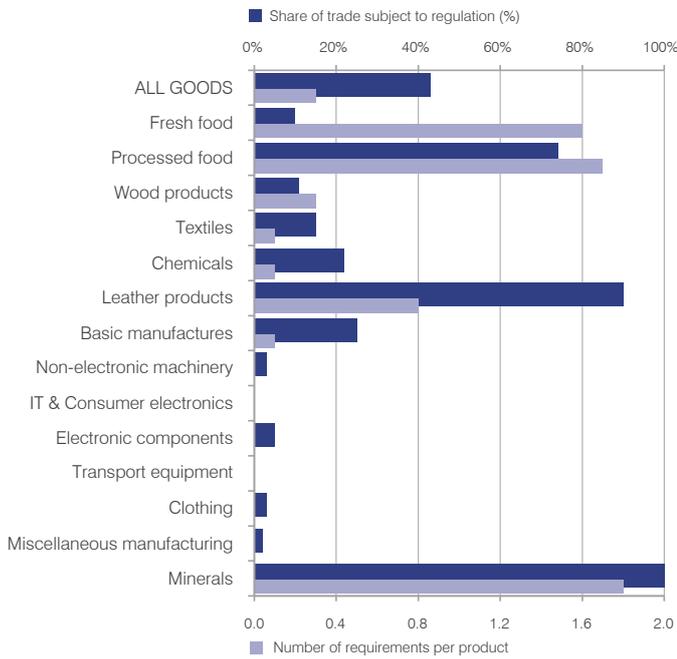


**Requirements per exported product**

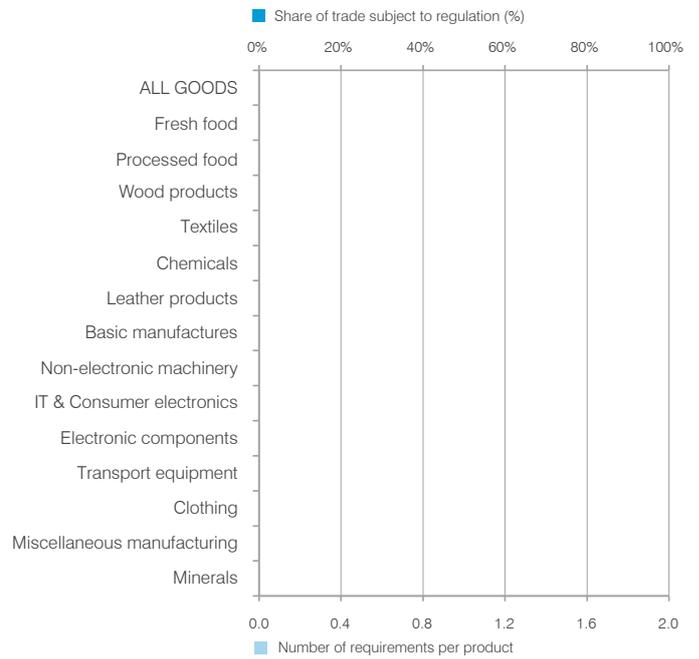
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## Regulatory environment by sector

### Import regulations

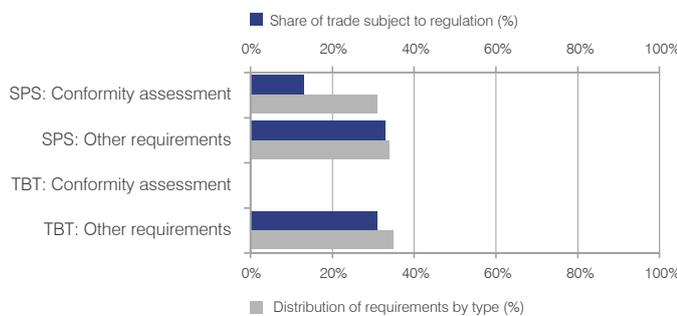


### Export regulations

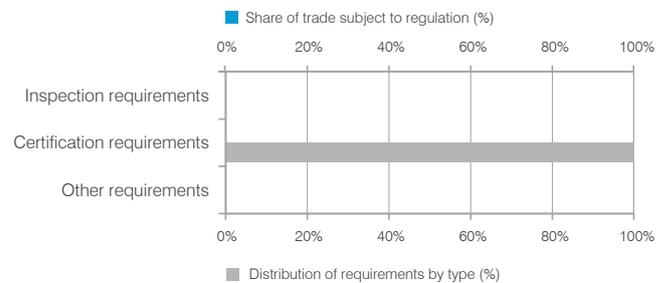


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 48 technical regulations.  
**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms



### Exporting firms

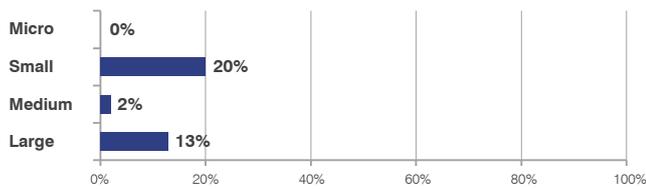


**Main procedural obstacle:** Administrative burdens

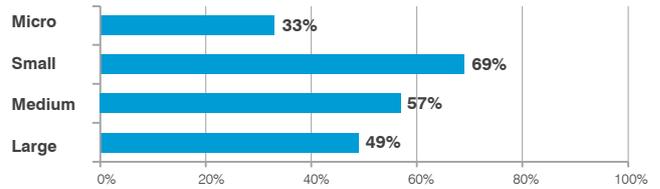
**Main regulatory obstacle:** Export inspection

## Share of problems by company size

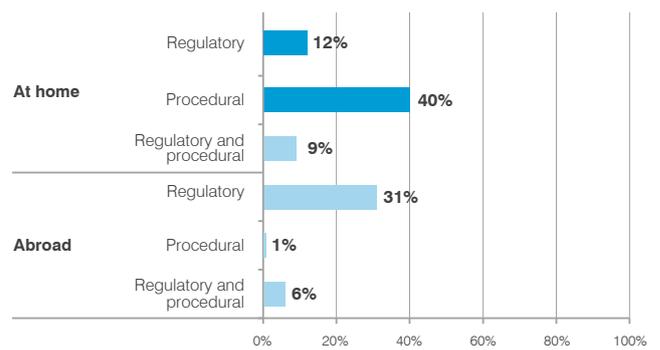
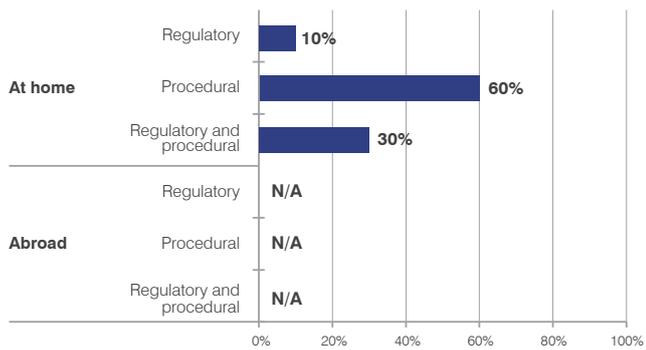
### Importing firms



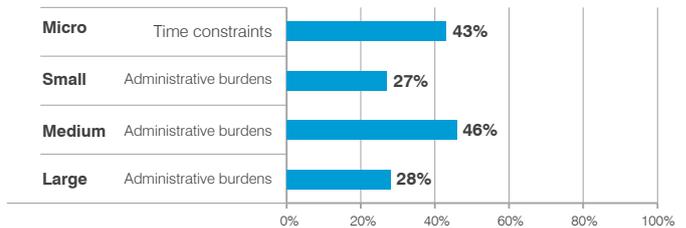
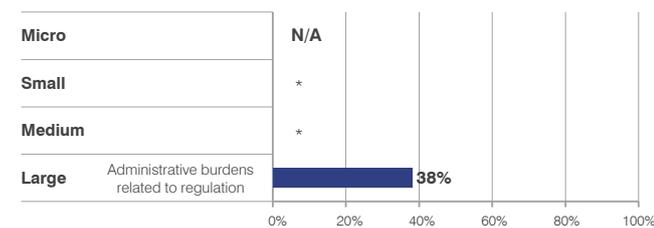
### Exporting firms



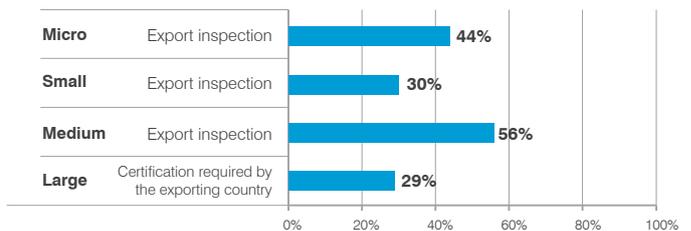
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/mauritius>. Survey field work ended in 2011, with 393 companies in phone interviews. Of those, 182 companies (46%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 130 also gave face-to-face interviews.

# Malawi

## Key indicators

Population (million)	18.1
GDP (\$ billion)	6.4
GDP per capita (\$)	353
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-2.6
Tariff preference margin (percentage points)	9.9
Imports and exports (goods and services), share of GDP (%)	75.5
Services exports, share of total exports (%)	7.0
Geographic region	Africa
Development group	LDC, LLDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.6	27.3	39.8
	Medium	39.5	<b>58.3</b>	<b>55.2</b>
	Large	<b>50.0</b>	<b>75.3</b>	<b>60.3</b>
	All	36.9	40.0	<b>48.7</b>
IMMEDIATE BUSINESS ENVIRONMENT		34.2	40.6	<b>49.7</b>
NATIONAL ENVIRONMENT		39.2	<b>13.0</b>	33.1

Reference level: 28.6 (a function of GDP per capita \$)

**Strengths are scores above: 42.9**      **Weaknesses are scores below: 14.3**

## SME Competitiveness Grid

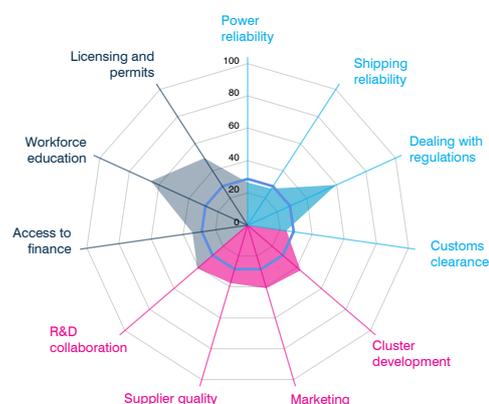
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	18.3	<b>56.9</b>	<b>77.2</b>	<b>44.9</b>
Bank account	22.0	29.6	<b>43.1</b>	26.2
Capacity utilization	<b>46.7</b>	30.3	26.9	34.5
Manager's experience	39.2	41.1	<b>52.9</b>	42.2
<b>Connect</b>				
E-mail	29.4	<b>59.3</b>	<b>79.6</b>	39.6
Firm website	25.2	<b>57.3</b>	<b>71.0</b>	40.3
<b>Change</b>				
Audited financial statement	27.6	<b>57.6</b>	<b>46.9</b>	38.0
Investment financed by banks	41.2	<b>60.6</b>	<b>52.7</b>	<b>49.6</b>
Formal training programme	31.1	<b>46.5</b>	<b>61.3</b>	40.6
Foreign technology licences	<b>59.6</b>	<b>56.1</b>	<b>80.4</b>	<b>66.8</b>



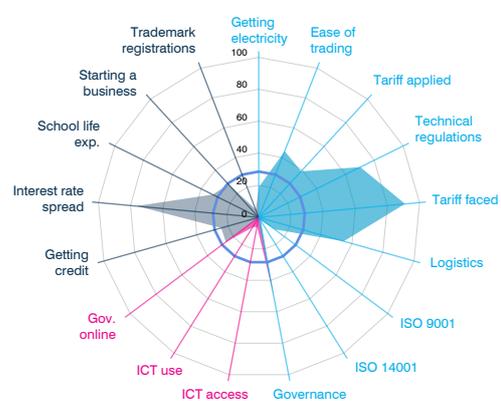
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	27.9	20.7	33.6	26.3
Domestic shipping reliability	36.3	31.9	<b>8.6</b>	26.8
Dealing with regulations	<b>64.6</b>	<b>52.7</b>	<b>56.4</b>	<b>59.7</b>
Customs clearance efficiency	-	<b>5.4</b>	32.6	24.1
<b>Connect</b>				
State of cluster development				<b>43.0</b>
Extent of marketing				40.9
Local supplier quality				37.5
University-industry collaboration in R&D				41.0
<b>Change</b>				
Access to finance	29.1	36.0	<b>54.4</b>	34.3
Access to educated workforce	<b>64.7</b>	<b>63.3</b>	<b>72.0</b>	<b>65.5</b>
Business licensing and permits	<b>45.6</b>	<b>54.4</b>	<b>56.8</b>	<b>49.3</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	19.0
Ease of trading across borders	<b>44.3</b>
Applied tariff, trade-weighted average	38.9
Prevalence of technical regulations	<b>70.3</b>
Faced tariff, trade-weighted average	<b>91.0</b>
Logistics performance index	<b>54.8</b>
ISO 9001 quality certificates	<b>12.6</b>
ISO 14001 environmental certificates	<b>2.4</b>
Governance index	<b>50.8</b>
<b>Connect</b>	
ICT access	<b>6.0</b>
ICT use	<b>7.4</b>
Government's online service	25.7
<b>Change</b>	
Ease of getting credit	24.3
Interest rate spread	<b>76.1</b>
School life expectancy	31.9
Ease of starting a business	27.9
Patent applications	-
Trademark registrations	<b>5.2</b>



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Malawi is a small, low income economy in south-east Africa with a population of 18.1 million and GDP of \$6.4 billion. Goods and services account for 93% and 7% of exports, respectively.

ITC's export diversification for goods analysis finds that diversification opportunities for Malawi's exports lie in the fresh and processed food and the raw and processed agro-based products sectors. ITC has identified *soya-bean oil crude*, *cashew nuts* and *bovine cuts* as top products for diversification. Price stability, prevalence of SMEs and female participation in the production of these products add a development dimension.

Existing export products also have increased export potential. ITC estimates that *ground-nuts, not roasted* have an unrealized export potential of over \$31 million to non-OECD countries and \$26 million to OECD countries. Other products with potential include *black tea* and *raw sugar cane*.

The SME Competitiveness Grid reveals that SMEs perform well across the three pillars of competitiveness. In particular, the capacity utilization of small firms is good. However, the prevalence of internationally recognized quality certificates is low. Malawi's immediate business environment attains good scores across the three pillars of competitiveness, especially in accessing an educated workforce. The national environment is weak in the connectivity pillar.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Soya-bean oil crude, whether or not degummed	150710	1	1	1	21	■	■	■
Cashew nuts, without shell, fresh or dried	080132	2	2	2	1	■		
Bovine cuts boneless, frozen	020230	5	5	5	12	■	■	■
Sunflower-seed or safflower oil, crude	151211	8	7	7	62	■	■	■
Ferro-chromium containing by weight more than 4% of carbon	720241	9	8	8	76	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	11	11	12	4	■		
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	12	10	10	99	■	■	■
Mineral/chemical fertilizers, phosphatic, in packages weighing > 10 kg	310390	15	12	13	200	■	■	■
Bovine cuts bone in, frozen	020220	16	13	14	138	■	■	■
Soya-bean oil and its fractions, refined but not chemically modified	150790	17	14	15	315	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Ground-nuts, not roasted	1202	34.4	■	■	■	■			■
Black tea (fermented) & partly fermented tea in packages...	090240	78.6	■	■	■	■			■
Raw cane sugar	1701XX	88.2	■	■	■	■	■	■	■
Cotton seed oil-cake&both solid residues,whether or not ground or pellet	230610	3.2	■	■	■	■	■	■	■
Nuts	0802Xc	15.9	■	■	■	■			■
Coffee, not roasted, not decaffeinated	090111	4.3	■	■	■	■			■
Soya beans, whether or not broken	1201	6.5	■	■	■	■			■
Natural rubber in other forms	400129	8.0	■	■	■	■			■
Dried pigeon peas and other leguminous vegetables, shelled	0713Xb	17.6	■	■	■	■			■
Cotton, not carded or combed	520100	36.2	■	■	■	■			■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

**Imports subject to regulation**

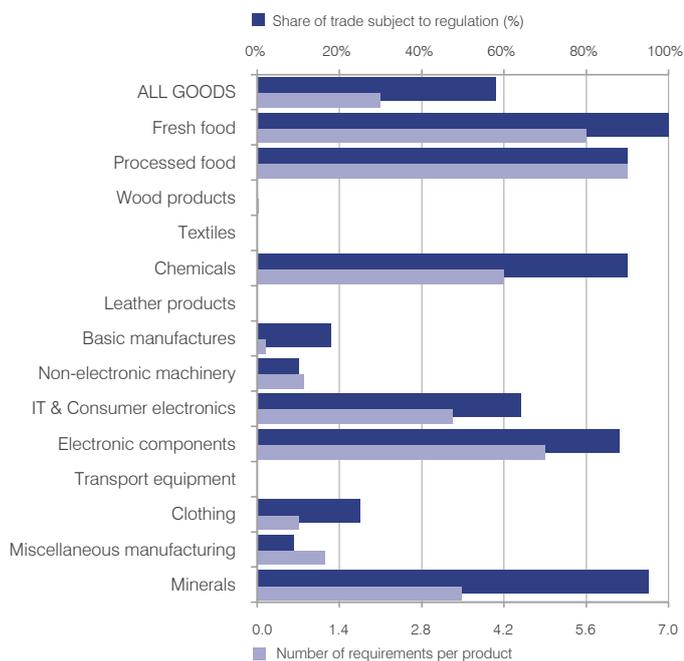


**Requirements per imported product**

2.1

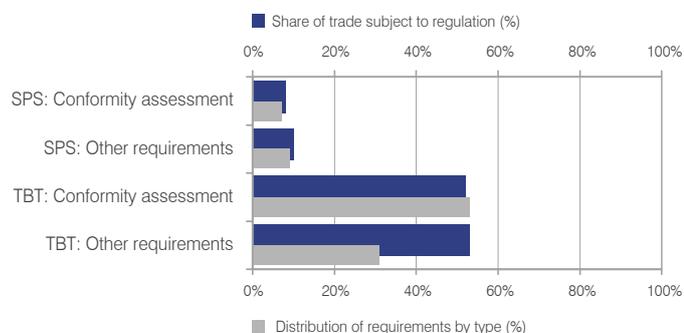
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 21 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  39% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

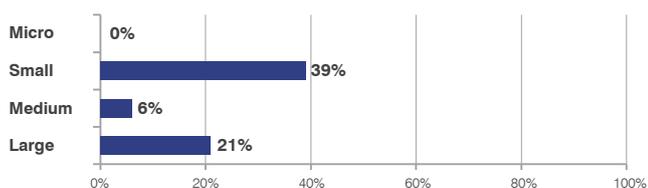
**Technical regulations:**  63% of reported problems

**Main procedural obstacle:** Lack of recognition/accreditation

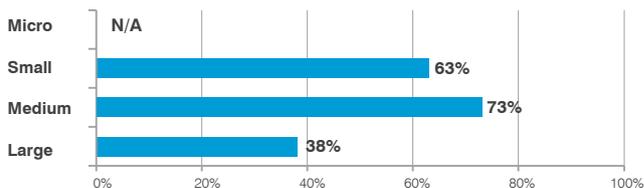
**Main regulatory obstacle:** Product certification

### Share of problems by company size

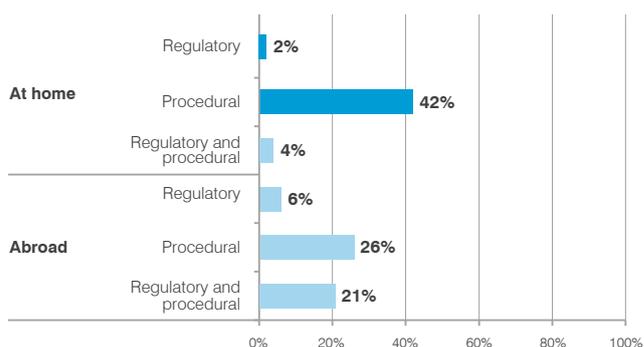
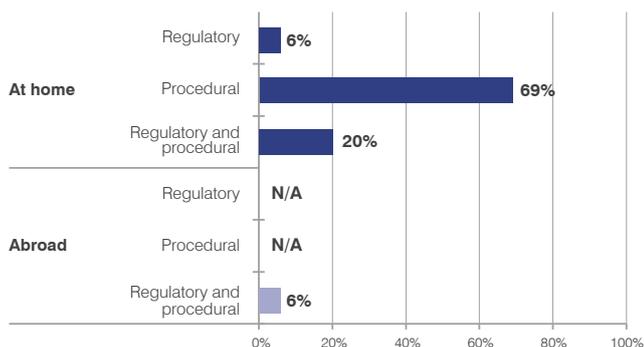
#### Importing firms



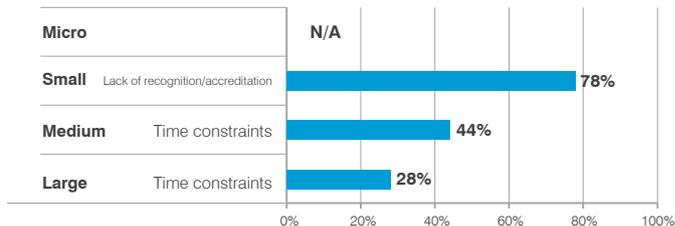
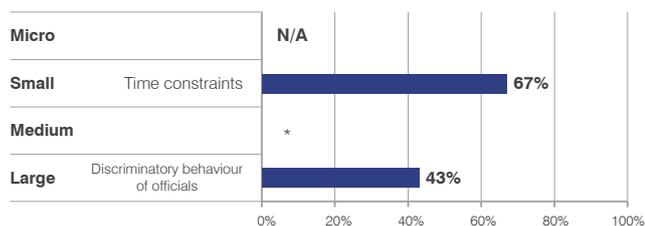
#### Exporting firms



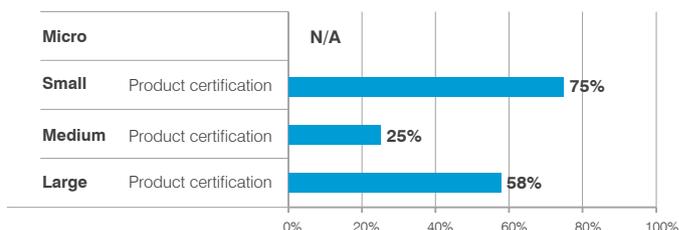
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/malawi>. Survey field work ended in 2011, with 129 companies in phone interviews. Of those, 88 companies (68%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 60 also gave face-to-face interviews.

# Mauritius

## Key indicators

Population (million)	1.3
GDP (\$ billion)	11.6
GDP per capita (\$)	9,187
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-4.8
Tariff preference margin (percentage points)	13.8
Imports and exports (goods and services), share of GDP (%)	113.0
Services exports, share of total exports (%)	56.4
Geographic region	Africa
Development group	SIDS
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]	Compete	Connect	Change
FIRM CAPABILITIES			
Small	31.9	<b>23.2</b>	41.4
Medium	54.0	46.2	61.5
Large	60.1	73.6	80.5
All	40.7	30.5	52.0
IMMEDIATE BUSINESS ENVIRONMENT	48.5	59.9	<b>27.9</b>
NATIONAL ENVIRONMENT	68.2	64.4	53.8

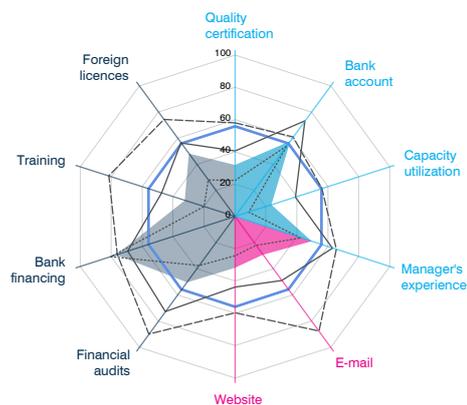
Reference level: 55.9 (a function of GDP per capita \$)

**Strengths are scores above: 83.8**      **Weaknesses are scores below: 27.9**

## SME Competitiveness Grid

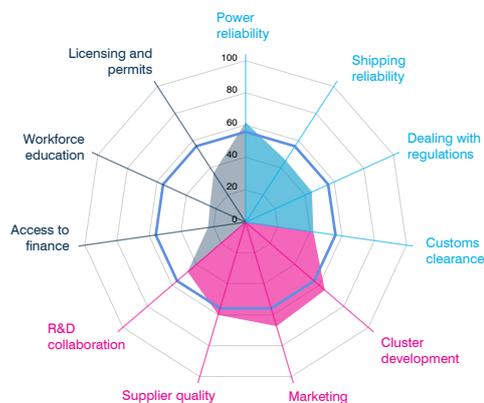
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>22.3</b>	40.7	57.9	31.9
Bank account	54.1	73.3	60.9	57.8
Capacity utilization	<b>8.7</b>	39.0	56.1	<b>23.6</b>
Manager's experience	42.6	63.0	65.5	49.6
<b>Connect</b>				
E-mail	<b>22.0</b>	48.8	<b>87.6</b>	29.2
Firm website	<b>24.3</b>	43.6	59.5	31.7
<b>Change</b>				
Audited financial statement	37.5	72.7	<b>89.9</b>	50.4
Investment financed by banks	80.3	69.3	76.0	76.8
Formal training programme	<b>20.0</b>	47.4	81.5	32.4
Foreign technology licences	28.0	56.4	74.3	48.2



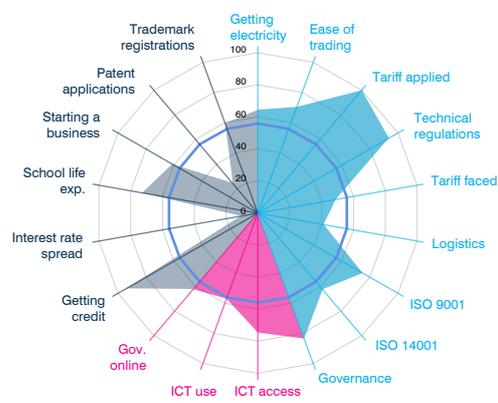
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	64.8	53.0	74.2	61.7
Domestic shipping reliability	64.4	32.9	47.6	45.5
Dealing with regulations	44.8	44.0	50.3	44.8
Customs clearance efficiency	43.2	45.2	33.5	42.1
<b>Connect</b>				
State of cluster development				64.5
Extent of marketing				67.4
Local supplier quality				60.3
University-industry collaboration in R&D				47.3
<b>Change</b>				
Access to finance	<b>18.4</b>	28.8	49.7	<b>23.3</b>
Access to educated workforce	31.0	<b>9.7</b>	<b>22.0</b>	<b>24.2</b>
Business licensing and permits	37.9	<b>27.2</b>	53.3	36.2



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	64.4
Ease of trading across borders	70.3
Applied tariff, trade-weighted average	<b>100.0</b>
Prevalence of technical regulations	<b>93.6</b>
Faced tariff, trade-weighted average	48.9
Logistics performance index	41.3
ISO 9001 quality certificates	74.9
ISO 14001 environmental certificates	62.2
Governance index	83.4
<b>Connect</b>	
ICT access	74.5
ICT use	56.8
Government's online service	61.9
<b>Change</b>	
Ease of getting credit	<b>94.2</b>
Interest rate spread	<b>10.7</b>
School life expectancy	72.8
Ease of starting a business	61.3
Patent applications	<b>24.3</b>
Trademark registrations	59.7



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Mauritius is an upper-middle income island economy in the Indian Ocean with a population of 1.3 million and GDP of \$11.6 billion. Goods and services account for 43.6% and 56.4% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Mauritius' exports lie in the basic manufactures sector, and in processed food and agro-based products. ITC identifies *ferro-chromium*, *pullovers*, and *prepared or preserved shrimps* as top products for diversification.

Existing export products also have increased exports potential. ITC estimates that *tunas*, for instance, has an export potential of almost \$256 million to OECD countries and \$30 million to non-OECD countries. Other products with potential include *men's/boys shirts* and *refined cane or beet sugar*.

The SME Competitiveness Grid reveals that Mauritius's immediate business environment attains average scores in the compete and connect pillars, but is below average in the change pillar. Small firms underperform in their capacity to connect. In particular, e-mails in day-to-day operations and company websites are rarely used. Furthermore, few small firms have internationally recognized quality certificates or offer formal training programmes to their employees.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Ferro-chromium containing by weight more than 4% of carbon	720241	3	4	4	3	■	■	■
Pullovers, cardigans and similar articles of man-made fibres, knitted	611030	4	19	7	4	■	■	■
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	6	3	2	198	■	■	■
Natural rubber in smoked sheets	400121	8	182	137	6	■		
Prepared or preserved shrimps and prawns	1605Xa	12	72	66	9	■	■	■
Mens/boys garments, made up of impreg, ctd, cov, etc, textile woven fabric	621040	13	56	43	10	■	■	■
Mens/boys garments, of man-made fibres, not knitted	621133	14	6	6	41	■	■	■
Coconut (copra) oil crude	151311	16	14	17	20	■	■	■
Other cyclic amides (including acyclic carbamates) and their derivatives; salts...	2924Xb	17	100	31	12	■	■	■
Other footwear, outer soles of rubber/plastics uppers of leather	6403XX	19	37	30	16	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Tunas, skipjack & Atl bonito, prepared/preserved, whole/in pieces...	160414	316.2	■	■	■	■	■	■	■
Mens/boys shirts, of cotton, not knitted	620520	151.7	■	■	■	■	■	■	■
Refined cane or beet sugar, solid, without flavouring or...	170199	214.7	■	■	■	■	■	■	■
Telephone sets (excl. line telephone sets) and other voice and image...	85XXXb	89.2	■	■	■	■	■	■	■
Mens/boys trousers and shorts, of cotton, not knitted	620342	100.2	■	■	■	■	■	■	■
T-shirts, singlets and other vests, of cotton, knitted	610910	191.7	■	■	■	■	■	■	■
T-shirts, singlets and other vests, of other textile materials, knitted	610990	69.2	■	■	■	■	■	■	■
Womens/girls trousers and shorts, of cotton, not knitted	620462	37.0	■	■	■	■	■	■	■
Articles of jewellery and parts thereof, other than silver	711319	37.3	■	■	■	■	■	■	■
Yarn of carded wool, >=85% by wght of wool, nt put up for retail...	510610	15.6	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

Imports subject to regulation

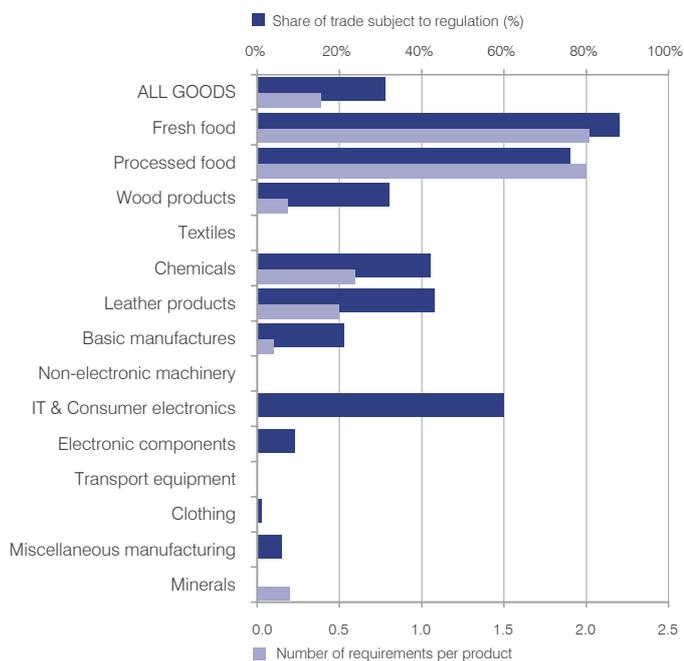


Requirements per imported product

0.39

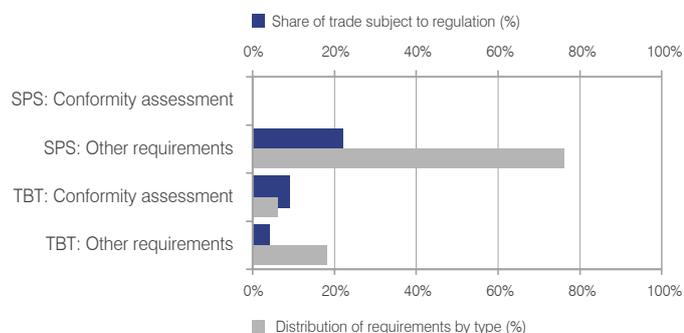
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 15 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  54% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

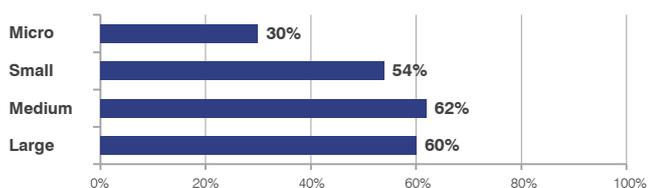
**Technical regulations:**  72% of reported problems

**Main procedural obstacle:** Discriminatory behaviour of officials

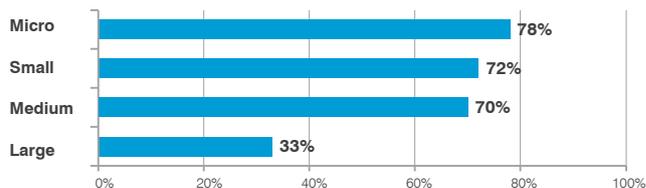
**Main regulatory obstacle:** Product certification

### Share of problems by company size

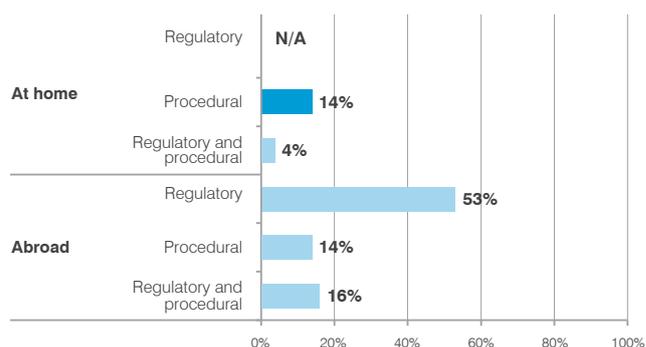
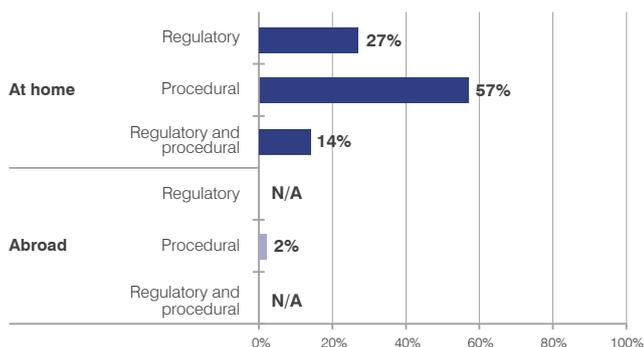
#### Importing firms



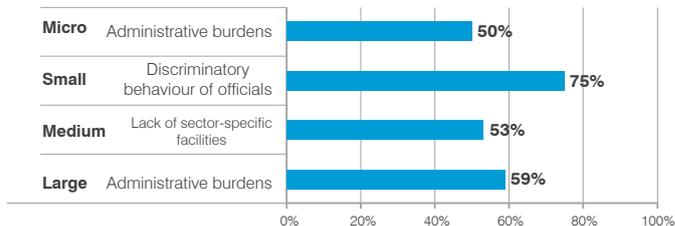
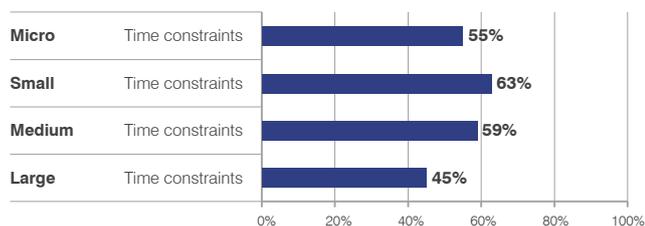
#### Exporting firms



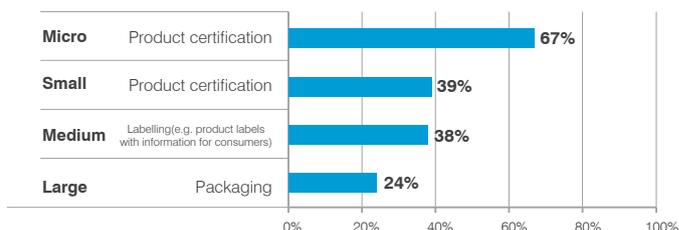
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/mauritius>. Survey field work ended in 2011, with 416 companies in phone interviews. Of those, 136 companies (33%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 85 also gave face-to-face interviews.

# Morocco

## Key indicators

Population (million)	33.5
GDP (\$ billion)	103.1
GDP per capita (\$)	3,077
Share of world GDP (PPP\$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-2.3
Tariff preference margin (percentage points)	5.5
Imports and exports (goods and services), share of GDP (%)	86.7
Services exports, share of total exports (%)	40.7
Geographic region	Arab States
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	49.4	<b>70.3</b>	42.6
	Medium	49.8	<b>75.9</b>	50.6
	Large	55.1	69.3	61.4
	All	50.3	<b>72.1</b>	48.7
IMMEDIATE BUSINESS ENVIRONMENT		59.9	49.5	41.1
NATIONAL ENVIRONMENT		55.9	67.2	54.4

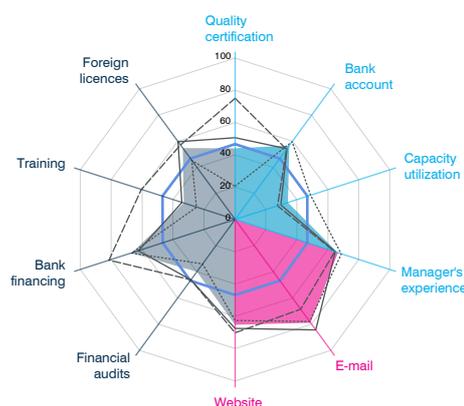
Reference level: 46.7 (a function of GDP per capita \$)

**Strengths are scores above: 70.1**      **Weaknesses are scores below: 23.4**

## SME Competitiveness Grid

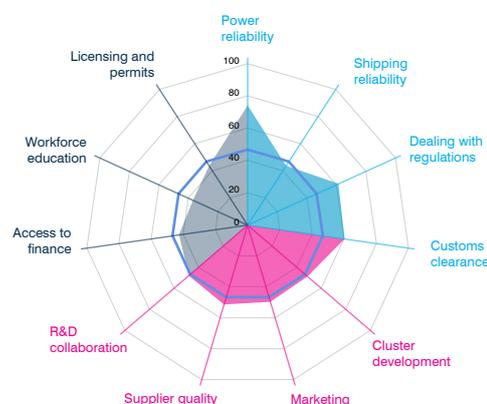
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>20.8</b>	50.7	<b>75.1</b>	44.0
Bank account	59.6	54.1	53.7	56.7
Capacity utilization	48.7	29.6	27.4	34.1
Manager's experience	68.7	64.8	64.4	66.5
<b>Connect</b>				
E-mail	<b>78.1</b>	<b>84.5</b>	68.5	<b>79.1</b>
Firm website	62.4	67.3	<b>70.1</b>	65.2
<b>Change</b>				
Audited financial statement	33.7	46.2	46.2	39.8
Investment financed by banks	66.8	62.4	<b>81.4</b>	66.8
Formal training programme	24.8	34.3	60.6	33.2
Foreign technology licences	45.2	59.6	57.2	54.7



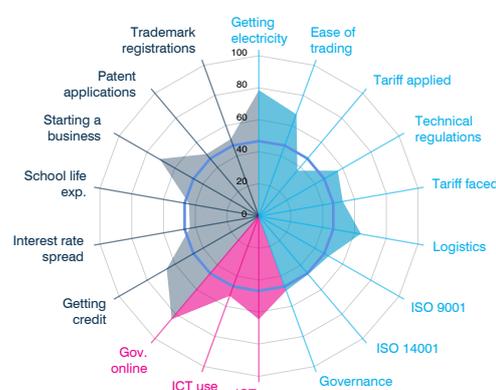
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>74.2</b>	68.8	68.8	<b>74.2</b>
Domestic shipping reliability	36.3	50.0	55.9	43.6
Dealing with regulations	64.6	57.6	63.0	61.6
Customs clearance efficiency	57.0	59.3	60.6	60.3
<b>Connect</b>				
State of cluster development				48.8
Extent of marketing				49.9
Local supplier quality				51.4
University-industry collaboration in R&D				48.1
<b>Change</b>				
Access to finance	39.8	45.8	46.0	42.7
Access to educated workforce	31.0	43.3	45.3	36.9
Business licensing and permits	37.3	51.6	52.3	43.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>78.5</b>
Ease of trading across borders	67.6
Applied tariff, trade-weighted average	36.9
Prevalence of technical regulations	56.3
Faced tariff, trade-weighted average	52.7
Logistics performance index	64.1
ISO 9001 quality certificates	49.9
ISO 14001 environmental certificates	47.5
Governance index	49.5
<b>Connect</b>	
ICT access	64.5
ICT use	53.1
Government's online service	<b>84.0</b>
<b>Change</b>	
Ease of getting credit	66.1
Interest rate spread	43.6
School life expectancy	44.1
Ease of starting a business	<b>71.0</b>
Patent applications	50.6
Trademark registrations	51.0



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Morocco is a lower-middle income country with a population of 33.5 million and GDP of \$103.1 billion. Goods and services account for 59.3% and 40.7% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Morocco's exports lie in the basic manufactures sector, and in fresh food and raw agro-based products. ITC has identified *cement clinkers*, *ferro-chromium*, and *iron and steel bars and rods* as top products for diversification. The price stability of the latter two products adds a development dimension.

Existing export products also have increased export potential. For instance, *automobiles with diesel engine displacing not more than 1500 cc* have an unrealized export potential of \$700 million to OECD countries according to ITC's export potential analysis. Other products with potential include *diammonium phosphate* and *aircraft parts*.

The SME Competitiveness Grid reveals that firms of all sizes perform well on their capacity to connect, in particular using e-mails in day-to-day operations. However, few small firms have internationally recognized quality certificates. This is in sharp contrast to large firms, which score well in this regard. Morocco's immediate business environment attains average scores in all three pillars of competitiveness.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Cement clinkers	252310	1	462	1	178	■	■	■
Ferro-chromium containing by weight more than 4% of carbon	720241	7	181	51	1	■	■	■
Bars & rods, i/nas, hr, hd or he, cntg indent, ribs, etc, prod dur rp/tar	721420	8	7	5	150	■	■	■
Ceramic flooring blocks, support or filler tiles and the like	690490	12	32	8	335	■	■	■
Wheat and meslin, except durum	1001Xb	14	16	9	243	■		
Durum wheat	1001Xa	21	47	12	107	■		
Semi-fin prod, i/nas, rect/sq cross-sect cntg by wgt<.25% c,width<2X thk	720711	22	5	19	40	■	■	■
Spirits obtained by distilling grape wine or grape marc	220820	24	131	15	71	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	29	632	20	145	■	■	■
Plain weave cotton fabric, >/=85%, >100 g/m2 to 200 g/m2, unbleached	520812	33	373	23	167	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Automobiles with diesel engine displacing not more than 1500 cc	870331	341.7	0	0	0	■	■	■	■
Diammonium phosphate, in packages weighing more than 10 kg	310530	902.1	0	0	0	■	■	■	■
Aircraft parts	880330	196.7	0	0	0	■	■	■	■
Sardines, sardinella & brislg o sprats prep o presvd	160413	380.9	0	0	0	■	■	■	■
Ignition wirg sets & oth wirg sets usd in vehicles, aircraft etc	854430	1359.5	0	0	0	■	■	■	■
Octopus, frozen, dried, salted or in brine	030759	313.8	0	0	0	■	■	■	■
Beans, shelled or unshelled, fresh or chilled	070820	185.1	0	0	0	■			■
Monoammonium phosphate & mx thereof w diamonium...	310540	694.3	0	0	0	■	■	■	■
Mandarins (tang & sats) clementines & wilkgs & sim citrus hybrids...	080520	351.6	0	0	0	■			■
Superphosphates, in packages weighing more than 10 kg	310310	371.3	0	0	0	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

3.81

**Exports subject to regulation**

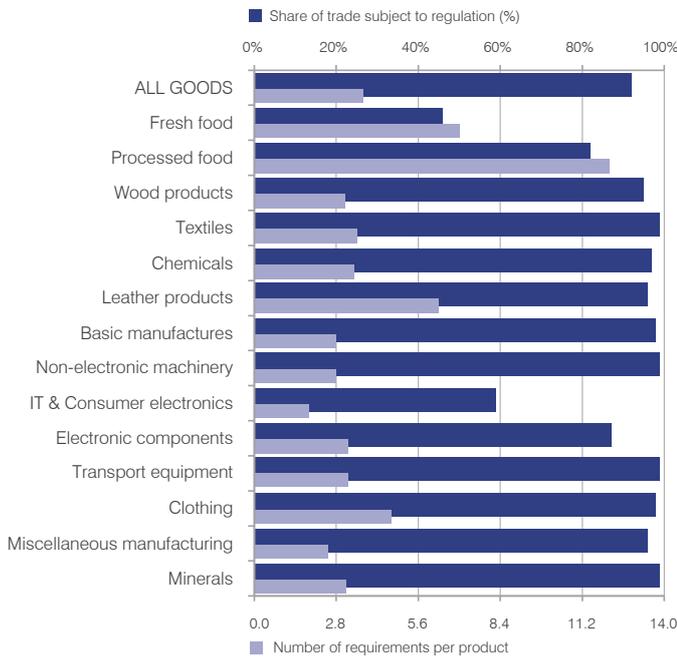


**Requirements per exported product**

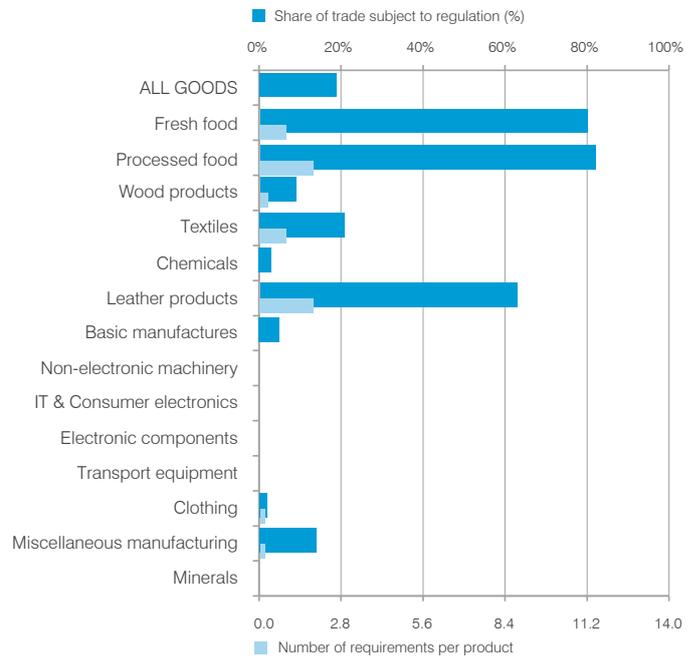
0.45

## Regulatory environment by sector

### Import regulations

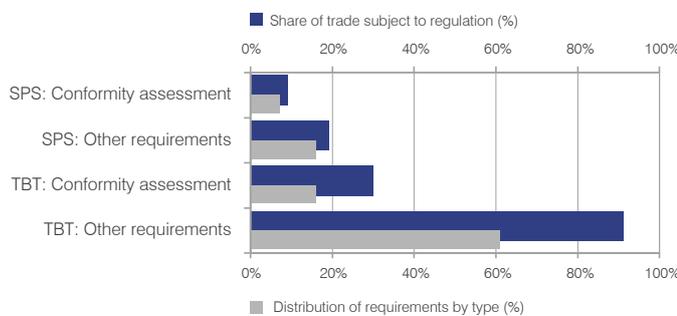


### Export regulations

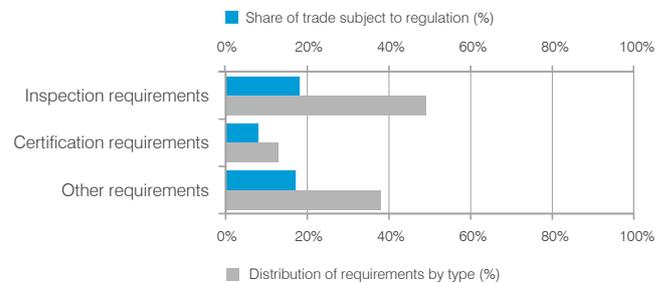


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 115 technical regulations; excluding 6 regulations covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2014. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  28% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

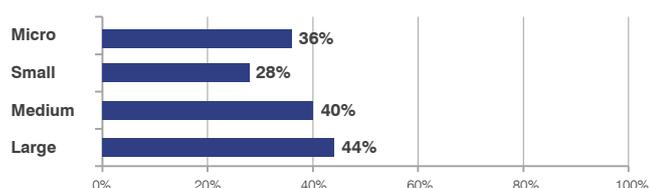
**Technical regulations:**  88% of reported problems

**Main procedural obstacle:** Administrative burdens

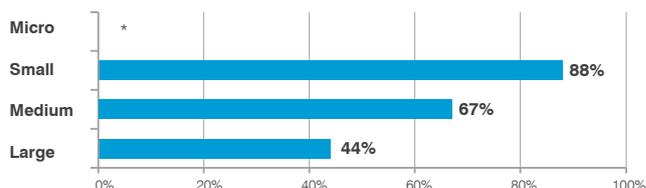
**Main regulatory obstacle:** Tolerance limits for residues of or contamination by certain substances

## Share of problems by company size

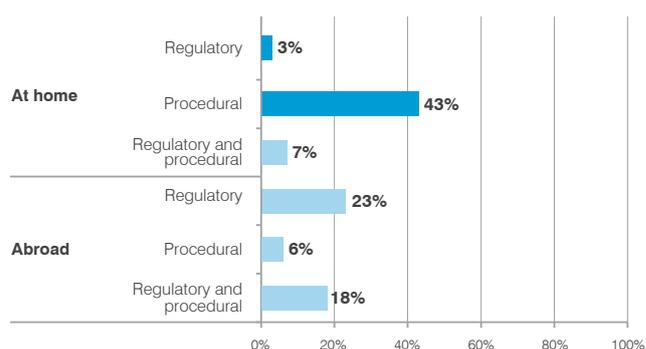
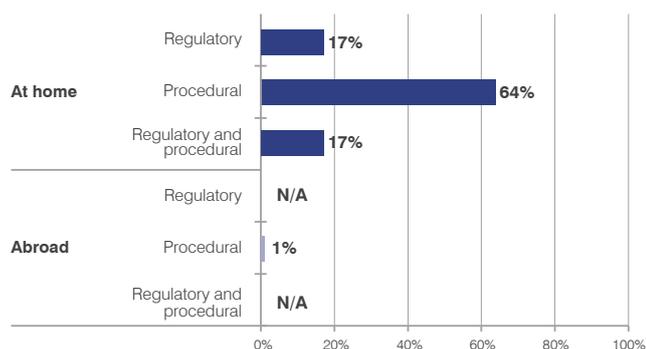
### Importing firms



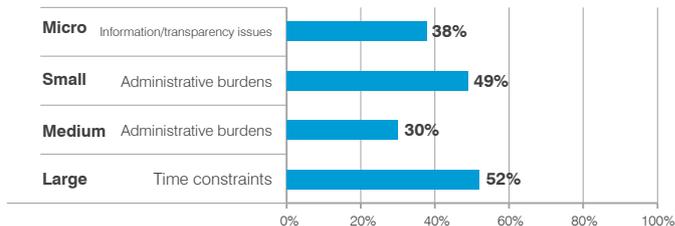
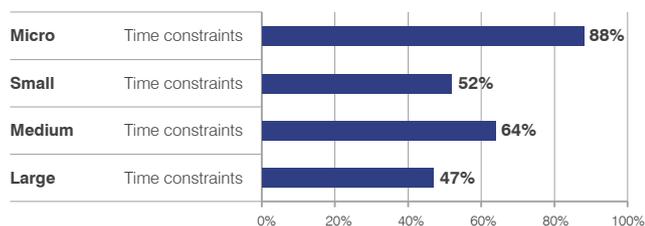
### Exporting firms



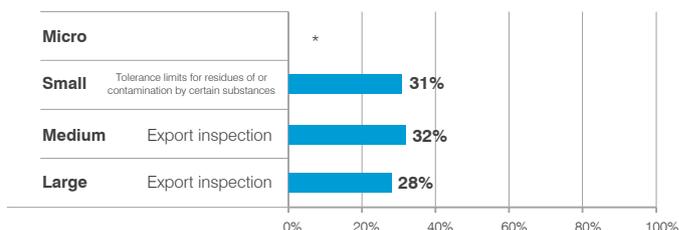
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/morocco>. Survey field work ended in 2011, with 794 companies in phone interviews. Of those, 323 companies (41%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 240 also gave face-to-face interviews.

# Namibia

## Key indicators

Population (million)	2.2
GDP (\$ billion)	12.9
GDP per capita (\$)	5,787
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-12.1
Tariff preference margin (percentage points)	4.3
Imports and exports (goods and services), share of GDP (%)	122.2
Services exports, share of total exports (%)	14.7
Geographic region	Africa
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	46.7	30.6	43.7
	Medium	49.2	59.9	64.0
	Large	65.5	<b>99.6</b>	63.0
	All	44.5	36.4	52.9
IMMEDIATE BUSINESS ENVIRONMENT		63.5	53.2	64.9
NATIONAL ENVIRONMENT		53.5	41.6	45.4

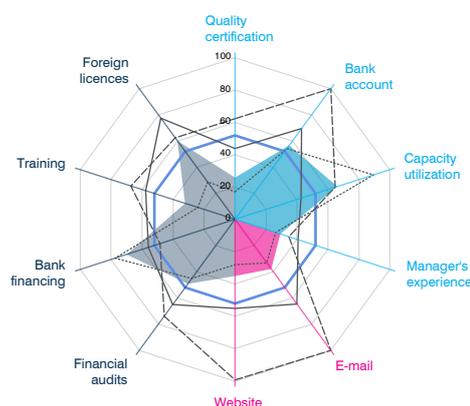
Reference level: 52.0 (a function of GDP per capita \$)

**Strengths are scores above: 78.0**      **Weaknesses are scores below: 26.0**

## SME Competitiveness Grid

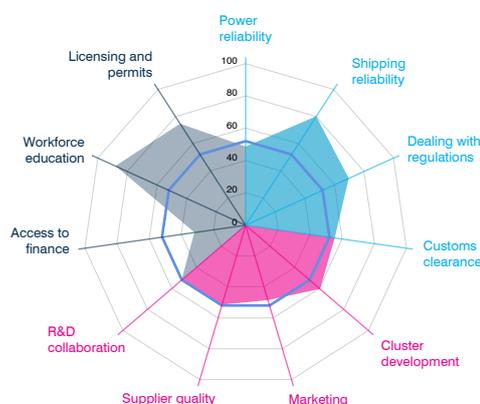
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>17.2</b>	43.9	62.5	<b>25.9</b>
Bank account	54.1	69.6	<b>100.0</b>	56.7
Capacity utilization	<b>89.4</b>	42.7	64.7	66.1
Manager's experience	26.2	40.7	34.7	29.3
Connect				
E-mail	33.2	64.7	<b>100.0</b>	37.9
Firm website	28.0	55.0	<b>99.3</b>	35.0
Change				
Audited financial statement	45.1	65.1	74.1	49.3
Investment financed by banks	77.3	55.9	48.2	70.0
Formal training programme	<b>23.9</b>	57.6	67.2	32.2
Foreign technology licences	28.6	77.5	62.5	60.2



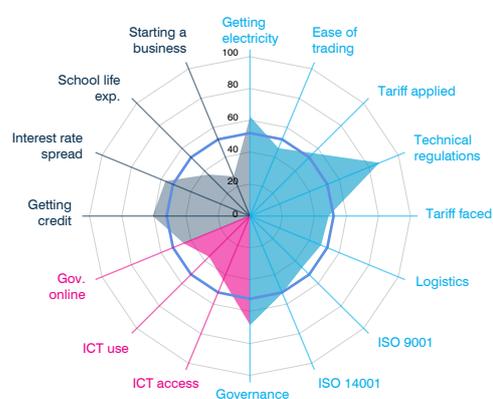
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	47.5	50.0	51.4	48.7
Domestic shipping reliability	<b>80.2</b>	-	-	<b>80.2</b>
Dealing with regulations	71.0	62.0	<b>89.6</b>	69.7
Customs clearance efficiency	64.0	62.3	75.2	55.4
Connect				
State of cluster development				60.5
Extent of marketing				48.6
Local supplier quality				51.4
University-industry collaboration in R&D				52.3
Change				
Access to finance	28.3	41.6	<b>97.0</b>	31.9
Access to educated workforce	<b>86.8</b>	<b>93.9</b>	<b>94.2</b>	<b>88.1</b>
Business licensing and permits	<b>81.5</b>	51.9	<b>92.8</b>	74.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	62.3
Ease of trading across borders	46.0
Applied tariff, trade-weighted average	55.7
Prevalence of technical regulations	<b>87.2</b>
Faced tariff, trade-weighted average	49.0
Logistics performance index	47.8
ISO 9001 quality certificates	45.8
ISO 14001 environmental certificates	52.4
Governance index	68.6
Connect	
ICT access	43.7
ICT use	36.2
Government's online service	44.9
Change	
Ease of getting credit	60.7
Interest rate spread	57.1
School life expectancy	36.8
Ease of starting a business	26.9
Patent applications	-
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Namibia is an upper-middle income country in southern Africa with a population of 2.2 million and GDP of \$12.9 billion. Goods and services account for 85.3% and 14.7% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Namibia's exports lie in fresh and processed food, and raw and processed agro-based products. ITC identifies *greasy shorn wool, not carded or combed; sheep cuts, frozen, and milk and cream powder unsweetened* as top products for diversification. The high participation of women in the production of the latter two products adds a development dimension.

ITC estimates that there is also potential to increase exports of existing export products such as *copper unrefined* to both OECD and non-OECD countries outside the region. Other products with potential include *fish fillets, frozen* and *frozen hake*.

The SME Competitiveness Grid reveals that Namibia's immediate business environment attains average scores in all three pillars of competitiveness. Yet, few small firms have internationally recognized quality certificates or make use of e-mails or websites. Small firms, however, attain good scores in capacity utilization, and banks finance a share of investments.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Greasy shorn wool, not carded or combed	510111	1	4	1	3	■		
Sheep cuts, bone in, frozen	020442	2	2	2	2	■	■	■
Sheep cuts, boneless, fresh or chilled	020423	4	8	8	1	■	■	■
Milk and cream powder unsweetened exceeding 1.5% fat	040221	5	1	4	82	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	6	5	5	30	■	■	■
Piperidine and its salts	293332	8	30	18	4	■	■	■
Sheep cuts, bone in, fresh or chilled	020422	11	13	12	6	■	■	■
Grain sorghum	1007	12	7	7	28	■		
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	13	11	11	172	■	■	■
Lamb carcasses and half carcasses, frozen	020430	14	12	13	52	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Copper unrefined, copper anodes for electrolytic refining	740200	343.8	■	■	■	■	■	■	■
Fish fillets, frozen	0304Xb	223.8	■	■	■	■	■	■	■
Zinc bars, rods, profiles and wire	790400	21.1	■	■	■	■	■	■	■
Frozen Hake	030366	36.8	■	■	■	■	■	■	■
Sheep carcasses and half carcasses, fresh or chilled	020421	25.5	■	■	■	■	■	■	■
Beer made from malt	220300	125.3	■	■	■	■	■	■	■
Sardines, sardinella & sprats prep or presvd	160413	26.5	■	■	■	■	■	■	■
Other frozen fish, whole	0303Xa	82.9	■	■	■	■	■	■	■
Lamb carcasses and half carcasses, frozen	020430	7.6	■	■	■	■	■	■	■
Bovine cuts boneless, fresh or chilled	020130	62.3	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

Imports subject to regulation

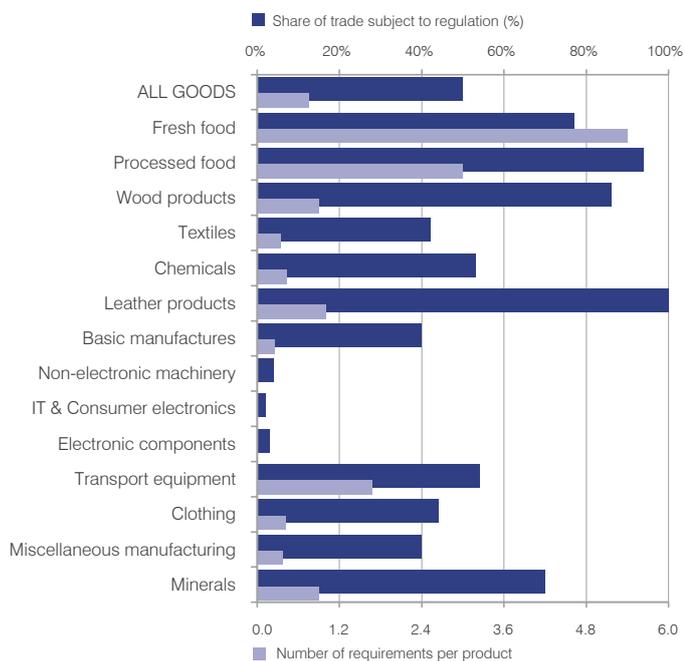


Requirements per imported product

0.75

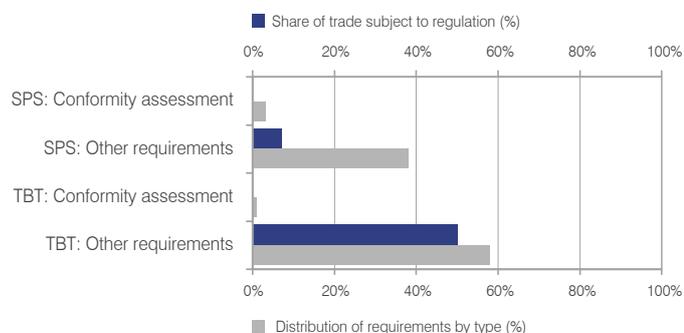
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 24 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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For further information visit <http://ntmsurvey.org>.

# Nepal

## Key indicators

Population (million)	28.4
GDP (\$ billion)	21.4
GDP per capita (\$)	751
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	5.0
Tariff preference margin (percentage points)	13.3
Imports and exports (goods and services), share of GDP (%)	55.0
Services exports, share of total exports (%)	59.1
Geographic region	Asia-Pacific
Development group	LDC, LLDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.2	<b>14.5</b>	32.0
	Medium	51.3	45.8	<b>63.1</b>
	Large	<b>70.4</b>	<b>81.4</b>	<b>73.7</b>
	All	35.8	19.1	39.8
IMMEDIATE BUSINESS ENVIRONMENT		50.5	38.5	51.0
NATIONAL ENVIRONMENT		42.8	24.2	36.2

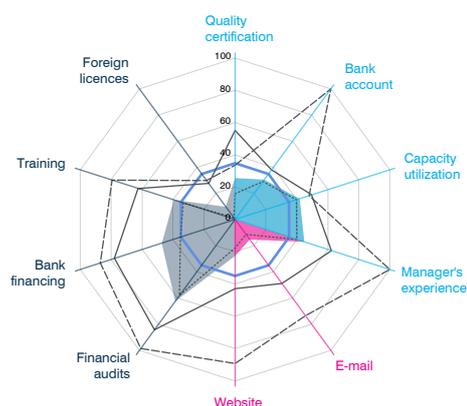
Reference level: 34.9 (a function of GDP per capita \$)

**Strengths are scores above: 52.4** | **Weaknesses are scores below: 17.5**

## SME Competitiveness Grid

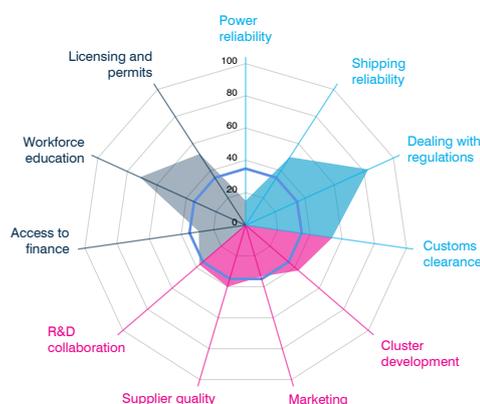
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>16.0</b>	<b>55.2</b>	33.7	25.7
Bank account	29.1	38.1	<b>100.0</b>	30.7
Capacity utilization	39.6	49.5	48.0	41.8
Manager's experience	40.0	<b>62.3</b>	<b>100.0</b>	44.8
<b>Connect</b>				
E-mail	<b>11.4</b>	49.0	<b>73.7</b>	<b>15.5</b>
Firm website	17.5	42.7	<b>89.2</b>	22.7
<b>Change</b>				
Audited financial statement	<b>58.1</b>	<b>84.4</b>	<b>98.6</b>	<b>62.7</b>
Investment financed by banks	35.3	<b>77.9</b>	<b>87.1</b>	47.3
Formal training programme	33.3	<b>62.6</b>	<b>79.4</b>	39.5
Foreign technology licences	<b>1.4</b>	27.7	29.8	<b>9.7</b>



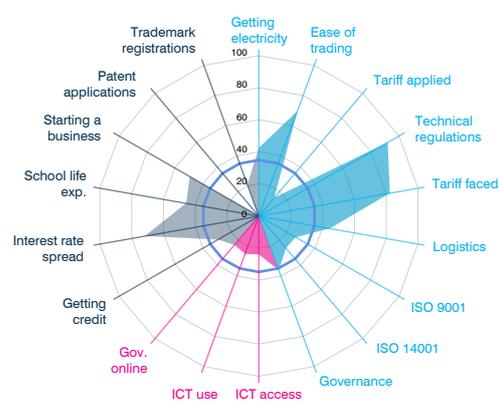
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>14.3</b>	19.5	<b>16.9</b>	<b>15.0</b>
Domestic shipping reliability	47.6	<b>64.4</b>	<b>70.7</b>	47.3
Dealing with regulations	<b>88.4</b>	<b>64.0</b>	<b>81.1</b>	<b>83.0</b>
Customs clearance efficiency	<b>74.3</b>	<b>52.9</b>	<b>59.5</b>	<b>54.0</b>
<b>Connect</b>				
State of cluster development				43.1
Extent of marketing				33.4
Local supplier quality				40.0
University-industry collaboration in R&D				37.6
<b>Change</b>				
Access to finance	26.3	51.9	<b>7.6</b>	29.0
Access to educated workforce	<b>72.5</b>	<b>69.3</b>	<b>60.7</b>	<b>71.5</b>
Business licensing and permits	50.0	<b>65.6</b>	<b>69.1</b>	52.3



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	42.7
Ease of trading across borders	<b>69.7</b>
Applied tariff, trade-weighted average	<b>14.9</b>
Prevalence of technical regulations	<b>91.9</b>
Faced tariff, trade-weighted average	<b>82.3</b>
Logistics performance index	44.6
ISO 9001 quality certificates	26.3
ISO 14001 environmental certificates	26.1
Governance index	35.9
<b>Connect</b>	
ICT access	24.0
ICT use	25.1
Government's online service	23.5
<b>Change</b>	
Ease of getting credit	29.4
Interest rate spread	<b>71.7</b>
School life expectancy	45.6
Ease of starting a business	49.4
Patent applications	<b>0.0</b>
Trademark registrations	21.1



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Nepal is a low income country in Asia with a population of 28.4 million and GDP of \$21.4 billion. Goods and services account for 40.9% and 59.1% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Nepal's exports lie in textiles and the basic manufactures sector. ITC identifies *yarn of jute*, *woven fabrics of polyester*, and *ferro-tungsten* as top products for diversification. Price stability, prevalence of SMEs and female participation in the production of the textile-related products add a development dimension.

Existing export products also have increased export potential, for instance *sacks and bags for packaging of goods*. ITC estimates that this product has an unrealized export potential of almost \$125 million to non-OECD countries. Other products with potential include *nuts* and *cardamons*.

The SME Competitiveness Grid reveals that Nepal's immediate environment does well in the capacity to compete and change pillars, attaining good scores in the time management spends handling regulations. Small firms, however, underperform in their capacity to connect, with only a few small firms using e-mails in day-to-day operations or having foreign technology licences. However, medium-sized and large firms perform well on a range of measures, particularly audited financial statements and investments financed by banks.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Yarn of jute or of other textile bast fibres, single	530710	8	2	1	24	■	■	■
Woven fab of polyester staple fib,<85%,mixd w/cot,<=170 g/m2,dyd	551323	15	1	2	1306	■	■	■
Sports footwear w outer soles of rubber o plastics&uppers of textile	640411	39	73	86	32	■	■	■
Ferro-tungsten and ferro-silico-tungsten	720280	43	1765	2280	31	■	■	■
Other cyclic amides (including acyclic carbamates) and their derivatives; salts...	2924Xb	46	128	122	40	■	■	■
Towers and lattice masts, iron or steel	730820	48	7	11	244	■	■	■
Pipe,line,i or s,int/ext circ cross sect,wid,ext dia >406.4mm	730519	49	10	15	129	■	■	■
Magnesium unwrought containing by weight at least 99.8% of magnesium	810411	54	960	33	65	■	■	■
Diammonium phosphate, in packages weighing more than 10 kg	310530	62	93	75	55	■	■	■
Bicycles and other cycles (including delivery tricycles),not motorised	871200	76	81	133	68	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Sacks&bags,for packg of goods,of jute or of other textile bast...	630510	20.6	■	■	■	■	■	■	■
Nuts	0802Xc	13.6	■	■	■	■	■	■	■
Cardamons	0908Xc	21.7	■	■	■	■	■	■	■
Yarn,>=85% of polyester staple fibres, single, not put up	550921	22.8	■	■	■	■	■	■	■
Lentils dried, shelled, whether or not skinned or split	071340	15.0	■	■	■	■	■	■	■
Rosin	380610	10.3	■	■	■	■	■	■	■
Flat rolled prod,i/nas,pltd or ctd w zinc,corrugated,>=600m...	721041	23.3	■	■	■	■	■	■	■
Yarn of polyester staple fibres mixd w/ arti staple fib,not put up	550951	13.6	■	■	■	■	■	■	■
Carpets of wool or fine animal hair, knotted	570110	69.4	■	■	■	■	■	■	■
Other medicinal plants	1211XX	11.2	■	■	■	■	■	■	■

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**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

0.48

**Exports subject to regulation**

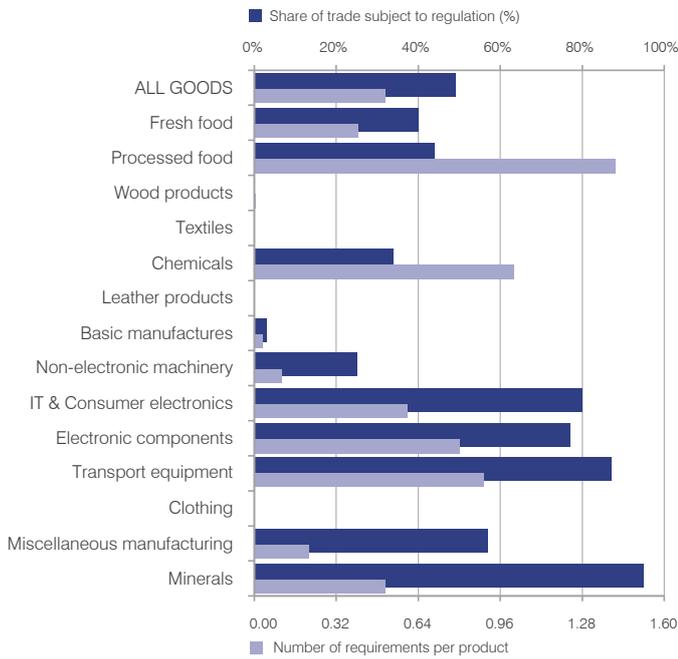


**Requirements per exported product**

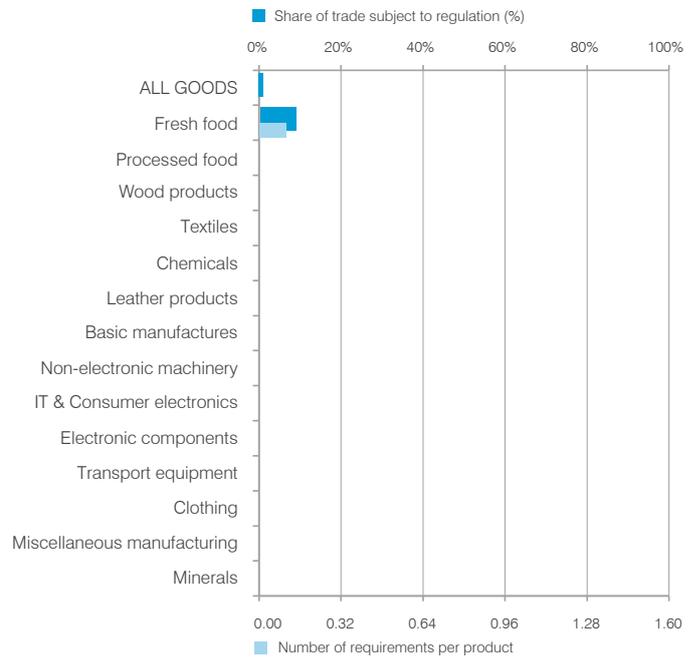
0.01

## Regulatory environment by sector

### Import regulations

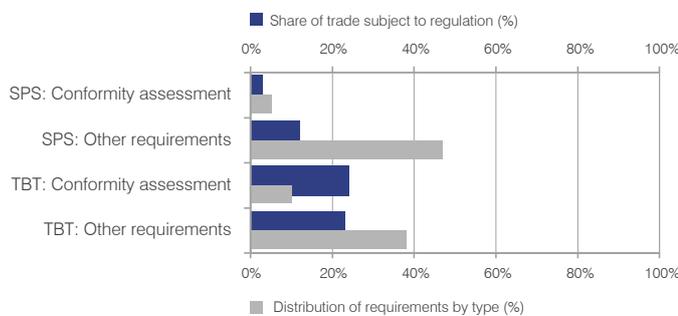


### Export regulations

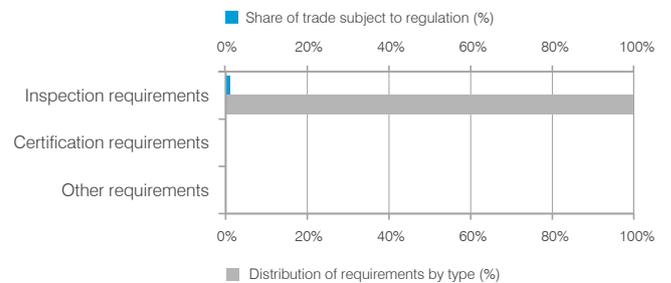


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 31 technical regulations; excluding 7 regulations covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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# Paraguay

## Key indicators

Population (million)	7.0
GDP (\$ billion)	29.1
GDP per capita (\$)	4,142
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-2.0
Tariff preference margin (percentage points)	3.7
Imports and exports (goods and services), share of GDP (%)	79.2
Services exports, share of total exports (%)	9.4
Geographic region	Latin America and the Caribbean
Development group	LLDC
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	34.8	25.9	31.1
	Medium	54.2	62.6	57.1
	Large	65.8	<b>78.4</b>	<b>81.0</b>
	All	46.3	42.9	51.0
IMMEDIATE BUSINESS ENVIRONMENT		35.1	43.1	35.0
NATIONAL ENVIRONMENT		49.2	38.8	50.7

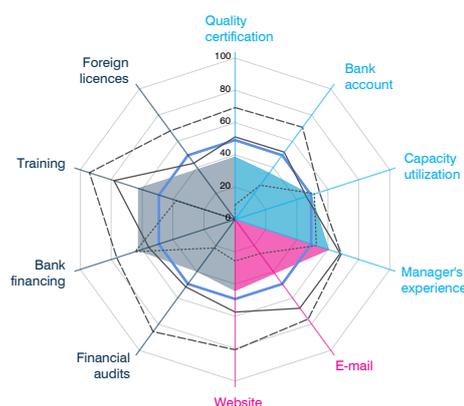
Reference level: 49.2 (a function of GDP per capita \$)

**Strengths are scores above: 73.8**      **Weaknesses are scores below: 24.6**

## SME Competitiveness Grid

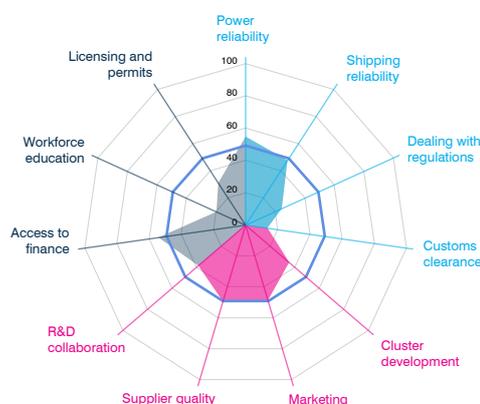
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>9.0</b>	51.2	69.3	39.0
Bank account	26.3	51.5	70.7	36.0
Capacity utilization	51.4	46.0	54.7	49.5
Manager's experience	52.6	68.0	68.7	60.9
<b>Connect</b>				
E-mail	26.1	67.8	<b>76.3</b>	41.4
Firm website	25.7	57.3	<b>80.6</b>	44.4
<b>Change</b>				
Audited financial statement	<b>21.7</b>	51.5	<b>85.7</b>	39.9
Investment financed by banks	64.5	55.7	<b>76.3</b>	62.8
Formal training programme	38.0	<b>78.2</b>	<b>94.1</b>	62.7
Foreign technology licences	<b>0.0</b>	43.1	67.9	38.7



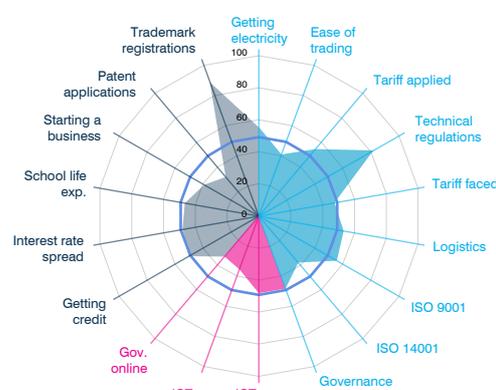
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	56.8	53.0	53.0	54.8
Domestic shipping reliability	59.6	40.3	45.5	47.6
Dealing with regulations	25.2	<b>23.7</b>	<b>22.5</b>	<b>24.3</b>
Customs clearance efficiency	28.6	<b>6.1</b>	28.2	<b>13.5</b>
<b>Connect</b>				
State of cluster development				35.4
Extent of marketing				48.7
Local supplier quality				49.5
University-industry collaboration in R&D				38.6
<b>Change</b>				
Access to finance	51.8	53.5	71.0	54.2
Access to educated workforce	<b>23.9</b>	<b>16.0</b>	<b>19.8</b>	<b>19.9</b>
Business licensing and permits	31.7	29.4	34.6	31.0



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	55.4
Ease of trading across borders	40.7
Applied tariff, trade-weighted average	54.6
Prevalence of technical regulations	<b>81.9</b>
Faced tariff, trade-weighted average	47.6
Logistics performance index	53.3
ISO 9001 quality certificates	55.7
ISO 14001 environmental certificates	37.7
Governance index	48.1
<b>Connect</b>	
ICT access	48.1
ICT use	35.2
Government's online service	33.0
<b>Change</b>	
Ease of getting credit	50.0
Interest rate spread	48.1
School life expectancy	46.5
Ease of starting a business	38.9
Patent applications	31.9
Trademark registrations	<b>88.9</b>



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Paraguay is an upper-middle income country in Central America with a population of 7 million and GDP of \$29.1 billion. Goods and services account for 90.6% and 9.4% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Paraguay's exports lie in fresh food and raw agro-based products, and in the basic manufactures sector. ITC identifies *sheep cuts, frozen* as a new product Paraguay could export. The product's price stability adds a development dimension. Other top products for diversification include *quebracho extract* and *ferro-silico-manganese*.

Existing export products such as *soya-bean oil-cake* have increased export potential. ITC estimates that this product has an unrealized export potential of almost \$154 million to non-OECD countries and \$391 million to OECD countries. Other products with potential include *bovine cuts boneless, frozen* and *maize*.

The SME Competitiveness Grid reveals that Paraguay's immediate environment attains average scores in all three pillars of competitiveness. The national environment performs well on the capacity to compete. Yet, few small firms have internationally recognized quality certificates or foreign technology licences, and their score level on connectivity is below expectations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Sheep cuts, bone in, frozen	020442	6	8	6	8	■	■	■
Quebracho extract	320110	7	2	9	5	■	■	■
Sheep cuts, boneless, fresh or chilled	020423	9	242	14	6	■	■	■
Ferro-silico-manganese	720230	22	29	19	47	■	■	■
Greasy shorn wool, not carded or combed	510111	23	5	22	14	■	■	■
Casein	350110	28	18	30	21	■	■	■
Carpets of wool/fine animal hair, of wovn pile constructn	570231	32	1119	26	375	■	■	■
Brazil nuts, without shell, fresh or dried	080122	36	35	48	17	■	■	■
Compounds containing in the structure a quinoline or isoquinoline ring-system...	2933Xb	40	63	59	22	■	■	■
Maté	090300	45	10	45	42	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Soya-bean oil-cake&oth solid residues,whether or not ground...	230400	606.1	■	■	■	■	■	■	■
Bovine cuts boneless, frozen	020230	585.6	■	■	■	■	■	■	■
Soya beans, whether or not broken	1201	2103.7	■	■	■	■	■	■	■
Maize (corn)	100590	406.9	■	■	■	■	■	■	■
Soya-bean oil crude, whether or not degummed	150710	247.9	■	■	■	■	■	■	■
Rice, husked (brown)	100620	35.1	■	■	■	■	■	■	■
Bovine cuts boneless, fresh or chilled	020130	327.4	■	■	■	■	■	■	■
Wheat and meslin, except durum	1001Xb	193.9	■	■	■	■	■	■	■
Raw hides and skins (other than furskins) and leather	41XXXa	131.8	■	■	■	■	■	■	■
Raw cane sugar	1701XX	44.0	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

**Imports subject to regulation**

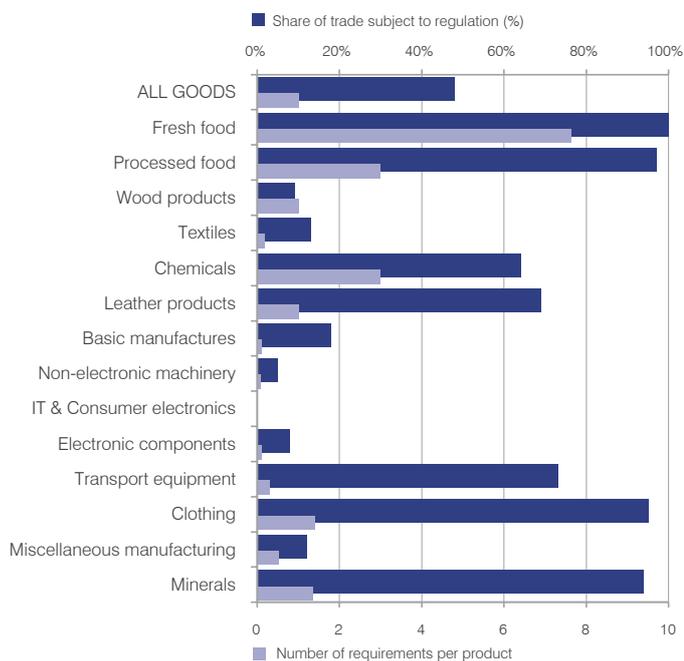


**Requirements per imported product**

1.11

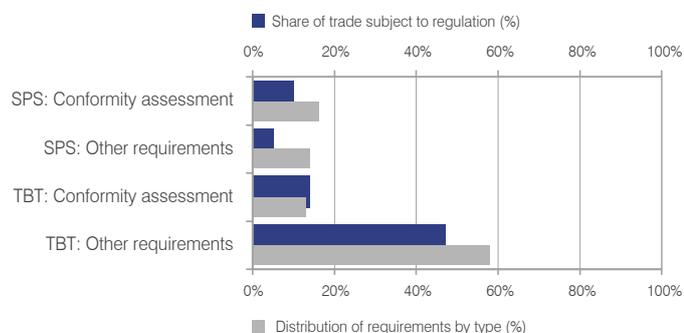
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 65 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  48% of reported problems

**Main procedural obstacle:** Other

#### Exporting firms

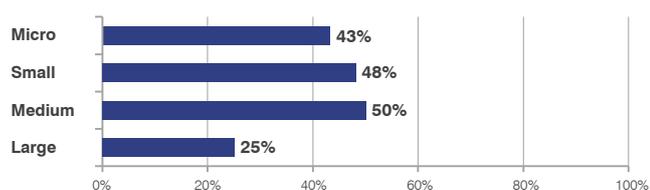
**Technical regulations:**  41% of reported problems

**Main procedural obstacle:** Time constraints

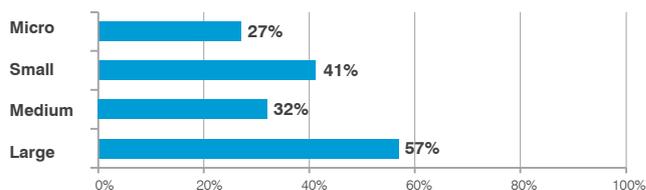
**Main regulatory obstacle:** Product certification

### Share of problems by company size

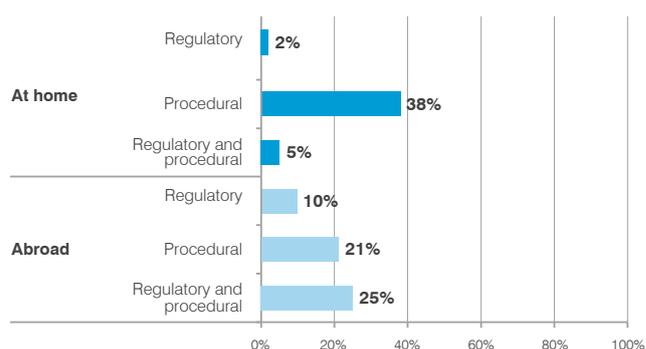
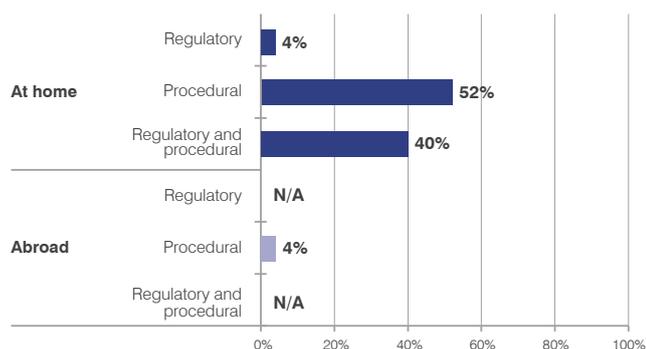
#### Importing firms



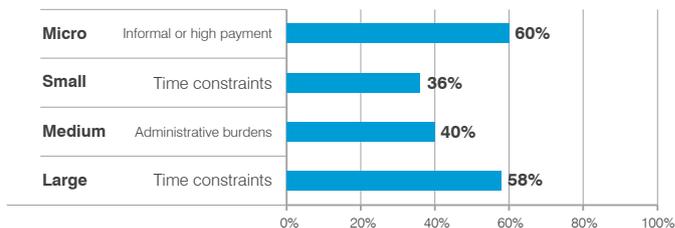
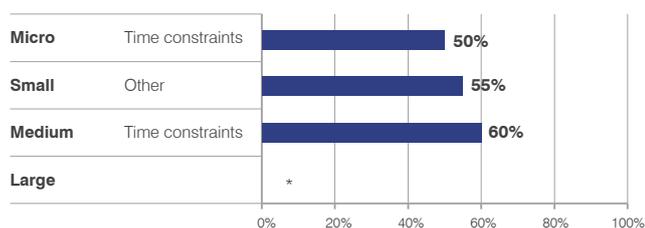
#### Exporting firms



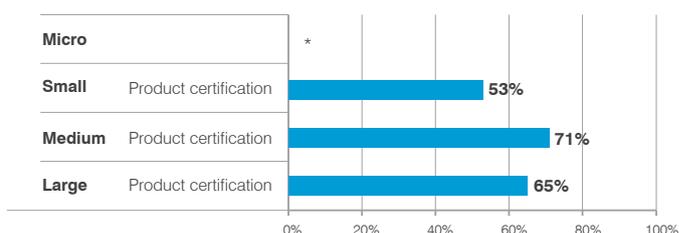
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/paraguay>. Survey field work ended in 2011, with 411 companies in phone interviews. Of those, 207 companies (50%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 79 also gave face-to-face interviews.

# Peru

## Key indicators

Population (million)	31.9
GDP (\$ billion)	179.9
GDP per capita (\$)	5,638
Share of world GDP (PPP\$, %)	0.3
Current account surplus/deficit, share of GDP (%)	-3.7
Tariff preference margin (percentage points)	3.1
Imports and exports (goods and services), share of GDP (%)	46.5
Services exports, share of total exports (%)	13.3
Geographic region	Latin America and the Caribbean
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	39.4	40.3	41.4
	Medium	48.3	49.3	56.1
	Large	70.5	72.0	73.5
	All	45.2	46.3	51.3
IMMEDIATE BUSINESS ENVIRONMENT		41.0	51.9	49.9
NATIONAL ENVIRONMENT		64.0	57.0	56.6

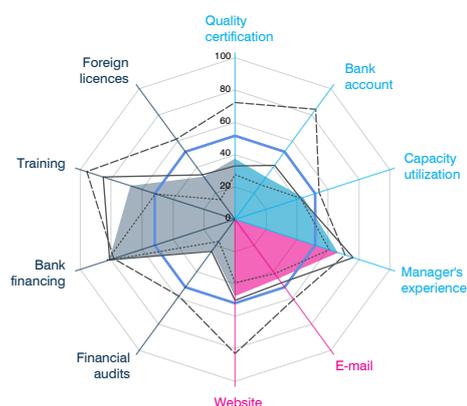
Reference level: 51.8 (a function of GDP per capita \$)

**Strengths are scores above: 77.7**      **Weaknesses are scores below: 25.9**

## SME Competitiveness Grid

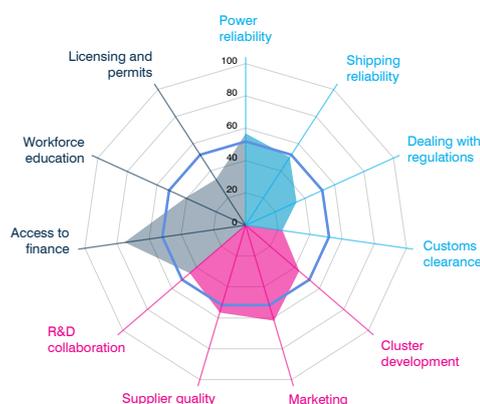
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	27.7	33.1	72.4	37.7
Bank account	26.7	41.4	<b>84.4</b>	32.5
Capacity utilization	42.4	42.4	54.2	44.1
Manager's experience	60.9	76.3	71.1	66.5
Connect				
E-mail	41.4	48.5	61.1	45.2
Firm website	39.1	50.1	<b>82.9</b>	47.4
Change				
Audited financial statement	<b>16.9</b>	<b>24.4</b>	58.8	<b>23.8</b>
Investment financed by banks	<b>82.5</b>	<b>80.9</b>	<b>78.2</b>	<b>81.2</b>
Formal training programme	51.3	<b>85.1</b>	<b>95.6</b>	67.5
Foreign technology licences	<b>15.1</b>	34.1	61.4	32.8



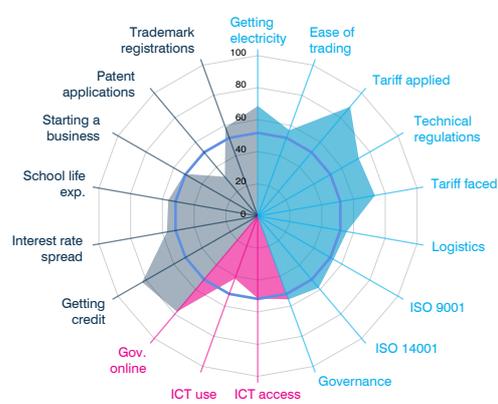
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	53.0	64.8	61.7	56.8
Domestic shipping reliability	52.7	47.6	59.6	50.0
Dealing with regulations	29.9	45.0	38.8	34.4
Customs clearance efficiency	<b>22.6</b>	31.1	<b>19.2</b>	<b>22.8</b>
Connect				
State of cluster development				43.5
Extent of marketing				61.9
Local supplier quality				56.6
University-industry collaboration in R&D				45.6
Change				
Access to finance	<b>79.8</b>	62.8	<b>85.8</b>	75.3
Access to educated workforce	47.2	31.3	35.5	40.7
Business licensing and permits	38.3	<b>23.3</b>	41.7	33.8



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	68.6
Ease of trading across borders	56.9
Applied tariff, trade-weighted average	<b>88.8</b>
Prevalence of technical regulations	72.0
Faced tariff, trade-weighted average	73.6
Logistics performance index	56.0
ISO 9001 quality certificates	54.1
ISO 14001 environmental certificates	58.5
Governance index	55.4
Connect	
ICT access	51.6
ICT use	41.5
Government's online service	<b>78.0</b>
Change	
Ease of getting credit	<b>82.7</b>
Interest rate spread	57.2
School life expectancy	56.3
Ease of starting a business	52.5
Patent applications	31.9
Trademark registrations	58.7



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Peru is an upper-middle income country in South America with a population of 31.9 million and GDP of \$179.9 billion. Goods and services account for 86.7% and 13.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Peru's exports lie in fresh and processed food, raw and processed agro-based products, and in the basic manufactures sector. ITC identifies *sheep cuts*, *aluminium unwrought* and *nickel mattes* as top products for diversification.

Existing export products such as *fish meal and pellets* have increased export potential. ITC estimates that this product has an unrealized export potential of almost \$900 million to non-OECD countries and \$455 million to OECD countries. Other products with potential include *coffee, not roasted, not decaffeinated* and *copper cathodes*.

The SME Competitiveness Grid reveals a supportive financial environment with good scores on access to finance and banks financing a large number of SMEs' investments. However, few SMEs have audited financial statements. Peru's immediate business and national environments perform well on average but underperform on patent applications.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Sheep cuts, bone in, frozen	020442	1	1	1	1	■	■	■
Wood in chips, non-coniferous	440122	2	13	5	2	■	■	■
Ground-nut oil, crude	150810	4		6	5	■	■	■
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	6	5	3	74	■	■	■
Nickel mattes	750110	8		378	4	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	9	2	4	22	■	■	■
Aluminium unwrought, not alloyed	760110	11	22	21	8	■	■	■
Chemical wood pulp, soda/sulphate, non-coniferous, semi-bl/bleached	470329	14	20	20	10	■	■	■
Bovine cuts boneless, frozen	020230	15	7	9	27	■	■	■
Ferro-chromium containing by weight more than 4% of carbon	720241	16	82	29	11	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Flour, meal & pellet of fish, crust, mol/oth aqua invert, unfit human...	230120	1708.4	■	■	■	■	■	■	■
Coffee, not roasted, not decaffeinated	090111	1005.7	■	■	■	■	■	■	■
Copper cathodes and sections of cathodes unwrought	740311	2272.7	■	■	■	■	■	■	■
Grapes, fresh	080610	444.4	■	■	■	■	■	■	■
Fish fats & oils & their fractions exc liver, refind/not, not chemically...	150420	416.0	■	■	■	■	■	■	■
Staple fibres of acrylic or modacrylic, carded or combed	550630	19.5	■	■	■	■	■	■	■
Tin not alloyed unwrought	800110	638.3	■	■	■	■	■	■	■
Asparagus prepared or preserved, o/t by vinegar or acetic acid	200560	142.5	■	■	■	■	■	■	■
T-shirts, singlets and other vests, of cotton, knitted	610910	351.8	■	■	■	■	■	■	■
Asparagus, fresh or chilled	070920	413.2	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

Imports subject to regulation

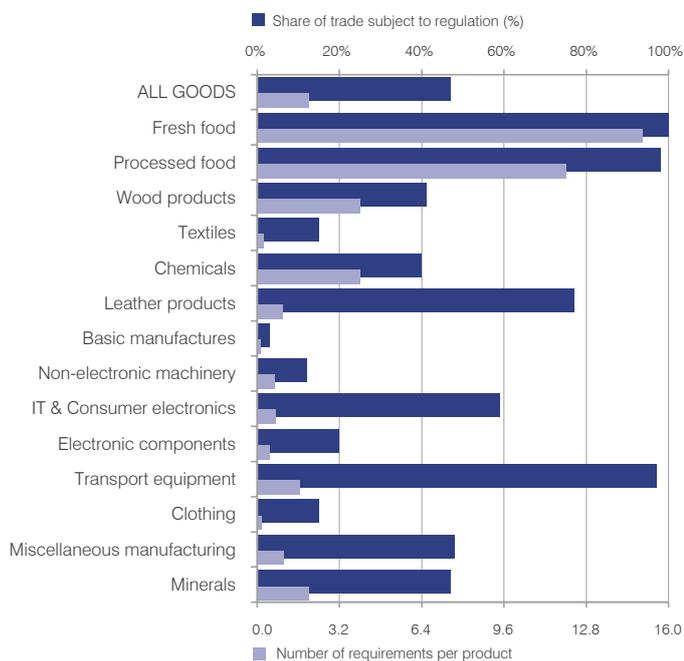


Requirements per imported product

1.93

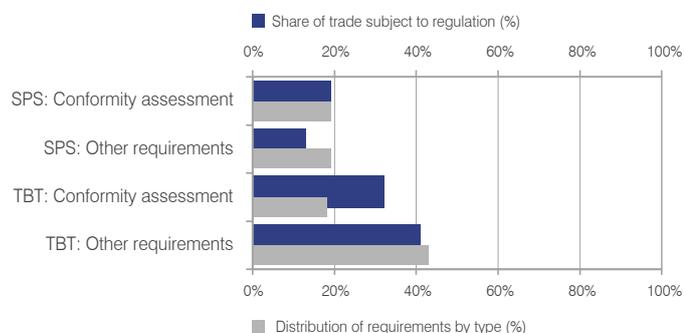
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 380 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles

### Importing firms

**Technical regulations:**  63% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

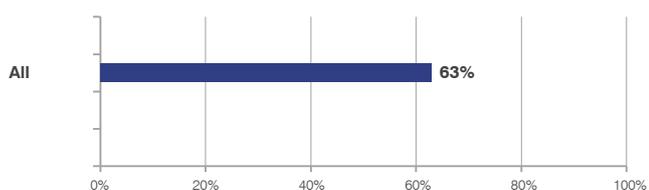
**Technical regulations:**  77% of reported problems

**Main procedural obstacle:** Time constraints

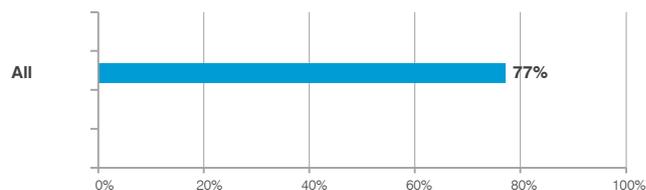
**Main regulatory obstacle:** Certification required by the exporting country

## Share of problems by company size

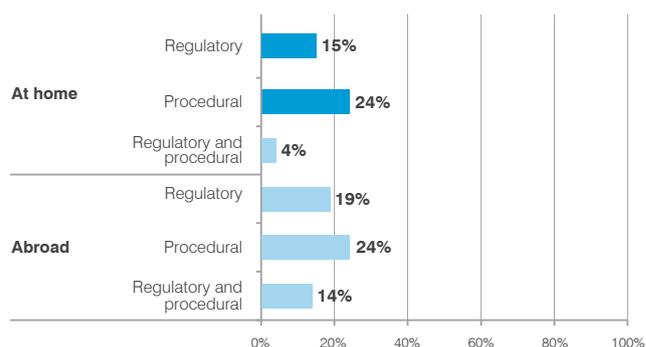
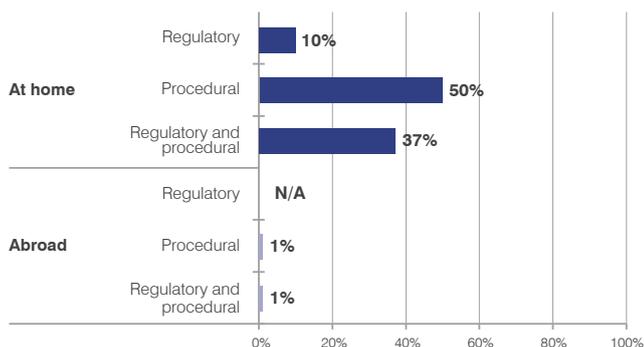
### Importing firms



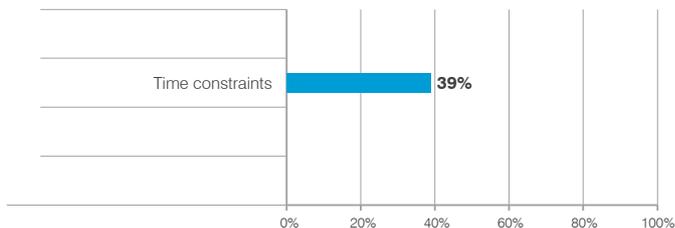
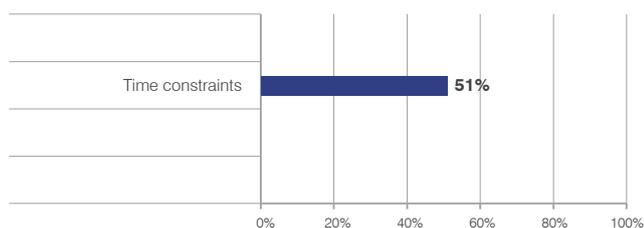
### Exporting firms



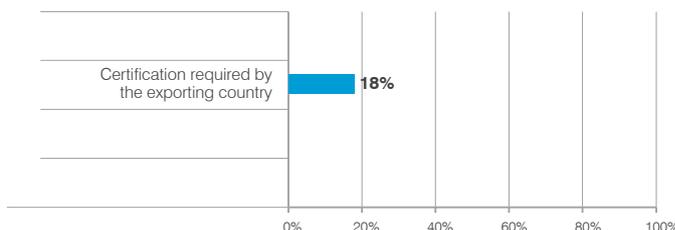
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/peru>. Survey field work ended in 2010, with 964 companies in phone interviews. Of those, 372 companies (39%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 111 also gave face-to-face interviews.

# Rwanda

## Key indicators

Population (million)	11.4
GDP (\$ billion)	8.5
GDP per capita (\$)	743
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-10.6
Tariff preference margin (percentage points)	3.0
Imports and exports (goods and services), share of GDP (%)	49.9
Services exports, share of total exports (%)	49.3
Geographic region	Africa
Development group	LDC, LLDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	25.4	24.4	49.3
	Medium	28.2	47.5	<b>59.3</b>
	Large	40.5	<b>69.1</b>	<b>73.4</b>
	All	27.7	33.1	<b>54.7</b>
IMMEDIATE BUSINESS ENVIRONMENT		48.6	<b>54.9</b>	44.3
NATIONAL ENVIRONMENT		39.9	33.3	45.3

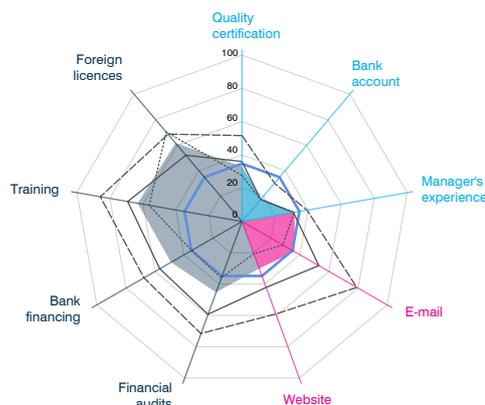
Reference level: 34.8 (a function of GDP per capita \$)

**Strengths are scores above: 52.2**      **Weaknesses are scores below: 17.4**

## SME Competitiveness Grid

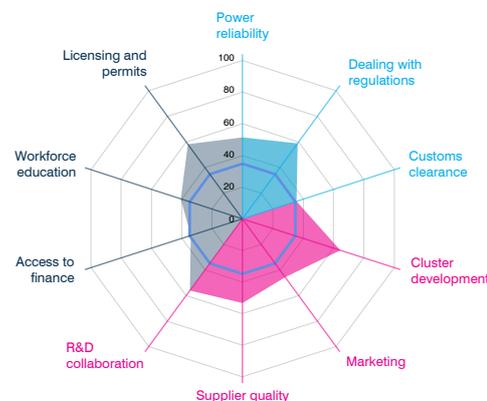
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All	
International quality certificate	27.7	36.1	51.7	33.1	
Bank account	<b>17.0</b>	<b>17.3</b>	30.2	18.1	
Capacity utilization	-	-	-	-	
Manager's experience	31.6	31.2	39.6	32.0	
Connect	E-mail	28.2	<b>53.0</b>	<b>79.1</b>	36.1
Firm website	20.6	42.1	<b>59.1</b>	30.1	
Change	Audited financial statement	36.0	<b>59.3</b>	<b>71.6</b>	45.3
Investment financed by banks	34.7	<b>56.6</b>	<b>67.6</b>	48.9	
Formal training programme	<b>56.2</b>	<b>69.2</b>	<b>85.8</b>	<b>63.2</b>	
Foreign technology licences	<b>70.2</b>	52.0	<b>68.6</b>	<b>61.6</b>	



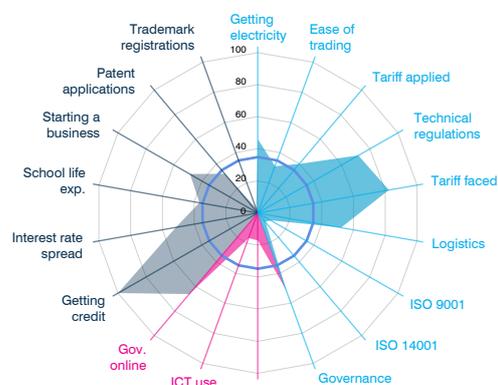
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All	
Power reliability	<b>54.8</b>	46.3	44.3	51.4	
Domestic shipping reliability	-	-	-	-	
Dealing with regulations	<b>61.6</b>	<b>56.0</b>	<b>53.4</b>	<b>58.9</b>	
Customs clearance efficiency	25.9	35.2	41.4	35.6	
Connect	State of cluster development	-	-	<b>64.5</b>	
Extent of marketing	-	-	-	45.6	
Local supplier quality	-	-	-	<b>53.3</b>	
University-industry collaboration in R&D	-	-	-	<b>56.1</b>	
Change	Access to finance	32.0	38.9	35.2	34.1
Access to educated workforce	44.0	40.6	24.3	40.7	
Business licensing and permits	<b>54.6</b>	<b>67.9</b>	<b>59.4</b>	<b>58.2</b>	



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All	
Getting electricity	45.9	
Ease of trading across borders	31.0	
Applied tariff, trade-weighted average	39.9	
Prevalence of technical regulations	<b>71.8</b>	
Faced tariff, trade-weighted average	<b>82.3</b>	
Logistics performance index	<b>52.4</b>	
ISO 9001 quality certificates	<b>9.3</b>	
ISO 14001 environmental certificates	<b>7.2</b>	
Governance index	51.2	
Connect	ICT access	<b>17.2</b>
ICT use	<b>16.7</b>	
Government's online service	<b>66.1</b>	
Change	Ease of getting credit	<b>100.0</b>
Interest rate spread	51.5	
School life expectancy	36.7	
Ease of starting a business	48.5	
Patent applications	31.9	
Trademark registrations	<b>3.1</b>	



■ Compete    ■ Connect    ■ Change  
 — Reference level    ..... Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Rwanda is a low income, landlocked African country with a population of 11.4 million and GDP of \$8.5 billion. Goods and services account for 50.7% and 49.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Rwanda's exports lie in fresh food and raw agro-based products, and in textiles. ITC identifies *binder or baler twine* (a synthetic twine used to bind fibrous materials), *cashew nuts*, and *wattle extract* (a natural soluble extract used in the manufacturing of textile products) as top products for diversification.

Existing export products also have increased export potential such as *black tea* and *coffee*. *Black tea*, for instance, has strong expansion opportunities to non-OECD countries. ITC estimates that there is an unrealized worldwide export market of around \$34 million.

The SME Competitiveness Grid reveals that small and medium-sized firms perform well in their capacity to change, supported by good scores on formal training programmes and audited financial statements. SMEs also perform relatively well in their capacity to connect, notwithstanding weaknesses in their national environment.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Binder o baler twine,of sisal o oth textile fibres of the genus Agave	560721	1	1	1	8	■	■	■
Cashew nuts, without shell, fresh or dried	080132	2	2	2	1	■		
Wattle extract	320120	3	3	3	3	■	■	■
Cocoa beans, whole or broken, raw or roasted	180100	4	20	8	2	■		
Cut flowers and flower buds for bouquets, fresh	0603XX	5	9	4	4	■		
Brazil nuts, without shell, fresh or dried	080122	6	6	9	5	■		
Dried pigeon peas and other leguminous vegetables, shelled	0713Xb	7	4	5	7	■		
Sesamum seeds, whether or not broken	120740	8	5	6	6	■		
Cloves	0907	9	7	7	9	■		
Gum arabic	130120	10	12	13	10	■		

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Black tea (fermented) & partly fermented tea in packages...	090240	26.1	■	■	■	■			■
Coffee, not roasted, not decaffeinated	090111	66.6			■	■			■
Vegetable saps and extracts	130219	3.6			■				■
Coffee, not roasted, decaffeinated	090112	2.0			■	■	■	■	■
Raw hides and skins (other than furskins) and leather	41XXXa	7.2			■	■	■	■	■
Postcards, printed or illustrated; printed greeting cards	490900	0.2			■	■	■	■	■
Raw hides and skins (other than furskins) and leather, of swine...	41XXXd	4.3			■	■	■	■	■
Black tea (fermented) & partly fermented tea in packages not...	090230	0.5			■	■	■	■	■
Basketwork, wickerwork & other articles made from vegetable...	4602XX	0.4			■	■	■	■	■
Flour&meal of sago&of roots or tubers with high starch	110620	0.1			■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

1.96

**Exports subject to regulation**

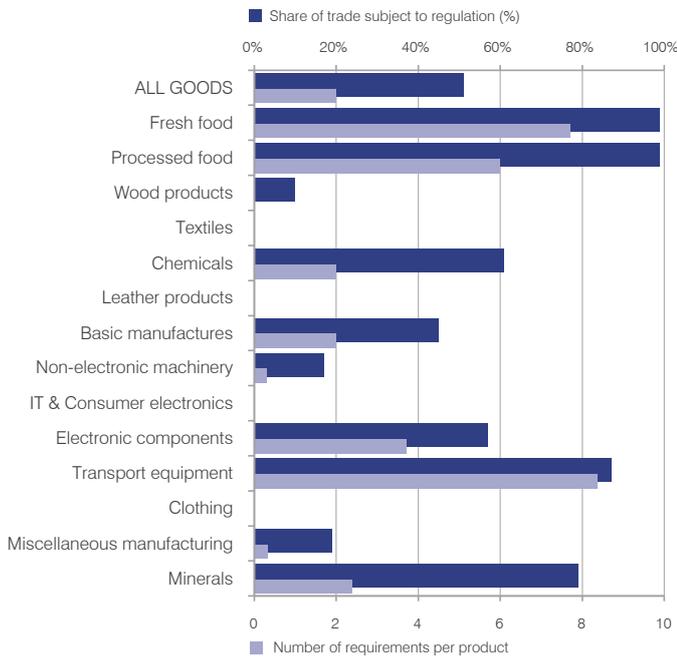


**Requirements per exported product**

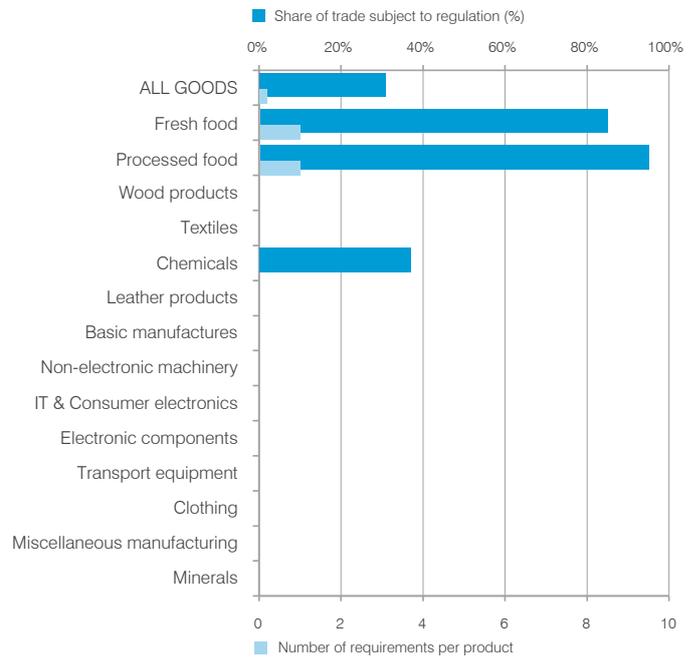
0.2

## Regulatory environment by sector

### Import regulations

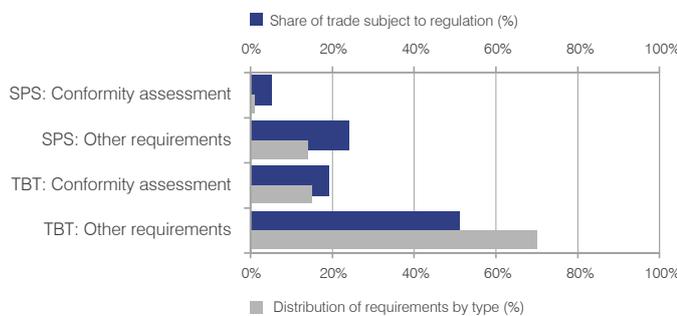


### Export regulations



## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 481 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  47% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

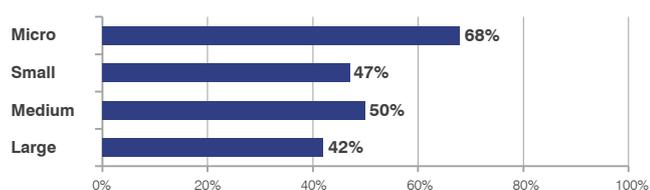
**Technical regulations:**  50% of reported problems

**Main procedural obstacle:** Informal or high payment

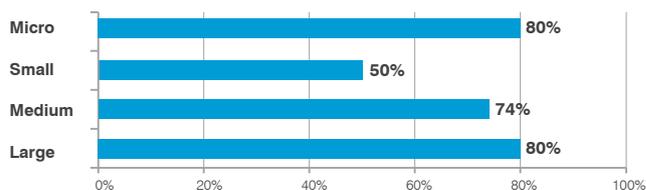
**Main regulatory obstacle:** Product certification

### Share of problems by company size

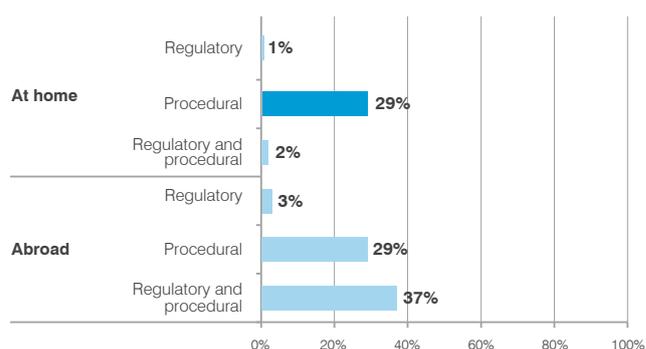
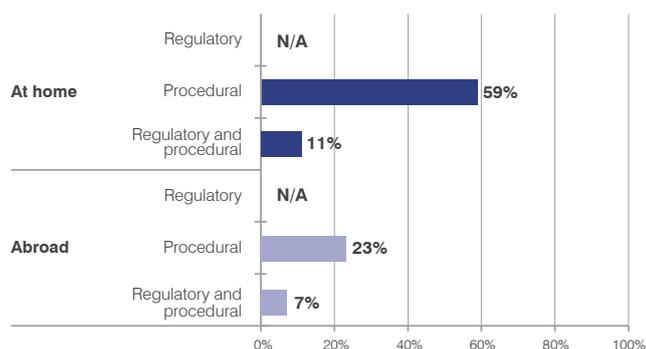
#### Importing firms



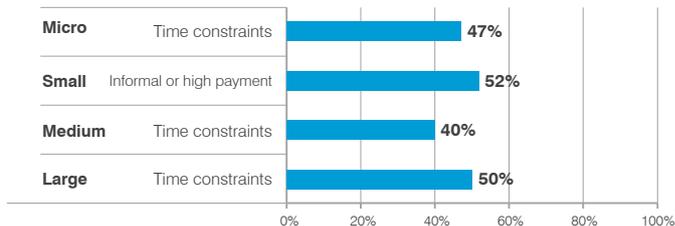
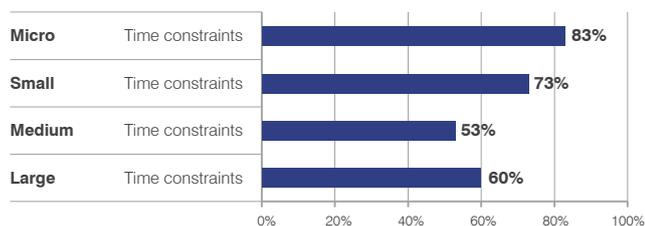
#### Exporting firms



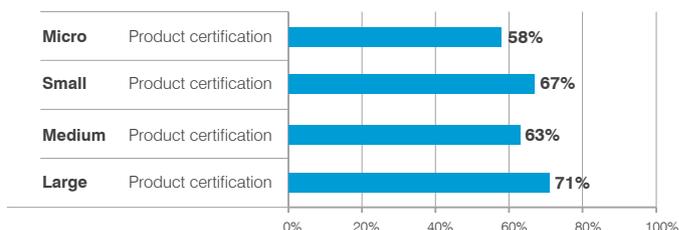
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/rwanda>. Survey field work ended in 2011, with 530 companies in phone interviews. Of those, 394 companies (74%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 136 also gave face-to-face interviews.

# Senegal

## Key indicators

Population (million)	15.0
GDP (\$ billion)	14.0
GDP per capita (\$)	935
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	-6.1
Tariff preference margin (percentage points)	6.2
Imports and exports (goods and services), share of GDP (%)	80.9
Services exports, share of total exports (%)	33.3
Geographic region	Africa
Development group	LDC
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	35.0	<b>14.8</b>	22.5
	Medium	46.9	51.4	38.3
	Large	<b>65.6</b>	<b>80.6</b>	47.1
	All	42.6	28.0	32.5
IMMEDIATE BUSINESS ENVIRONMENT		46.0	<b>57.2</b>	50.2
NATIONAL ENVIRONMENT		43.7	35.7	35.8

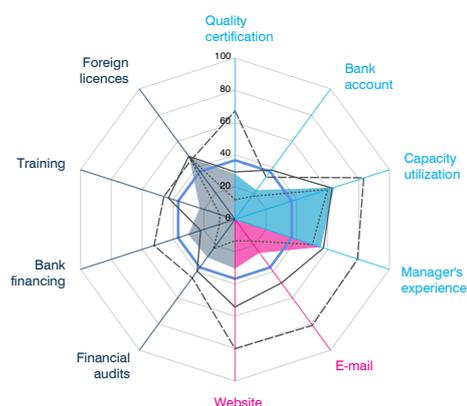
Reference level: 36.7 (a function of GDP per capita \$)

**Strengths are scores above: 55.1**      **Weaknesses are scores below: 18.4**

## SME Competitiveness Grid

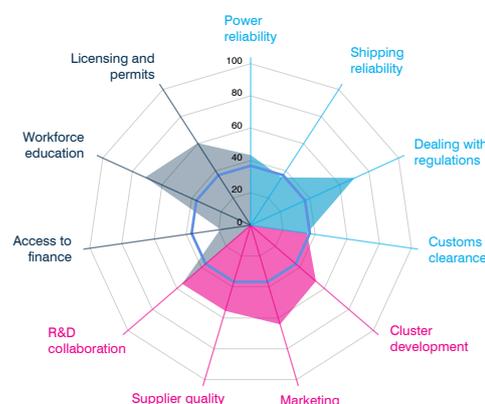
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>12.3</b>	29.5	<b>67.2</b>	28.2
Bank account	<b>17.8</b>	37.9	32.5	22.5
Capacity utilization	<b>59.9</b>	<b>62.8</b>	<b>83.3</b>	<b>64.2</b>
Manager's experience	50.0	<b>57.3</b>	<b>79.4</b>	<b>55.5</b>
<b>Connect</b>				
E-mail	<b>16.5</b>	48.6	<b>81.1</b>	25.6
Firm website	<b>13.2</b>	54.2	<b>80.1</b>	30.5
<b>Change</b>				
Audited financial statement	22.4	39.6	44.6	29.0
Investment financed by banks	<b>9.9</b>	22.2	52.3	30.2
Formal training programme	<b>9.7</b>	43.0	46.0	22.8
Foreign technology licences	48.0	48.4	45.6	47.9



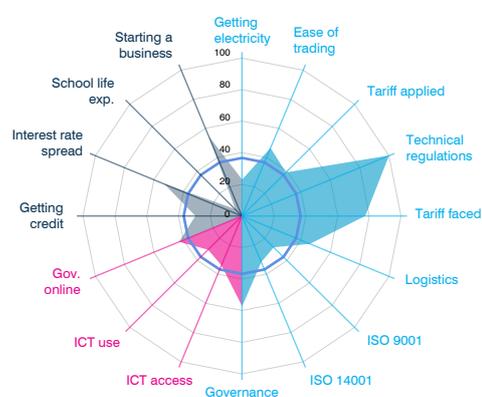
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	45.3	40.1	44.3	43.4
Domestic shipping reliability	27.6	43.6	<b>80.2</b>	35.1
Dealing with regulations	<b>77.6</b>	<b>58.9</b>	<b>63.0</b>	<b>70.3</b>
Customs clearance efficiency	-	36.7	30.8	35.1
<b>Connect</b>				
State of cluster development				53.1
Extent of marketing				<b>64.2</b>
Local supplier quality				<b>55.5</b>
University-industry collaboration in R&D				<b>55.8</b>
<b>Change</b>				
Access to finance	<b>13.3</b>	26.4	38.6	18.9
Access to educated workforce	<b>77.7</b>	<b>62.8</b>	<b>60.7</b>	<b>71.3</b>
Business licensing and permits	<b>64.4</b>	45.4	<b>80.8</b>	<b>60.4</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	23.1
Ease of trading across borders	46.6
Applied tariff, trade-weighted average	39.0
Prevalence of technical regulations	<b>100.0</b>
Faced tariff, trade-weighted average	<b>77.4</b>
Logistics performance index	46.2
ISO 9001 quality certificates	28.1
ISO 14001 environmental certificates	31.6
Governance index	<b>57.3</b>
<b>Connect</b>	
ICT access	34.0
ICT use	30.3
Government's online service	43.0
<b>Change</b>	
Ease of getting credit	29.4
Interest rate spread	53.2
School life expectancy	<b>6.1</b>
Ease of starting a business	54.4
Patent applications	-
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ..... Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Senegal is a lower-middle income country in western Africa with a population of 15.0 million and GDP of \$14.0 billion. Goods and services account for 66.7% and 33.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Senegal's exports lie in fresh and processed food, and raw and processed agro-based products. ITC identifies *cashew nuts, rice, semi-milled or wholly milled, and potassium chloride* as top products for diversification.

Existing export products also have potential for increased exports such as *frozen fish, whole*. ITC estimates that this product has an unrealized export potential of \$96 million to non-OECD countries and \$36 million to OECD countries. Other products with potential include *soups and broths* and *false beard, eyebrows and the like*.

The SME Competitiveness Grid reveals that Senegal's national environment performs well in trade policy-related variables like tariffs and regulations, but underperforms in accessing electricity. Small firms underperform in their capacity to connect. In particular, only few small firms use e-mails in day-to-day operations or have a company website. These connectivity constraints do not apply to large firms. Small firms also make little use of internationally recognized quality certificates.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Cashew nuts, without shell, fresh or dried	080132	3	11	4	2	■		
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	4	2	3	73	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	5	3	5	57	■	■	■
Cut flowers and flower buds for bouquets, fresh	0603XX	6	4	6	9	■		
Palm oil and its fractions refined but not chemically modified	151190	8	6	8	94	■	■	■
Bovine cuts boneless, frozen	020230	9	7	9	25	■	■	■
Sheep cuts, boneless, frozen	020443	10	9	11	4	■	■	■
Palm oil, crude	151110	11	8	10	98	■	■	■
Sheep cuts, bone in, frozen	020442	13	10	12	8	■	■	■
Pineapple juice, unfermented	2009Xd	14	12	13	109	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Other frozen fish, whole	0303Xa	144.6	■	■	■	■	■	■	■
Soups and broths and preparations thereof	210410	108.3	■	■	■	■	■	■	■
False beard,eyebrows and the like,of synthetic textile materials,...	670419	21.0	■	■	■	■	■	■	■
Octopus, frozen, dried, salted or in brine	030759	50.6	■	■	■	■	■	■	■
Ground-nut oil, crude	150810	61.0	■	■	■	■	■	■	■
Frozen Sardines , sardinella, brisling or sprats	030353	8.9	■	■	■	■	■	■	■
Frozen shrimps and prawns	0306Xb	32.6	■	■	■	■	■	■	■
Other fresh or chilled fish, whole	0302Xd	49.6	■	■	■	■	■	■	■
Cuttle fish and squid,shelled or not,frozen,dried,salted or in...	030749	24.0	■	■	■	■	■	■	■
Raw or tanned (in the wet state) skins of sheep or lamb, without...	41XXXb	13.1	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

### Imports subject to regulation



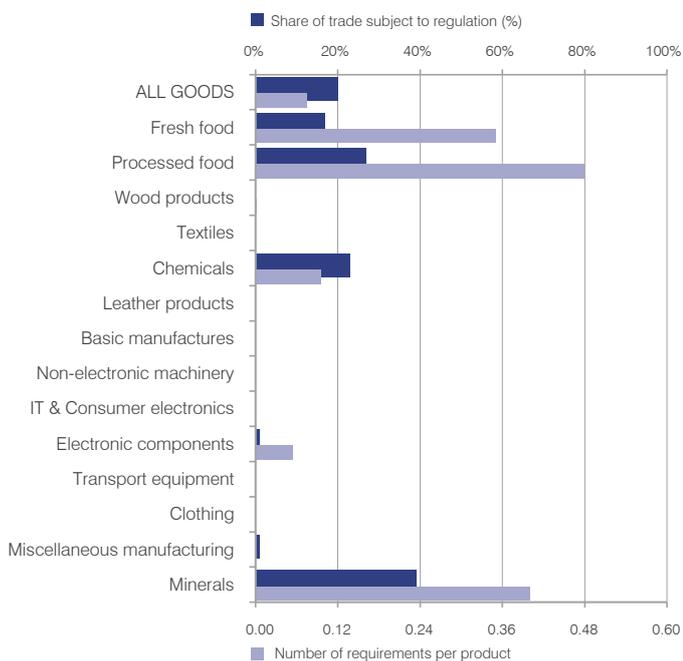
19.9%

### Requirements per imported product

0.08

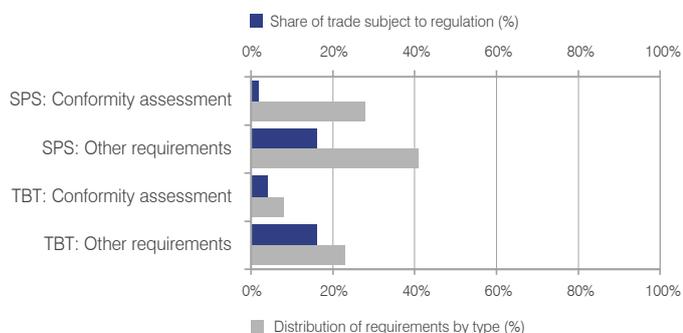
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 43 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  6% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

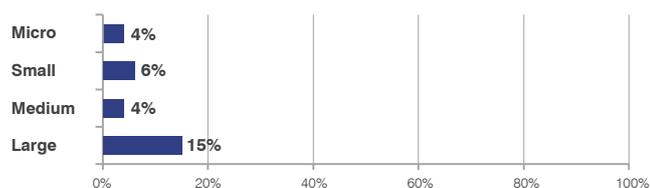
**Technical regulations:**  78% of reported problems

**Main procedural obstacle:** Informal or high payment

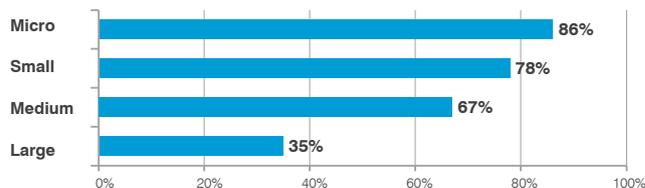
**Main regulatory obstacle:** Testing

### Share of problems by company size

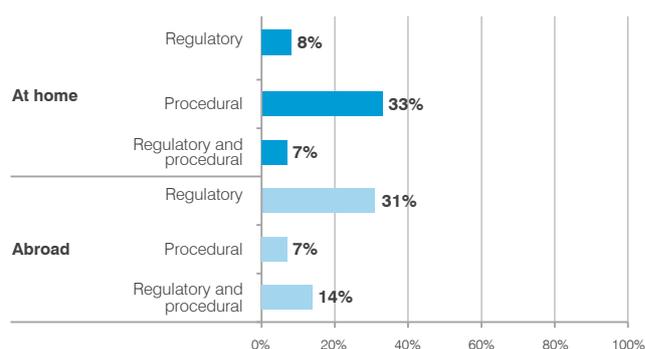
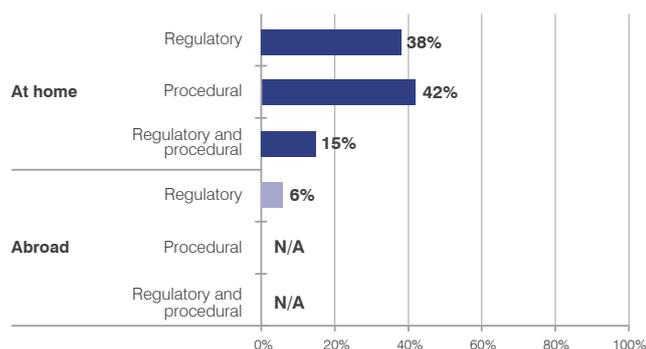
#### Importing firms



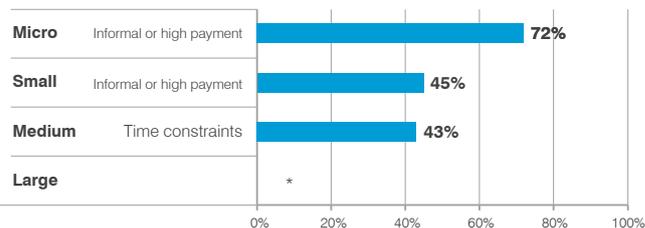
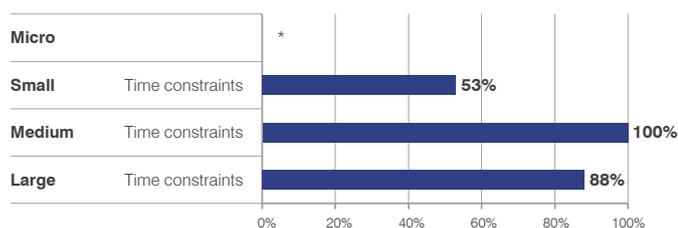
#### Exporting firms



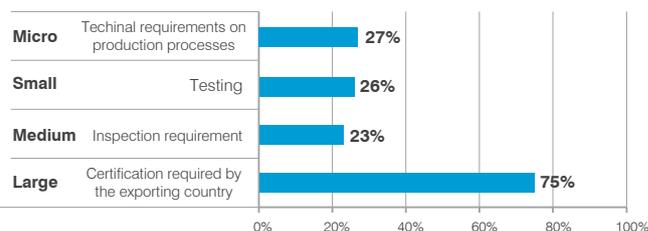
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/senegal>. Survey field work ended in 2012, with 260 companies in phone interviews. Of those, 164 companies (63%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 162 also gave face-to-face interviews.

# Sri Lanka

## Key indicators

Population (million)	21.1
GDP (\$ billion)	79.5
GDP per capita (\$)	3,768
Share of world GDP (PPP\$, %)	0.2
Current account surplus/deficit, share of GDP (%)	-2.0
Tariff preference margin (percentage points)	1.7
Imports and exports (goods and services), share of GDP (%)	55.8
Services exports, share of total exports (%)	33.2
Geographic region	Asia-Pacific
Development group	
Income group	Lower-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.1	<b>5.6</b>	39.2
	Medium	51.5	27.7	61.4
	Large	66.1	67.0	<b>78.5</b>
	All	42.2	<b>11.7</b>	48.6
IMMEDIATE BUSINESS ENVIRONMENT		53.2	64.3	44.1
NATIONAL ENVIRONMENT		47.5	51.7	50.1

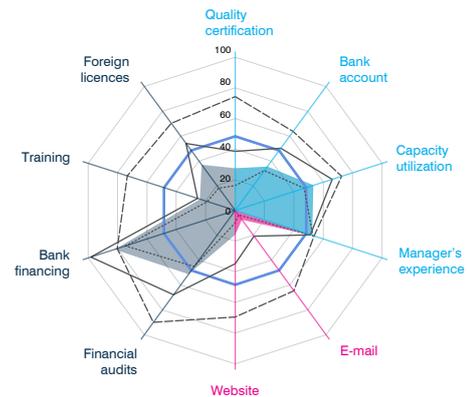
Reference level: 48.4 (a function of GDP per capita \$)

**Strengths are scores above: 72.6**      **Weaknesses are scores below: 24.2**

## SME Competitiveness Grid

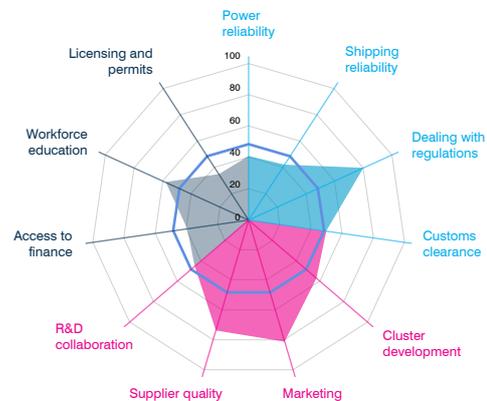
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>16.3</b>	38.5	<b>74.3</b>	27.7
Bank account	32.2	50.4	63.9	35.5
Capacity utilization	46.9	66.1	72.5	53.2
Manager's experience	52.9	51.1	53.7	52.6
<b>Connect</b>				
E-mail	<b>3.3</b>	<b>20.7</b>	64.7	<b>7.5</b>
Firm website	<b>7.9</b>	34.8	69.4	<b>15.9</b>
<b>Change</b>				
Audited financial statement	45.1	67.8	<b>90.1</b>	51.4
Investment financed by banks	<b>74.5</b>	<b>98.2</b>	<b>80.2</b>	<b>82.0</b>
Formal training programme	<b>19.0</b>	25.7	<b>73.3</b>	<b>24.0</b>
Foreign technology licences	<b>18.1</b>	54.1	70.3	37.0



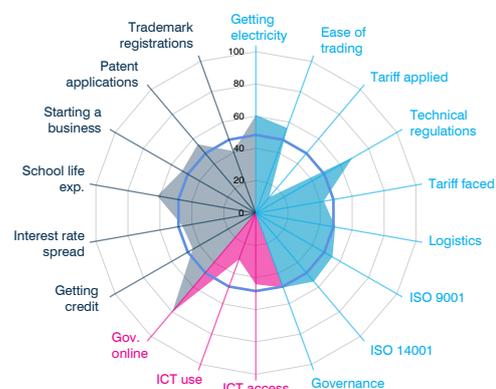
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	42.5	34.6	40.1	40.9
Domestic shipping reliability	36.3	55.9	55.9	41.9
Dealing with regulations	<b>83.0</b>	<b>73.0</b>	68.5	<b>80.2</b>
Customs clearance efficiency	58.0	47.3	55.8	49.8
<b>Connect</b>				
State of cluster development				57.1
Extent of marketing				<b>81.3</b>
Local supplier quality				<b>73.7</b>
University-industry collaboration in R&D				45.2
<b>Change</b>				
Access to finance	36.6	47.6	56.8	39.6
Access to educated workforce	62.8	49.9	34.0	57.9
Business licensing and permits	34.0	37.7	35.4	34.7



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	60.7
Ease of trading across borders	56.0
Applied tariff, trade-weighted average	<b>12.6</b>
Prevalence of technical regulations	68.8
Faced tariff, trade-weighted average	42.4
Logistics performance index	49.5
ISO 9001 quality certificates	54.2
ISO 14001 environmental certificates	55.4
Governance index	49.2
<b>Connect</b>	
ICT access	44.2
ICT use	30.6
Government's online service	<b>80.3</b>
<b>Change</b>	
Ease of getting credit	44.8
Interest rate spread	45.9
School life expectancy	61.6
Ease of starting a business	52.4
Patent applications	55.5
Trademark registrations	40.7



■ Compete    ■ Connect    ■ Change  
— Reference level    - - - Small    — Medium    - - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Sri Lanka is a lower-middle income country in South Asia with a population of 21.1 million and GDP of \$79.5 billion. Goods and services account for 66.8% and 33.2% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Sri Lanka's exports lie in processed food and agro-based products, clothing and chemicals. ITC identifies *prepared or preserved shrimps; wood in chips; rice, semi-milled or wholly milled; and superphosphates* as top products for diversification.

Existing export products such as tea and textiles also have potential for increased exports. ITC's export potential analysis identifies an opportunity for increased exports of *black tea* to OECD countries, representing a potential market of \$470 million. Unexploited export potential also exists in rubber-based products.

The SME Competitiveness Grid reveals that Sri Lanka's immediate and national environments attain average scores in all three pillars of competitiveness. The country does well in marketing and the time managers spend on regulations. SMEs, however, suffer from the lack of access to market-relevant information (revealed by a poor performance in the connectivity pillar) and weaknesses in meeting international quality standards.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Rice, semi-milled or wholly milled, whether or not polished or glazed	100630	3	5	3	71	■	■	■
Prepared or preserved shrimps and prawns	1605Xa	7	11	43	3	■	■	■
Mens/boys ensembles, of synthetic fibres, knitted	610323	9	243	6	306	■	■	■
Mens/boys garments, made up of impreg, ctd, cov, etc, textile woven fabric	621040	11	27	13	7	■	■	■
Womens/girls anoraks & similar article of man-made fibres, not knitted	620293	13	227	18	11	■	■	■
Wood in chips, non-coniferous	440122	14	528	122	5	■	■	■
Mens/boys anoraks and similar articles, of man-made fibres, not knitted	620193	15	54	11	17	■	■	■
Fish fats & oils & their fractions exc liver, refined/not, not chemically modified	150420	16	360	116	6	■	■	■
Superphosphates, in packages weighing more than 10 kg	310310	24	120	17	97	■	■	■
Yarn, >=85% of polyester staple fibres, single, not put up	550921	25	206	16	379	■	■	■

## Unrealized potential: Existing export products

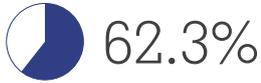
Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Black tea (fermented) & partly fermented tea in packages...	090240	740.7	■	■	■	■			■
Pepper of the genus Piper, ex cubeb pepper, neither crushed nor...	090411	63.5	■	■	■	■			■
Brassieres and parts thereof, of textile materials	621210	443.4		■	■	■	■	■	■
Cinnamon and cinnamon-tree flowers, neither crushed nor ground	0906XX	114.2	■	■	■	■			■
Black tea (fermented) & partly fermented tea in packages not...	090230	609.0	■	■	■	■	■	■	■
Gloves of rubber	401519	127.8		■	■	■	■	■	■
Gloves impregnated, coated or covered with plastics or rubber,...	611610	208.2		■	■	■	■	■	■
Solid or cushioned tires, interchangeable tire treads & tire flaps	401290	325.5		■	■	■	■	■	■
Babies garments and clothing accessories of cotton, knitted	611120	105.4		■	■	■	■	■	■
Mens/boys shirts, of cotton, not knitted	620520	157.3		■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

2.26

**Exports subject to regulation**

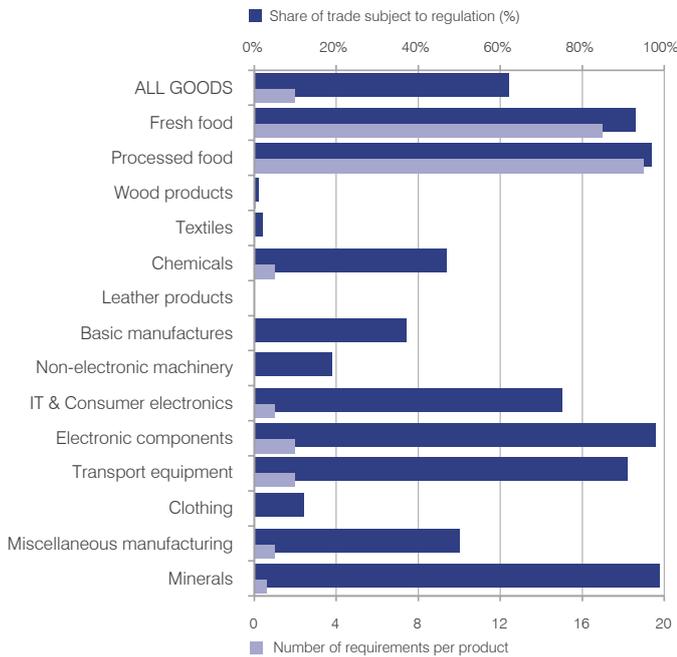


**Requirements per exported product**

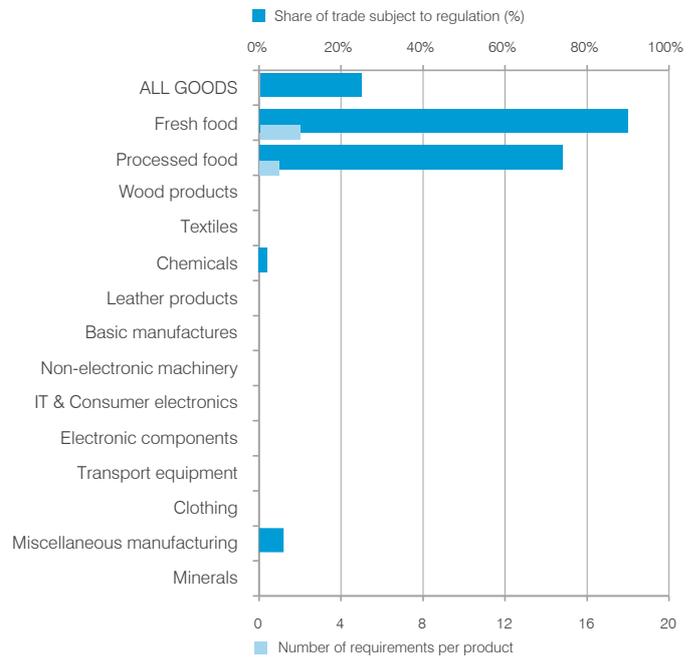
0.39

## Regulatory environment by sector

### Import regulations

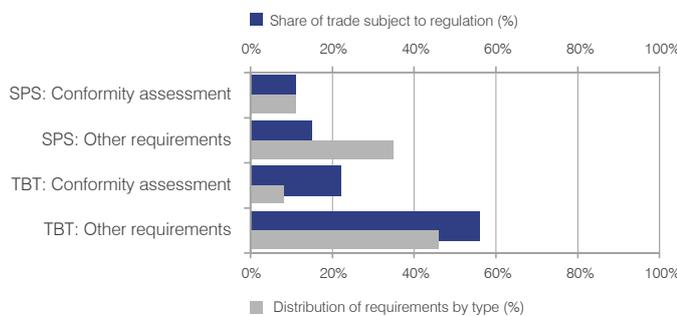


### Export regulations

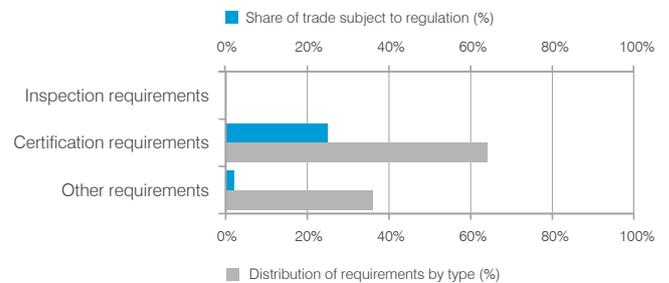


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 78 technical regulations; excluding 8 regulations covering all products.  
**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  39% of reported problems

**Main procedural obstacle:** Time constraints

### Exporting firms

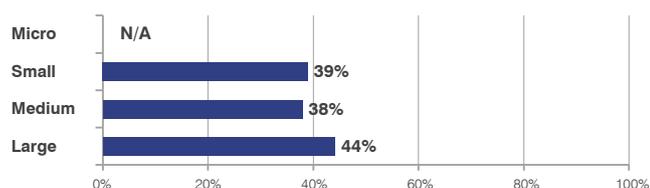
**Technical regulations:**  68% of reported problems

**Main procedural obstacle:** Informal or high payment

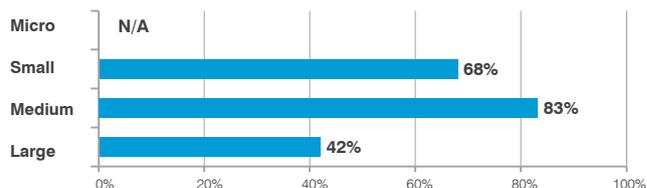
**Main regulatory obstacle:** Testing

## Share of problems by company size

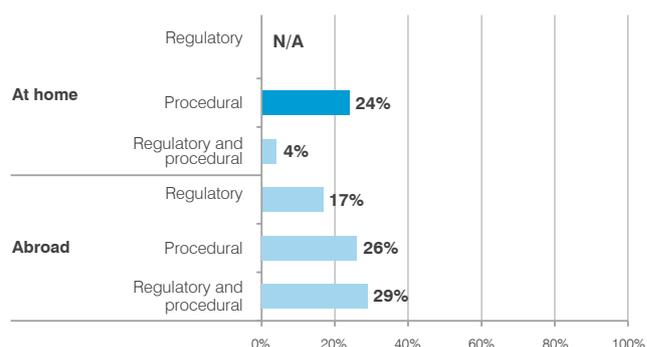
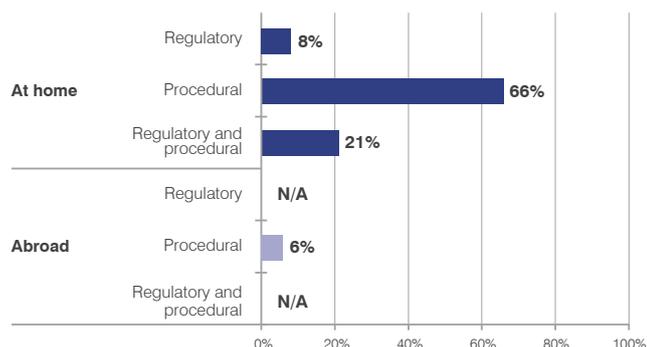
### Importing firms



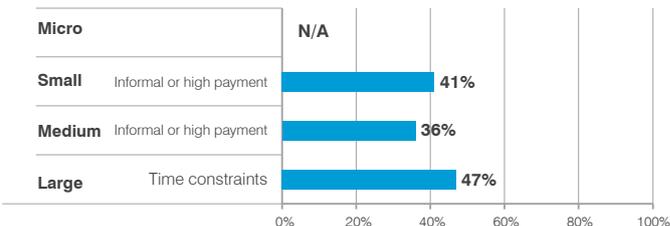
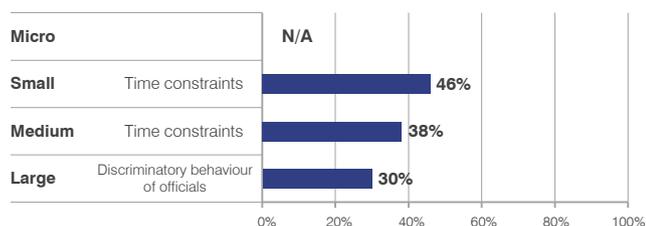
### Exporting firms



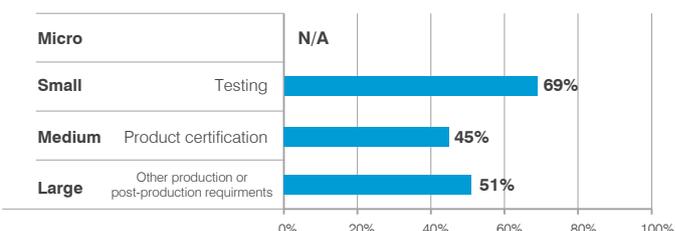
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/srilanka>. Survey field work ended in 2010, with 510 companies in phone interviews. Of those, 217 companies (43%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 105 also gave face-to-face interviews.

# Thailand

## Key indicators

Population (million)	68.8
GDP (\$ billion)	373.5
GDP per capita (\$)	5,426
Share of world GDP (PPP\$, %)	1.0
Current account surplus/deficit, share of GDP (%)	6.2
Tariff preference margin (percentage points)	3.0
Imports and exports (goods and services), share of GDP (%)	139.3
Services exports, share of total exports (%)	19.5
Geographic region	Asia-Pacific
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	31.1	<b>17.2</b>	<b>77.9</b>
	Medium	48.7	32.3	<b>89.5</b>
	Large	54.2	53.3	<b>98.0</b>
	All	50.7	39.4	<b>92.8</b>
IMMEDIATE BUSINESS ENVIRONMENT		<b>96.3</b>	65.8	40.5
NATIONAL ENVIRONMENT		67.4	61.7	47.1

Reference level: 51.5 (a function of GDP per capita \$)

**Strengths are scores above: 77.2**      **Weaknesses are scores below: 25.7**

## SME Competitiveness Grid

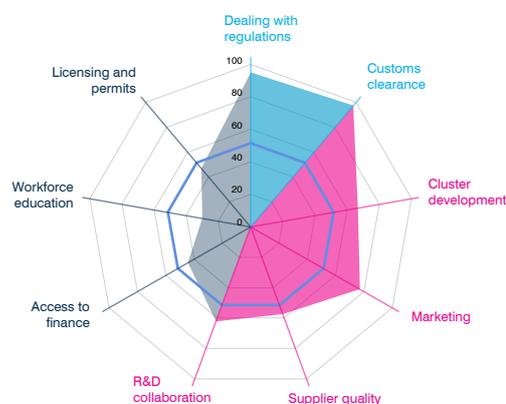
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>22.3</b>	46.1	<b>82.9</b>	66.9
Bank account	68.5	<b>100.0</b>	<b>78.0</b>	<b>84.4</b>
Capacity utilization	-	-	-	-
Manager's experience	<b>2.5</b>	<b>0.0</b>	<b>1.7</b>	<b>0.8</b>
Connect				
E-mail	<b>14.0</b>	27.9	47.8	33.6
Firm website	<b>20.4</b>	36.6	58.7	45.3
Change				
Audited financial statement	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Investment financed by banks	<b>95.4</b>	<b>98.2</b>	<b>97.9</b>	<b>97.8</b>
Formal training programme	38.4	70.4	<b>96.2</b>	<b>80.7</b>
Foreign technology licences	-	-	-	-



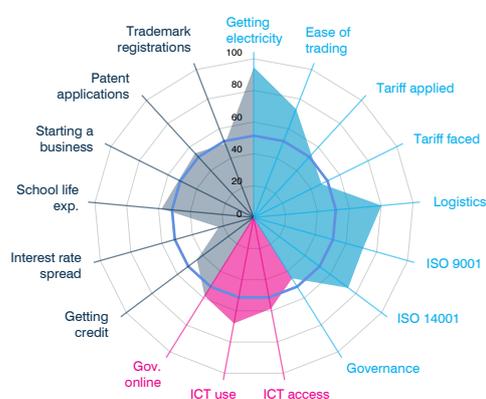
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	-	-	-	-
Domestic shipping reliability	-	-	-	-
Dealing with regulations	<b>93.6</b>	<b>95.1</b>	<b>95.1</b>	<b>95.1</b>
Customs clearance efficiency	<b>97.5</b>	<b>96.0</b>	<b>97.5</b>	<b>97.5</b>
Connect				
State of cluster development	-	-	-	66.6
Extent of marketing	-	-	-	77.1
Local supplier quality	-	-	-	57.4
University-industry collaboration in R&D	-	-	-	62.2
Change				
Access to finance	34.3	39.5	51.5	44.4
Access to educated workforce	42.0	31.4	27.1	30.1
Business licensing and permits	41.9	48.5	46.8	47.0



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>94.6</b>
Ease of trading across borders	73.2
Applied tariff, trade-weighted average	53.5
Prevalence of technical regulations	-
Faced tariff, trade-weighted average	47.2
Logistics performance index	<b>80.2</b>
ISO 9001 quality certificates	71.1
ISO 14001 environmental certificates	73.9
Governance index	45.4
Connect	
ICT access	58.6
ICT use	68.1
Government's online service	58.5
Change	
Ease of getting credit	44.8
Interest rate spread	<b>22.9</b>
School life expectancy	58.1
Ease of starting a business	52.6
Patent applications	54.6
Trademark registrations	49.9



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Thailand is an upper-middle income country in South-East Asia with a population of 68.8 million and GDP of \$373.5 billion. Goods and services account for 80.5% and 19.5% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Thailand's exports lie in electronic components, and IT & consumer electronics. ITC identifies *electrical capacitors* as a new product to export. Price stability and the participation of women in the production of the product add a development dimension. Other top products for diversification are *photosensitive semiconductor devices* and *chemical compounds*.

Existing export products also have increased export potential such as *computer data storage units*. ITC estimates that this product has an unrealized export potential of \$2.9 billion to non-OECD countries and \$3.2 billion to OECD countries. Other products with potential include *smart cards* and *natural rubber latex*.

The SME Competitiveness Grid reveals that small firms are doing well in regard to audited financial statements and investments financed by banks, notwithstanding a relatively wide interest rate spread. In general, SMEs perform well in their capacity to change but underperform in their capacity to connect – only few small firms use e-mails in day-to-day operations or have a company website.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed
Electrical capacitors, fixed, aluminium electrolytic	853222	8	5	4	42	■	■	■
Electrical capacitors, fixed, ceramic dielectric, multilayer	853224	9	6	7	43	■	■	■
Transistors, other than photosensitive transistors	854129	13	10	11	60	■	■	■
Photosensitive semiconductor device, photovoltaic cells & light emitting diodes	854140	27	25	28	30	■	■	■
Chemical compds, chem elem in the form of disc, wafer etc	381800	28	24	26	37	■	■	■
Transistors, oth than photosensit, w a dissipation rate < 1 W	854121	30	23	22	126	■	■	■
Semiconductor devices	854150	31	26	23	56	■	■	■
Diodes, other than photosensitive or light emitting diodes	854110	39	32	30	101	■	■	■
Parts of microphones, loudspeakers, headphones, earphones & elec sound fiers amplifiers	851890	47	37	35	89	■	■	■
Electrical capacitors, fixed	853229	49	39	39	156	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Asia and the Pacific	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Computer data storage units	847170	15305.4	■	■	■	■	■	■	■
Smart cards; electronic integrated circuits; other electrical...	85XXXd	10494.3	■	■	■	■	■	■	■
Natural rubber latex, whether or not prevulcanised	400110	1938.4	■	■	■	■	■	■	■
Technically specified natural rubber (TSNR)	400122	3999.1	■	■	■	■	■	■	■
Natural rubber in smoked sheets	400121	2490.2	■	■	■	■	■	■	■
Rice, semi-milled or wholly milled, whether or not polished or...	100630	4661.6	■	■	■	■	■	■	■
Parts and accessories for printers, copying machines,...	84XXXd	4377.0	■	■	■	■	■	■	■
Manioc (cassava) starch	110814	1016.9	■	■	■	■	■	■	■
Diesel powered trucks with a GVW not exceeding five tonnes	870421	7015.8	■	■	■	■	■	■	■
Television cameras, digital cameras and video camera recorders	852580	2555.7	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

**Technical regulations:**  43% of reported problems

**Main procedural obstacle:** Administrative burdens related to regulation

### Exporting firms

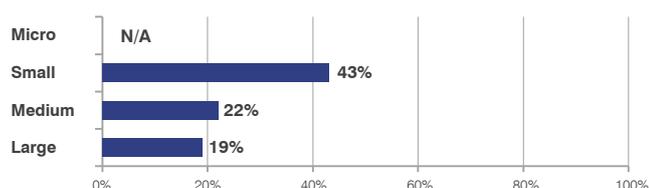
**Technical regulations:**  59% of reported problems

**Main procedural obstacle:** Informal or high payment

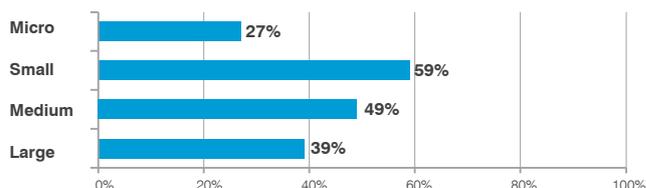
**Main regulatory obstacle:** Product certification

## Share of problems by company size

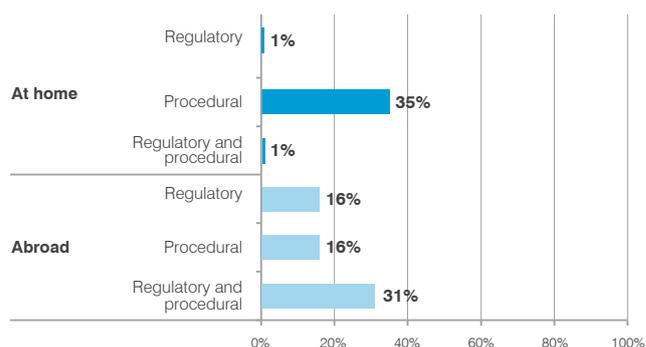
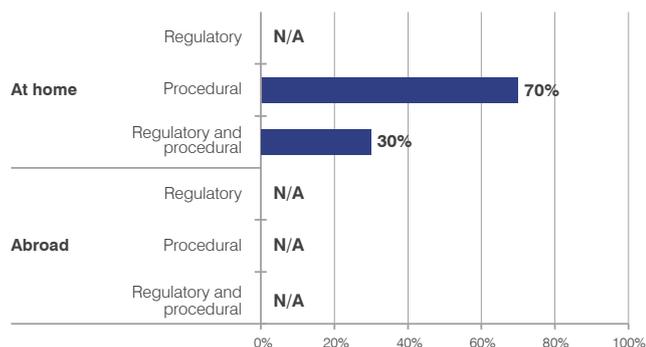
### Importing firms



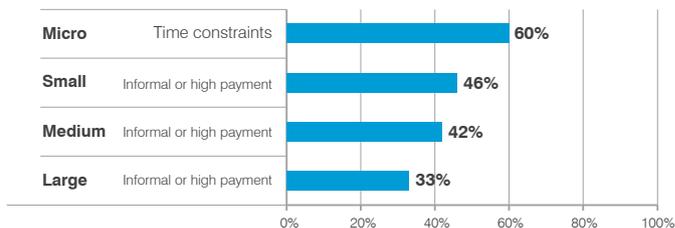
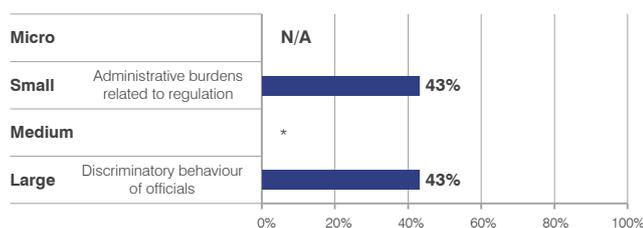
### Exporting firms



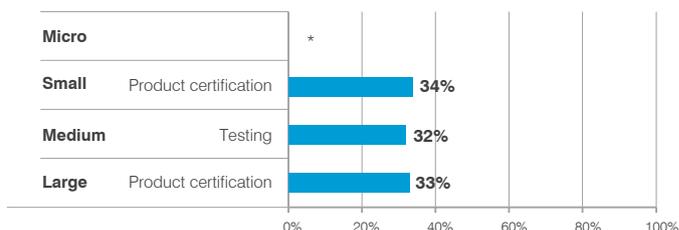
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/thailand>. Survey field work ended in 2014, with 1067 companies in phone interviews. Of those, 508 companies (48%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 340 also gave face-to-face interviews.

# Trinidad and Tobago

## Key indicators

Population (million)	1.4
GDP (\$ billion)	27.7
GDP per capita (\$)	20,380
Share of world GDP (PPP\$, %)	0.0
Current account surplus/deficit, share of GDP (%)	0.7
Tariff preference margin (percentage points)	1.7
Imports and exports (goods and services), share of GDP (%)	155.4
Services exports, share of total exports (%)	22.9
Geographic region	Latin America and the Caribbean
Development group	SIDS
Income group	High income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	56.6	<b>29.3</b>	38.4
	Medium	63.1	52.7	54.6
	Large	60.7	63.5	64.1
	All	57.8	34.3	45.2
IMMEDIATE BUSINESS ENVIRONMENT		60.6	51.1	42.1
NATIONAL ENVIRONMENT		57.1	62.5	47.7

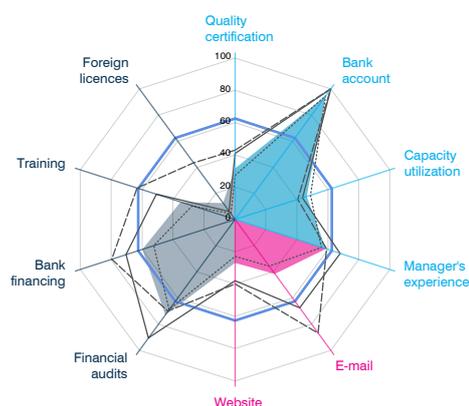
Reference level: 62.6 (a function of GDP per capita \$)

**Strengths are scores above: 93.8**      **Weaknesses are scores below: 31.3**

## SME Competitiveness Grid

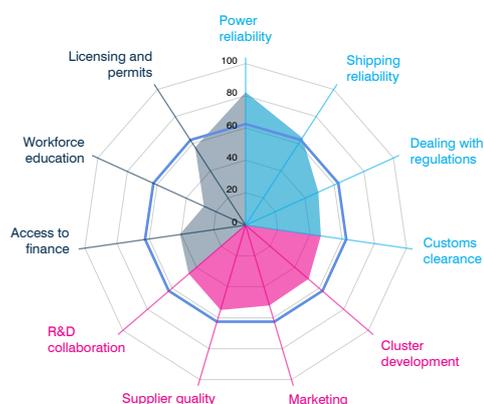
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	<b>27.3</b>	40.8	43.0	31.7
Bank account	<b>94.6</b>	<b>100.0</b>	<b>100.0</b>	<b>94.6</b>
Capacity utilization	48.7	43.5	40.6	46.2
Manager's experience	55.8	68.0	59.1	58.7
<b>Connect</b>				
E-mail	35.7	67.5	87.0	41.7
Firm website	<b>22.9</b>	38.0	40.0	<b>26.9</b>
<b>Change</b>				
Audited financial statement	68.8	90.6	70.2	73.1
Investment financed by banks	52.5	70.4	79.7	59.9
Formal training programme	<b>27.7</b>	50.9	63.3	35.2
Foreign technology licences	<b>4.5</b>	<b>6.3</b>	43.3	<b>12.7</b>



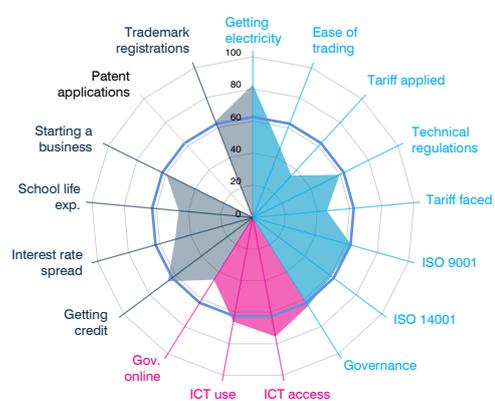
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	82.3	82.3	<b>100.0</b>	82.3
Domestic shipping reliability	70.7	59.6	50.0	64.4
Dealing with regulations	47.3	56.4	47.9	49.1
Customs clearance efficiency	45.4	53.5	43.8	46.8
<b>Connect</b>				
State of cluster development				51.3
Extent of marketing				52.0
Local supplier quality				55.0
University-industry collaboration in R&D				46.3
<b>Change</b>				
Access to finance	38.6	47.7	46.1	40.8
Access to educated workforce	<b>25.4</b>	34.9	42.7	<b>28.2</b>
Business licensing and permits	58.5	49.3	72.7	57.4



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	82.7
Ease of trading across borders	46.6
Applied tariff, trade-weighted average	35.2
Prevalence of technical regulations	59.7
Faced tariff, trade-weighted average	46.0
Logistics performance index	-
ISO 9001 quality certificates	63.2
ISO 14001 environmental certificates	60.9
Governance index	64.9
<b>Connect</b>	
ICT access	75.5
ICT use	66.1
Government's online service	45.8
<b>Change</b>	
Ease of getting credit	66.1
Interest rate spread	50.0
School life expectancy	46.1
Ease of starting a business	59.8
Patent applications	<b>0.0</b>
Trademark registrations	64.3



■ Compete    ■ Connect    ■ Change  
 — Reference level    ..... Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Trinidad and Tobago is a high income island economy with a population of 1.4 million and GDP of \$27.7 billion. Goods and services account for 77.1% and 22.9% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for the country's exports lie in chemicals and the basic manufactures sector. ITC identifies the chemical compound *potassium chloride* as a new product to export. The high participation of women in the product's production adds a development dimension. Other products for diversification include *soya bean oil, crude* and *semi-chemical wood pulp*.

Existing export products also have increased export potential such as *urea-ammonium nitrate* (an organic compound used in fertilizers). For this product, ITC estimates an unrealized export potential of \$385 million to OECD countries. Other products with export potential include *methanol* and *rum and tafia*.

The SME Competitiveness Grid reveals that Trinidad and Tobago's immediate business and national environments attain average scores in all three pillars of competitiveness. Small firms, however, underperform in their capacity to connect. Only few small firms have a company website, and both small and medium-sized firms score poorly on foreign technology licences. Firms of all sizes, however, appear to make frequent use of financial services and bank finance.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Potassium chloride, in packages weighing more than 10 kg	310420	1	1	1	8	■	■	■
Soya-bean oil crude, whether or not degummed	150710	5	5	5	108	■	■	■
Semi-chemical wood pulp	470500	6	19	22	1	■	■	■
Ammonium nitrate, whether or not in aqueous sol in pack weighg > 10 kg	310230	7	6	6	54	■	■	■
Nickel unwrought, not alloyed	750210	9	9	9	3	■	■	■
Wire, aluminium, not alloyed, w a max cross sectional dimension > 7mm	760511	10	7	7	32	■	■	■
Ferro-titanium and ferro-silico-titanium	720291	13	11	15	11	■	■	■
Monoammonium phosphate&mx thereof w diamonium phosphate, in pack	310540	18	16	17	44	■	■	■
Soya-bean oil and its fractions, refined but not chemically modified	150790	19	17	16	137	■	■	■
Propene (propylene)	290122	20	18	18	114	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Urea/ammonium nitrate mx in aqueous/ammoniacal sol in pack...	310280	320.6	■	■	■	■	■	■	■
Ferrous products obtained by direct reduction of iron ore	720310	925.7	■	■	■	■	■	■	■
Methanol (methyl alcohol)	290511	1640.7	■	■	■	■	■	■	■
Urea, with/nt in aqueous solution in packages weighg more than 10 kg	310210	221.7	■	■	■	■	■	■	■
Hot rolled bar/rod, irregular coils, <14mm diam	721391	109.2	■	■	■	■	■	■	■
Undenaturd ethyl alcohol of an alcohol strgth by vol of 80% vol/...	220710	31.9	■	■	■	■	■	■	■
Waters, incl. mineral & aerated, with added sugar...	220210	48.5	■	■	■	■	■	■	■
Bars & rods, hot-rolled, in irregularly wound coils of iron or non-alloy steel	721310	28.1	■	■	■	■	■	■	■
Rum and tafia	220840	19.3	■	■	■	■	■	■	■
Ingots, iron or non-alloy steel, of a purity of less than 99.94% iron	720610	19.5	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

## ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

## ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

## The business perspective on technical regulations

### Key obstacles for small firms

#### Importing firms

**Technical regulations:**  28% of reported problems

**Main procedural obstacle:** Time constraints

#### Exporting firms

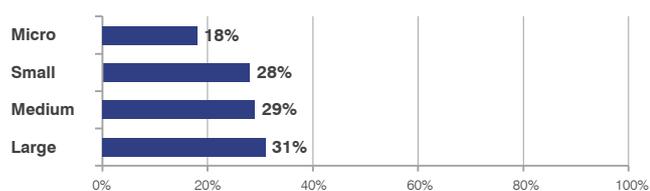
**Technical regulations:**  45% of reported problems

**Main procedural obstacle:** Administrative burdens

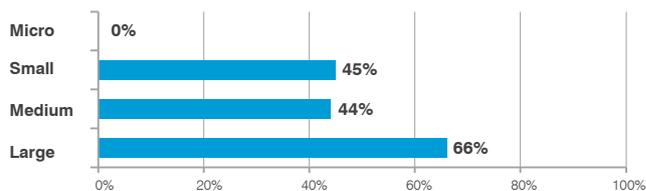
**Main regulatory obstacle:** Product registration

### Share of problems by company size

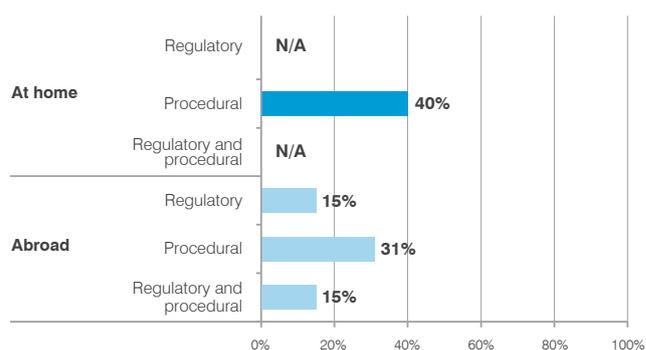
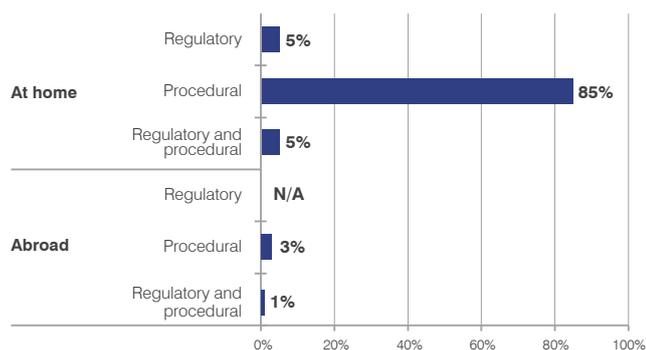
#### Importing firms



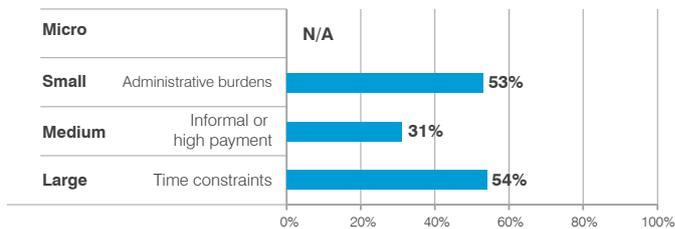
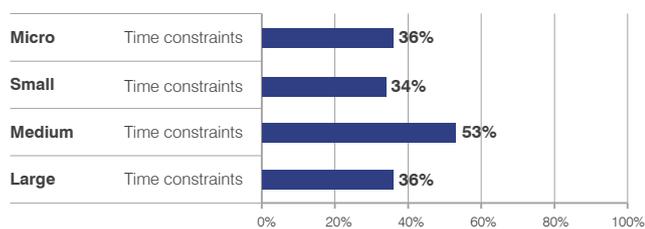
#### Exporting firms



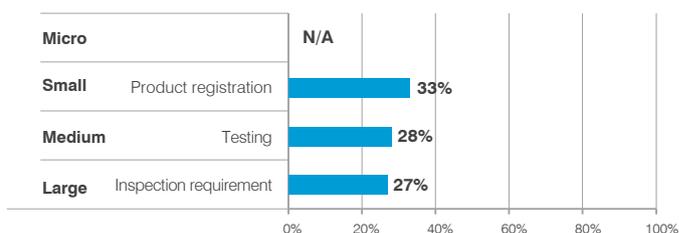
### Obstacles at home and abroad



### Main procedural obstacle



### Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/trinidadandtobago>. Survey field work ended in 2012, with 500 companies in phone interviews. Of those, 171 companies (34%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 153 also gave face-to-face interviews.

# Tunisia

## Key indicators

Population (million)	11.1
GDP (\$ billion)	44.3
GDP per capita (\$)	3,985
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-8.5
Tariff preference margin (percentage points)	4.5
Imports and exports (goods and services), share of GDP (%)	102.5
Services exports, share of total exports (%)	22.4
Geographic region	Arab States
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	41.4	56.5	34.5
	Medium	53.9	<b>75.1</b>	55.0
	Large	59.8	<b>75.8</b>	59.5
	All	49.1	63.9	46.2
IMMEDIATE BUSINESS ENVIRONMENT		47.7	43.7	55.2
NATIONAL ENVIRONMENT		53.8	64.3	54.6

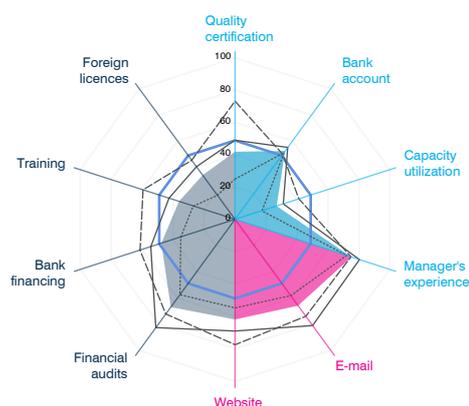
Reference level: 48.9 (a function of GDP per capita \$)

**Strengths are scores above: 73.3**      **Weaknesses are scores below: 24.4**

## SME Competitiveness Grid

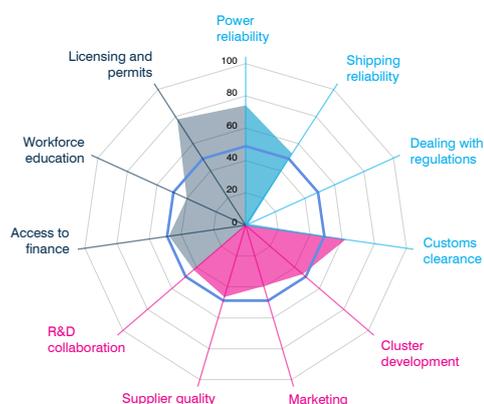
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	25.0	49.0	73.2	41.9
Bank account	51.1	55.1	50.0	52.4
Capacity utilization	<b>17.4</b>	31.2	41.2	26.9
Manager's experience	72.1	<b>80.4</b>	<b>74.9</b>	<b>75.3</b>
Connect				
E-mail	58.3	<b>81.1</b>	<b>74.1</b>	65.9
Firm website	54.7	69.0	<b>77.5</b>	61.9
Change				
Audited financial statement	57.5	<b>82.7</b>	72.2	67.0
Investment financed by banks	35.0	54.3	61.3	47.6
Formal training programme	27.0	42.6	59.3	36.2
Foreign technology licences	<b>18.5</b>	40.3	45.2	33.9



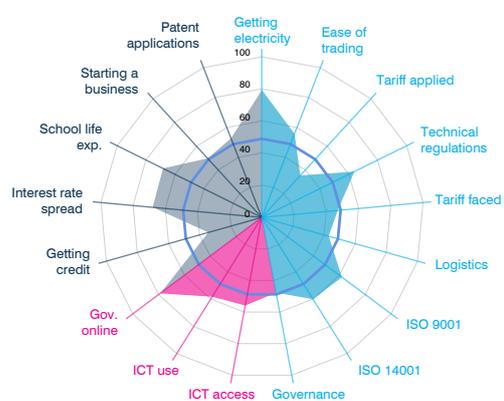
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	<b>82.3</b>	68.8	<b>100.0</b>	<b>74.2</b>
Domestic shipping reliability	64.4	43.6	<b>100.0</b>	52.7
Dealing with regulations	<b>3.2</b>	<b>0.0</b>	<b>1.0</b>	<b>1.8</b>
Customs clearance efficiency	55.1	64.6	69.5	62.3
Connect				
State of cluster development				46.5
Extent of marketing				39.5
Local supplier quality				46.6
University-industry collaboration in R&D				42.5
Change				
Access to finance	47.4	43.7	62.6	47.7
Access to educated workforce	46.2	31.8	37.7	39.9
Business licensing and permits	<b>85.5</b>	65.6	<b>91.9</b>	<b>77.9</b>



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>79.3</b>
Ease of trading across borders	55.8
Applied tariff, trade-weighted average	35.2
Prevalence of technical regulations	63.9
Faced tariff, trade-weighted average	47.1
Logistics performance index	42.9
ISO 9001 quality certificates	62.0
ISO 14001 environmental certificates	60.1
Governance index	47.8
Connect	
ICT access	56.0
ICT use	58.2
Government's online service	<b>78.8</b>
Change	
Ease of getting credit	34.4
Interest rate spread	67.8
School life expectancy	68.3
Ease of starting a business	49.7
Patent applications	52.8
Trademark registrations	-



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Tunisia is an upper-middle income country located in North Africa with a population of 11.1 million and GDP of \$44.3 billion. Goods and services account for 77.6% and 22.4% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Tunisia's exports lie in fresh food and raw agro-based products, the transport equipment sector, and the basic manufactures sector. ITC identifies *wheat and meslin*, *stranded wire*, *dredgers*, and *tugs and pusher craft* as top products for diversification.

Existing export products also have increased export potential such as *maize oil and its fractions*. For this product, ITC estimates an unrealized export potential of \$600 million to non-OECD countries.

The SME Competitiveness Grid reveals that Tunisia's immediate business and national environments attain average scores in all three pillars of competitiveness. The country scores well on several connectivity-related indicators, including using e-mails in day-to-day operations and having websites. Small firms, however, underperform on foreign technology licences.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Wheat and meslin, except durum	1001Xb	13	11	5	232	■		
Other cyclic amides (including acyclic carbamates) and their derivatives; salts...	2924Xb	30	68	141	14	■	■	■
Durum wheat	1001Xa	38	38	19	104	■		
Stranded wire,cables,plaited bands,etc,alum,steel core,not elect "ated" insulated	761410	43	37	16	577	■	■	■
Dredgers	890510	54	34	22	293	■	■	■
Tugs and pusher craft	890400	57		31	150	■	■	■
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/bleachd	470329	59	168	341	29	■	■	■
Machinery for sugar manufacture	843830	68	514	27	1446	■	■	■
Balls,grindg&similar articles of i or s,forged or stamped,not f/worked	732611	109	616	47	1350	■	■	■
Manganese and articles thereof, including waste and scrap	811100	115	755	742	56	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Middle East & North Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Maize (corn) oil and its fractions,refined but not chemically...	151529	86.8	■	■		■	■	■	■
Olive oil, virgin	150910	310.0			■	■	■	■	■
Aircraft parts	880330	161.1			■	■	■	■	■
Dates, fresh or dried	080410	218.5	■	■	■				■
Reception apparatus for television	8528Xb	393.3	■	■	■	■	■	■	■
Mens/boys trousers and shorts, of cotton, not knitted	620342	649.0	■	■	■	■	■	■	■
Uppers and parts thereof, other than stiffeners	640610	142.6	■	■	■	■	■	■	■
Superphosphates, in packages weighing more than 10 kg	310310	234.3	■	■	■	■	■	■	■
Electric conductors, for a voltage not exceeding 80 V	854449	189.7	■	■	■	■	■	■	■
Electric conductors for a voltage <= 1.000 V, insulated, fitted...	854442	627.1	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

2.8

**Exports subject to regulation**

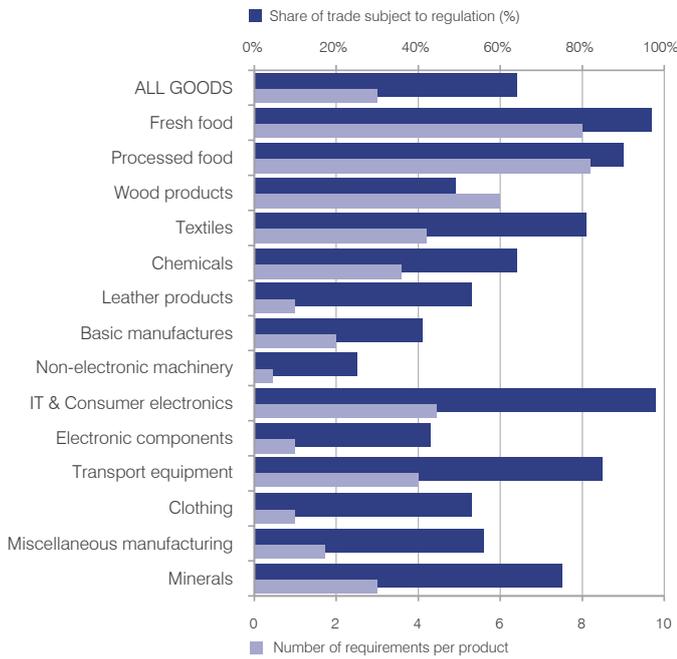


**Requirements per exported product**

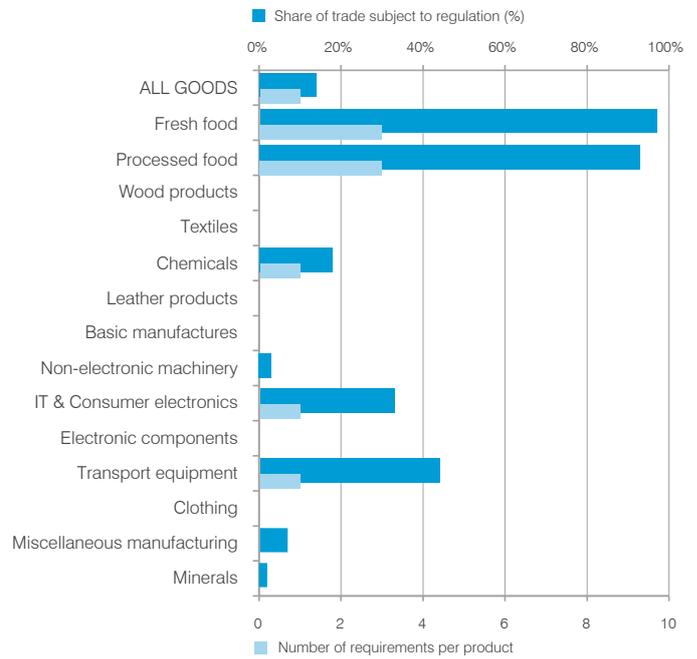
0.65

## Regulatory environment by sector

### Import regulations

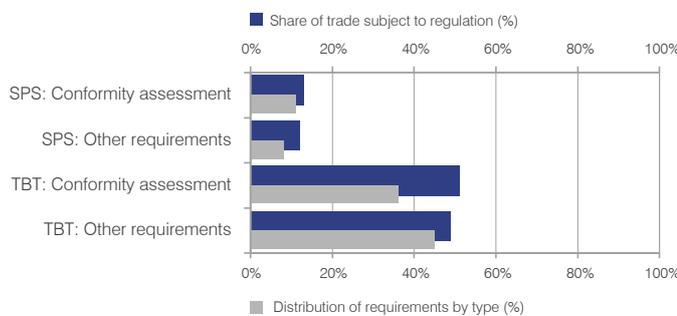


### Export regulations

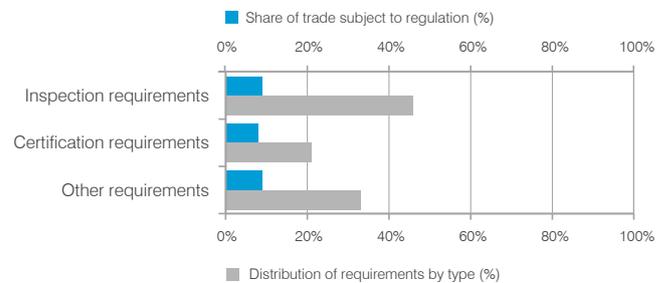


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 159 technical regulations; excluding 17 regulations covering all products.

**Source:** ITC-UNCTAD-WB joint data collection, 2014. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

Technical regulations:  33% of reported problems

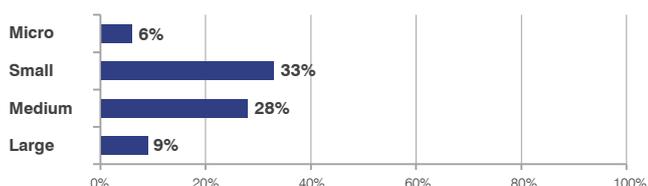
Main procedural obstacle: Time constraints

### Exporting firms

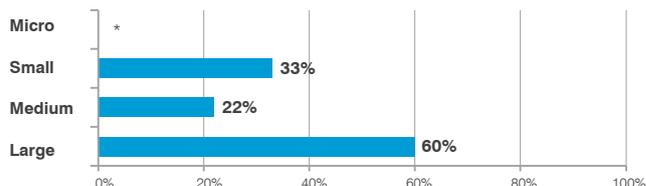
Technical regulations:  33% of reported problems

## Share of problems by company size

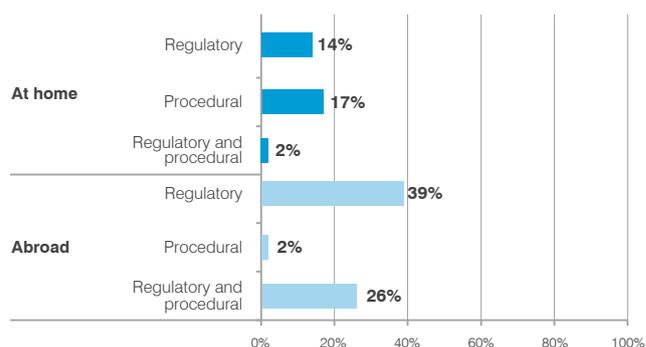
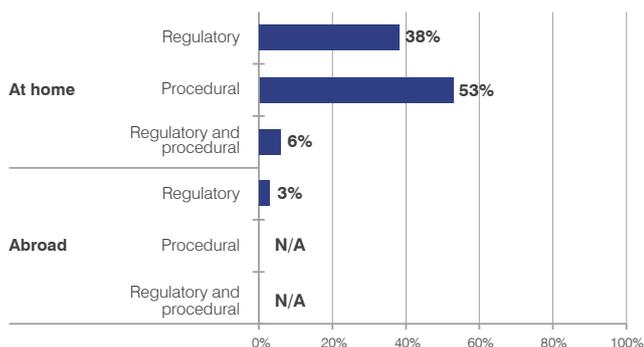
### Importing firms



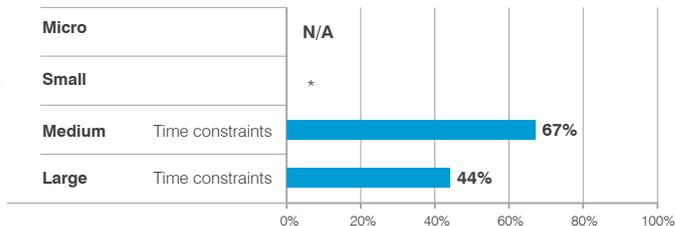
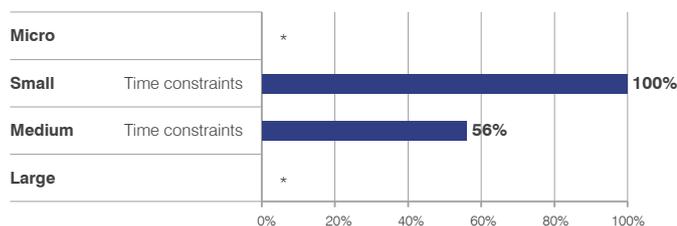
### Exporting firms



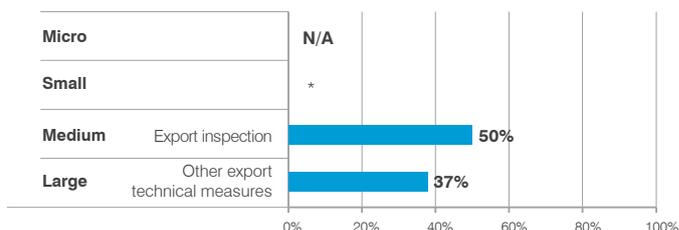
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/tunisia>. Survey field work ended in 2012, with 258 companies in phone interviews. Of those, 161 companies (62%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 132 also gave face-to-face interviews.

# Turkey

## Key indicators

Population (million)	77.7
GDP (\$ billion)	722.2
GDP per capita (\$)	9,290
Share of world GDP (PPP\$, %)	1.4
Current account surplus/deficit, share of GDP (%)	-4.5
Tariff preference margin (percentage points)	4.0
Imports and exports (goods and services), share of GDP (%)	59.6
Services exports, share of total exports (%)	24.3
Geographic region	Eastern Europe and Central Asia
Development group	
Income group	Upper-middle income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	46.1	53.5	45.2
	Medium	59.4	67.8	54.4
	Large	57.3	81.7	74.1
	All	51.4	59.4	51.2
IMMEDIATE BUSINESS ENVIRONMENT		50.5	59.7	68.2
NATIONAL ENVIRONMENT		65.9	67.5	71.1

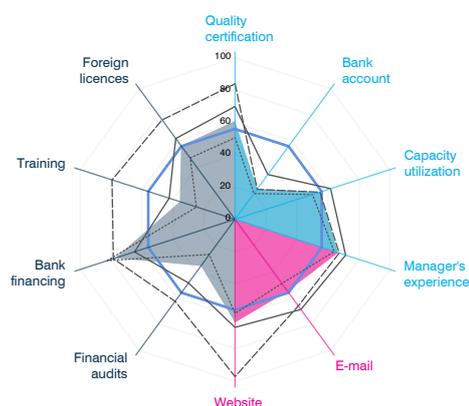
Reference level: 56.0 (a function of GDP per capita \$)

**Strengths are scores above: 84.0**      **Weaknesses are scores below: 28.0**

## SME Competitiveness Grid

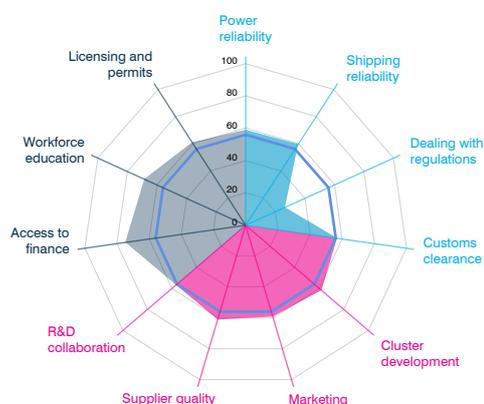
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	50.6	69.9	<b>84.0</b>	60.9
Bank account	<b>19.8</b>	34.4	<b>23.1</b>	<b>23.4</b>
Capacity utilization	50.0	61.7	54.9	54.7
Manager's experience	64.1	71.5	67.3	66.5
<b>Connect</b>				
E-mail	49.0	68.8	66.2	55.0
Firm website	58.1	66.8	<b>97.2</b>	63.8
<b>Change</b>				
Audited financial statement	<b>26.8</b>	48.6	62.5	35.5
Investment financed by banks	82.4	64.8	78.5	77.5
Formal training programme	<b>24.8</b>	42.5	79.4	35.6
Foreign technology licences	46.9	61.9	76.1	56.4



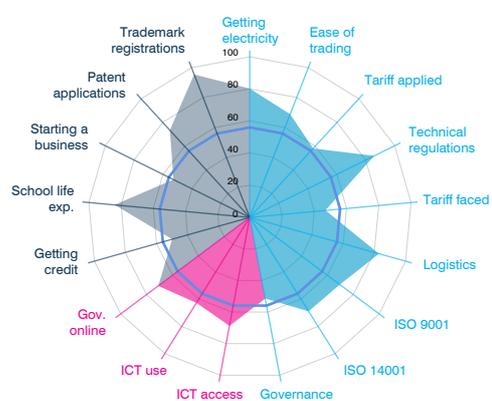
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	61.7	56.8	42.5	59.0
Domestic shipping reliability	64.4	55.9	52.7	59.6
Dealing with regulations	<b>26.5</b>	<b>27.6</b>	<b>20.8</b>	<b>26.5</b>
Customs clearance efficiency	58.3	51.8	62.0	56.8
<b>Connect</b>				
State of cluster development				61.7
Extent of marketing				59.2
Local supplier quality				61.1
University-industry collaboration in R&D				56.8
<b>Change</b>				
Access to finance	74.9	80.6	59.4	74.9
Access to educated workforce	71.8	67.8	51.9	68.6
Business licensing and permits	58.5	79.0	40.6	61.0



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	80.1
Ease of trading across borders	68.9
Applied tariff, trade-weighted average	58.0
Prevalence of technical regulations	<b>85.8</b>
Faced tariff, trade-weighted average	46.9
Logistics performance index	83.0
ISO 9001 quality certificates	69.6
ISO 14001 environmental certificates	68.9
Governance index	51.5
<b>Connect</b>	
ICT access	68.8
ICT use	62.7
Government's online service	71.0
<b>Change</b>	
Ease of getting credit	50.0
Interest rate spread	-
School life expectancy	<b>84.0</b>
Ease of starting a business	52.8
Patent applications	73.5
Trademark registrations	<b>95.4</b>



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Turkey is an upper-middle income country with a population of 77.7 million and GDP of \$722.2 billion. Goods and services account for 75.7% and 24.3% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Turkey's exports lie in transport equipment, the basic manufactures sector, and chemicals. ITC identifies *railway passenger and special purpose coaches* as a new product Turkey could export. The presence of SMEs in the sector adds a development dimension. Top products for diversification also include *chemical wood pulp* and *tetracyclines*.

Existing export products such as *iron and steel bars and rods* also have increased export potential. Other goods with potential include *carpets of man-made textiles* and *sunflower seeds, oil and their fractions*.

The SME Competitiveness Grid reveals a strong national environment along most indicators. Nevertheless, small firms underperform on having bank accounts or audited financial statements. Firms of all sizes also report a significant amount of time managers spend on regulations.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Europe & Central Asia	non-OECD	OECD	Price stability	SME presence	Women employed
Bars & rods, stainless steel, hot rolled in irregularly wound coils	722100	25	9	333	7	■	■	■
Railway passenger and special purpose coaches, not self-propelled	860500	57	162	112	40	■	■	■
Chemical wood pulp,soda/sulphate,non-coniferous,semi-bl/bleachd	470329	131	84	404	69	■	■	■
Tetracyclines and their derivatives, in bulk; salts thereof	294130	149	147	191	117	■	■	■
Pipe,line,i/s,longitudinally wld w int/ext circ c sect,ext dia>406.4mm	730512	156	124	58	726	■	■	■
Cortisone, hydrocortisone, prednisone and prednisolone, in bulk	293721	174	221	144	177	■	■	■
Dredgers	890510	176	295	98	266	■	■	■
Self-propelld railway cars powerd from external source of electricity	860310	185	133	814	105	■	■	■
Structures&parts of structures,i/s (ex prefab bldgs of headg no.9406)	730890	202	208	93	436	■	■	■
Carboxylic acids w aldehyde o ketone function only&their derivatives	291830	210	160	551	131	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Europe & Central Asia	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Bars and rods, of iron or non-alloy steel	721420	4146.7	■	■	■	■	■	■	■
Carpets of man-made textile mat,of woven pile construction,...	570242	1248.9	■	■	■	■	■	■	■
Sunflower-seed/safflower oil&their fractions reind	151219	419.8	■	■	■	■	■	■	■
Hazelnuts or filberts, fresh or dried, shelled or peeled	080222	1063.6	■	■	■	■	■	■	■
Diesel powered trucks with a GVW not exceeding five tonnes	870421	3248.5	■	■	■	■	■	■	■
Articles of jewellery and parts thereof, other than silver	711319	2453.0	■	■	■	■	■	■	■
Wheat or meslin flour	110100	828.5	■	■	■	■	■	■	■
T-shirts,singlets and other vests,of other textile materials,knitted	610990	1362.9	■	■	■	■	■	■	■
Electric conductors, for a voltage not exceeding 80 V	854449	1342.6	■	■	■	■	■	■	■
Monumental/buildg stone,cut/sawn flat/even,marble/travertine/...	680221	318.2	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

# Technical regulations

**Imports subject to regulation**



**Requirements per imported product**

0.84

**Exports subject to regulation**

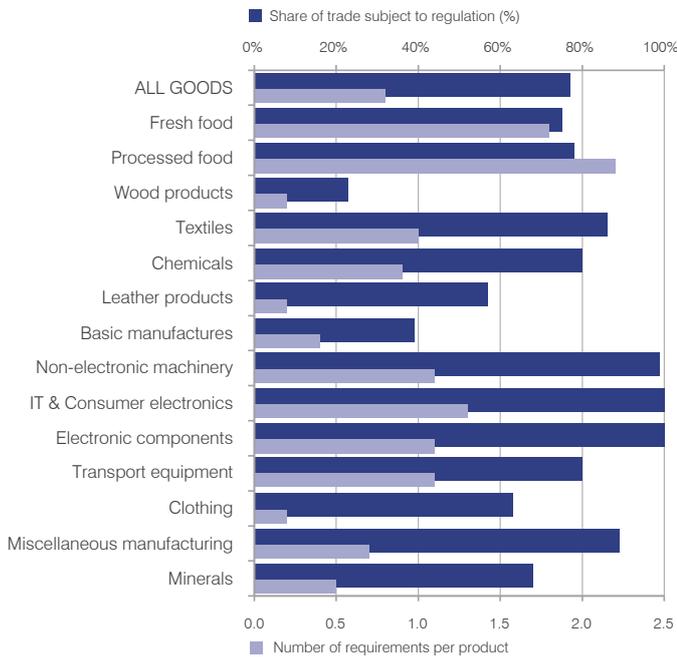


**Requirements per exported product**

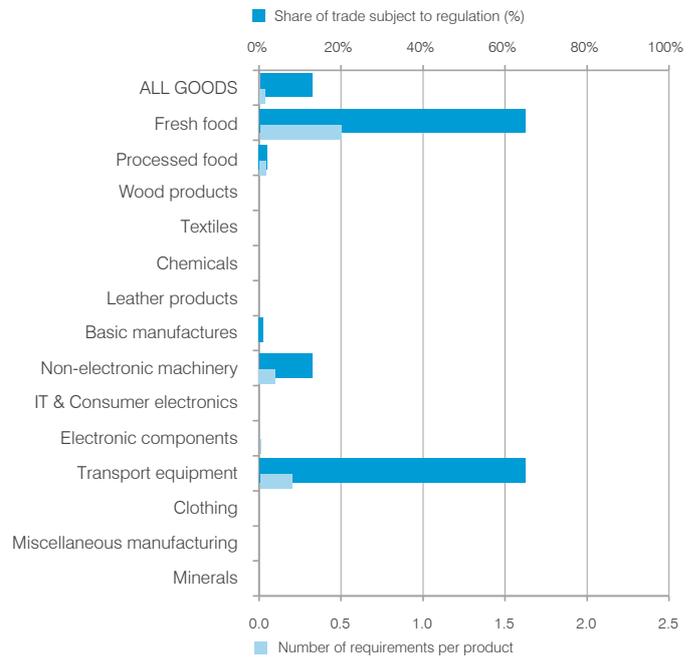
0.04

## Regulatory environment by sector

### Import regulations

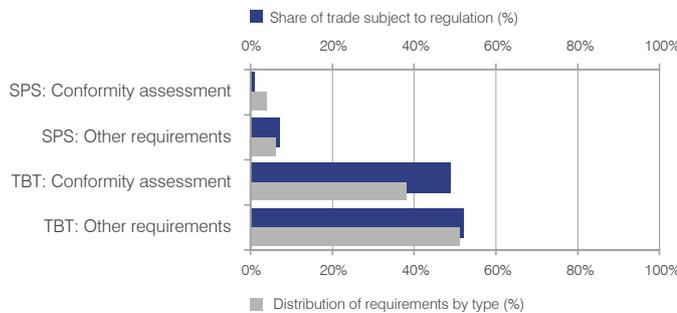


### Export regulations

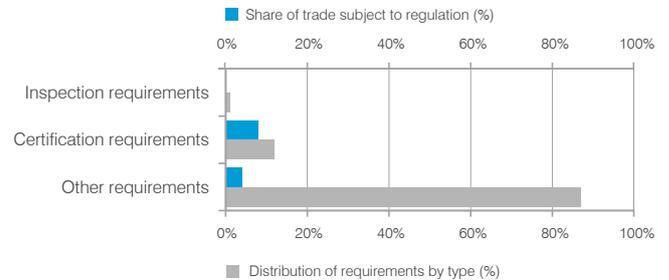


## Regulatory environment by requirement

### Import regulations



### Export regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 181 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

## The business perspective on technical regulations

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The data necessary for this sub-section of the country profile were not available at the time of the production of this report. ITC is constantly expanding the depth and coverage of its analytical tools and databases and the required information

may become available online. Interested readers are encouraged to regularly check the following underlying sources.

### ITC Market Access Map

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Technical regulations represent a subset of the multi-agency regulatory database on NTMs, which can be accessed through Market Access Map.

Market Access Map has been developed by ITC to support the needs of exporters, trade support institutions, trade policymakers and academic institutions in developing countries. It provides information about customs tariffs (including tariff preferences) applied by 199 countries and faced by 239 countries and territories. It also covers tariff rate quotas, trade remedies, rules and certificates of origin, bound tariffs of WTO Members, NTMs and trade flows to help users prioritize and analyse export markets as well as prepare for market access negotiations. Users can also find ad-valorem equivalents for all non-ad-valorem duties; perform aggregations of products and countries; and simulate tariff reduction scenarios.

The multi-agency regulatory database on NTMs is based on a wide variety of legal documents issued by governments such as laws, decrees and directives. The data collection is a joint effort of ITC, UNCTAD and the World Bank and is done in close collaboration with national stakeholders, who are invited to provide feedback. The collected regulations are mapped to the product codes from the Harmonized System and the measures from the international classification of NTMs.

This regulatory mapping aims to increase transparency of markets worldwide with a comprehensive database of regulations that producers must comply with to export/import or sell in a market.

Dissemination of regulatory information is part of ITC's mission to leverage trade for more inclusive economic growth, by making it easier for companies to conduct research and export to new markets.

For further information visit [www.macmap.org](http://www.macmap.org).

### ITC Business Surveys on NTMs

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ITC conducts large-scale company surveys to improve knowledge of NTM-related obstacles, which is subsequently subject to detailed quantitative impact analysis and discussed with key stakeholders. Building on the experience of exporters and importers that deal with these measures, these surveys are a proven mechanism to deepen understanding of the perception of NTMs which, by their nature, are hard to quantify.

The business perspective of NTMs is critical for governments to successfully define national strategies and policies that overcome barriers to trade. Businesses are best placed to inform decision makers with their first-hand experience of dealing with the key challenges.

Exporters and importers in developing countries have raised concerns about NTMs. They register challenges to sometimes

complex requirements and administrative obstacles. At the same time, developing country firms often have domestic trade-related infrastructure obstacles. As a result, while NTMs may not pose problems as such, some can still seriously hinder trade. They also face a challenge of inadequate information access about regulations and other services to promote exports, which has an impact on their international competitiveness.

ITC Business Surveys on NTM have been implemented in over 25 countries. Close to 15,000 companies have been interviewed about the various regulatory and procedural obstacles to trade they face. Additional surveys are currently ongoing or planned in more than 15 countries.

For further information visit <http://ntmsurvey.org>.

# United Republic of Tanzania

## Key indicators

Population (million)	47.7
GDP (\$ billion)	46.2
GDP per capita (\$)	969
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-8.2
Tariff preference margin (percentage points)	6.8
Imports and exports (goods and services), share of GDP (%)	51.0
Services exports, share of total exports (%)	37.6
Geographic region	Africa
Development group	LDC
Income group	Low income

## SME Competitiveness Grid Summary

Average scores [0-100]		Compete	Connect	Change
FIRM CAPABILITIES	Small	37.4	<b>9.2</b>	26.3
	Medium	46.1	24.1	47.9
	Large	<b>59.4</b>	<b>74.1</b>	<b>75.9</b>
	All	40.3	<b>13.4</b>	36.8
IMMEDIATE BUSINESS ENVIRONMENT		34.4	43.9	24.4
NATIONAL ENVIRONMENT		40.5	21.3	22.7

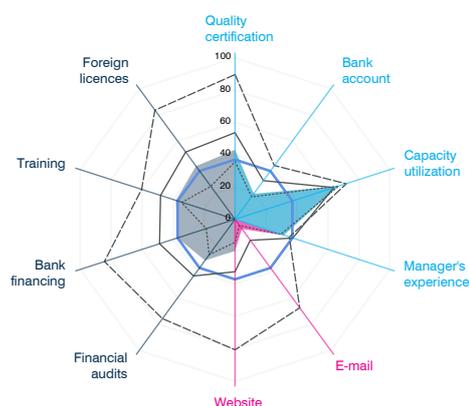
Reference level: 37.0 (a function of GDP per capita \$)

**Strengths are scores above: 55.6**      **Weaknesses are scores below: 18.5**

## SME Competitiveness Grid

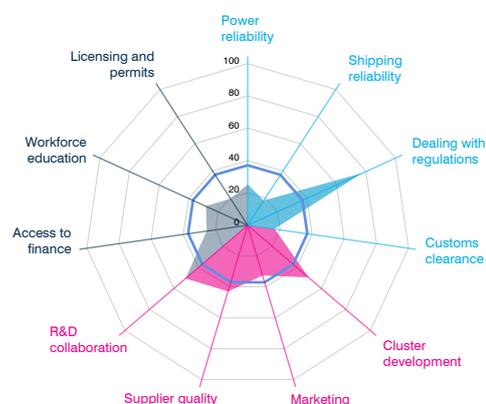
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	35.7	53.7	<b>89.7</b>	43.1
Bank account	<b>17.3</b>	29.7	41.2	19.7
Capacity utilization	<b>66.9</b>	<b>63.9</b>	<b>71.9</b>	<b>66.6</b>
Manager's experience	29.7	37.3	35.0	31.6
<b>Connect</b>				
E-mail	<b>4.4</b>	<b>15.9</b>	<b>67.5</b>	<b>7.3</b>
Firm website	<b>14.0</b>	32.3	<b>80.6</b>	19.5
<b>Change</b>				
Audited financial statement	26.9	43.2	<b>75.6</b>	31.3
Investment financed by banks	<b>18.5</b>	48.7	<b>84.3</b>	37.1
Formal training programme	34.5	48.1	<b>60.2</b>	38.2
Foreign technology licences	25.3	51.5	<b>83.5</b>	40.8



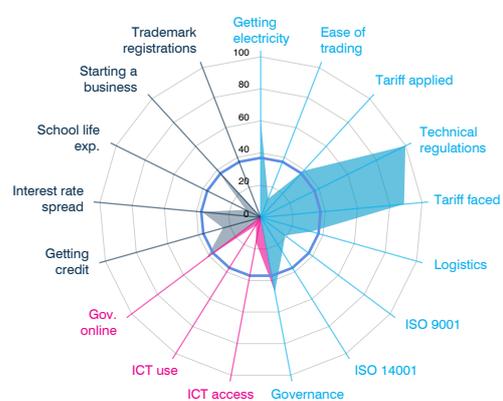
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	25.4	23.8	26.9	25.1
Domestic shipping reliability	<b>15.8</b>	33.9	26.1	<b>18.0</b>
Dealing with regulations	<b>79.3</b>	<b>73.0</b>	<b>66.7</b>	<b>77.6</b>
Customs clearance efficiency	-	<b>12.9</b>	<b>12.5</b>	<b>16.7</b>
<b>Connect</b>				
State of cluster development				49.6
Extent of marketing				32.6
Local supplier quality				42.9
University-industry collaboration in R&D				50.6
<b>Change</b>				
Access to finance	26.0	22.7	31.6	25.5
Access to educated workforce	30.1	23.1	22.4	28.3
Business licensing and permits	20.9	<b>13.0</b>	34.4	19.4



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	<b>59.9</b>
Ease of trading across borders	<b>12.4</b>
Applied tariff, trade-weighted average	39.2
Prevalence of technical regulations	<b>99.8</b>
Faced tariff, trade-weighted average	<b>88.9</b>
Logistics performance index	32.5
ISO 9001 quality certificates	18.8
ISO 14001 environmental certificates	25.2
Governance index	47.1
<b>Connect</b>	
ICT access	<b>16.1</b>
ICT use	<b>5.9</b>
Government's online service	42.0
<b>Change</b>	
Ease of getting credit	24.3
Interest rate spread	36.7
School life expectancy	<b>10.4</b>
Ease of starting a business	42.3
Patent applications	-
Trademark registrations	<b>0.0</b>



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Tanzania is a low income country located in East Africa with a population of 47.7 million and GDP of \$46.2 billion. Goods and services account for 62.4% and 37.6% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Tanzania's exports lie in fresh and processed food, and raw and processed agro-based products. ITC identifies *wood in chips*, *bovine cuts*, *ground-nut oil*, and *lentils dried or shelled* as top products for diversification.

Existing export products also have increased export potential. Estimates from ITC's export potential analysis suggest that this is the case for a range of products in the nuts, textiles and coffee sectors. *Cashew nuts* have strong expansion opportunities to non-OECD countries.

The SME Competitiveness Grid reveals that Tanzania's national environment performs well on trade policy-related variables like tariffs and regulations, but underperforms on business licensing. The national environment also underperforms in the connectivity pillar, and this is reflected in small and medium-sized firms' poor use of internet tools. These connectivity constraints, however, do not apply to large firms. Firms of all sizes achieve good scores on capacity utilization, but only a few small firms have investments financed by banks or a bank account.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed
Wood in chips, non-coniferous	440122	2	34	7	1	■	■	■
Bovine cuts boneless, frozen	020230	4	4	3	10	■	■	■
Ground-nut oil, crude	150810	6	68	6	3	■	■	■
Lentils dried, shelled, whether or not skinned or split	071340	7	8	4	11	■		
Soya-bean oil crude, whether or not degummed	150710	8	3	5	32	■	■	■
Bovine edible offal, frozen	020629	9	6	8	48	■	■	■
Technically specified natural rubber (TSNR)	400122	10	15	12	4	■		
Lobsters frozen, in shell or not, including boiled in shell	030612	12	20	14	6	■	■	■
Natural rubber in other forms	400129	13	7	11	27	■		
Aluminium unwrought, not alloyed	760110	14	16	15	5	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Sub-Saharan Africa	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Cashew nuts, in shell, fresh or dried	080131	174.2				■			■
Sesamum seeds, whether or not broken	120740	150.2				■			■
Furnishing articles, of textile materials, knitted or crocheted	630491	65.1				■	■	■	■
Cotton, not carded or combed	520100	128.3				■			■
Twine, cordage, ropes and cables, of sisal textile fibres	560729	17.9				■	■	■	■
Coffee, not roasted, not decaffeinated	090111	168.6				■			■
Dried pigeon peas and other leguminous vegetables, shelled	0713Xb	67.2				■			■
Cloves	0907	48.2				■			■
Copper unrefined, copper anodes for electrolytic refining	740200	65.4				■	■	■	■
Cocoa beans, whole or broken, raw or roasted	180100	30.2				■			■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

## Technical regulations

### Imports subject to regulation

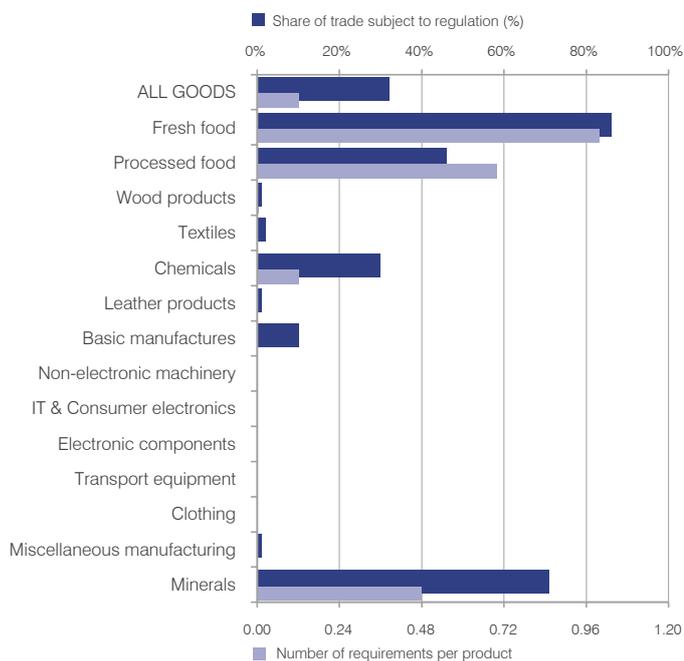


### Requirements per imported product

0.09

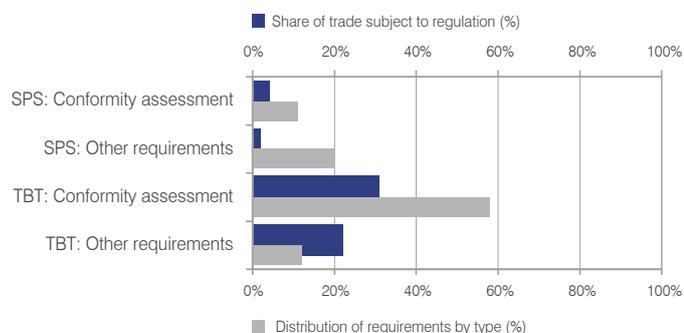
## Regulatory environment by sector

### Import regulations



## Regulatory environment by requirement

### Import regulations



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 23 technical regulations.

**Source:** ITC-UNCTAD-WB joint data collection, 2011. More data is available at [www.macmap.org](http://www.macmap.org).

The business perspective on technical regulations

Key obstacles for small firms

Importing firms

Technical regulations:  41% of reported problems

Main procedural obstacle: Time constraints

Exporting firms

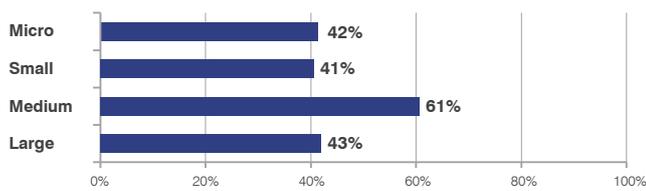
Technical regulations:  30% of reported problems

Main procedural obstacle: Time constraints

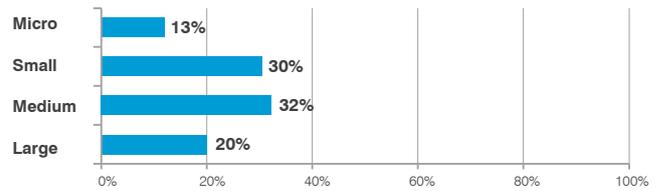
Main regulatory obstacle: Export inspection

Share of problems by company size

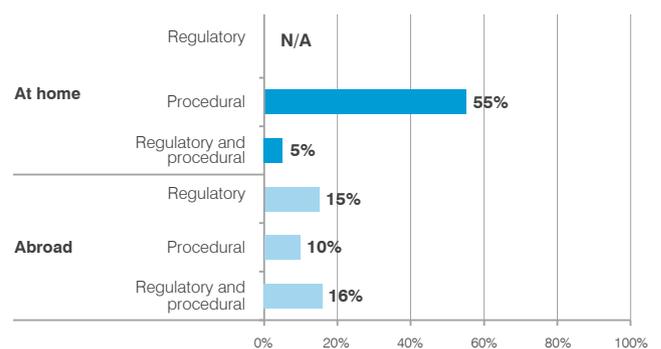
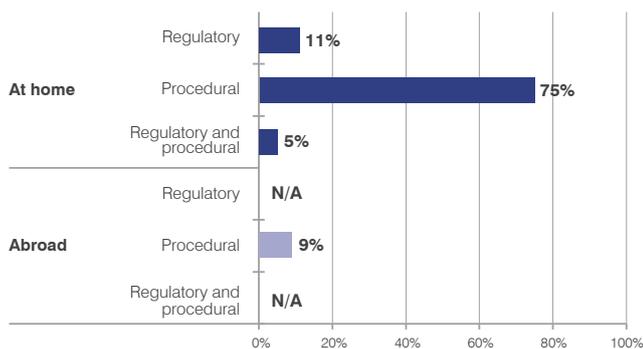
Importing firms



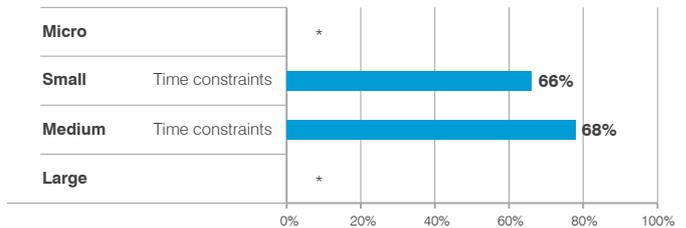
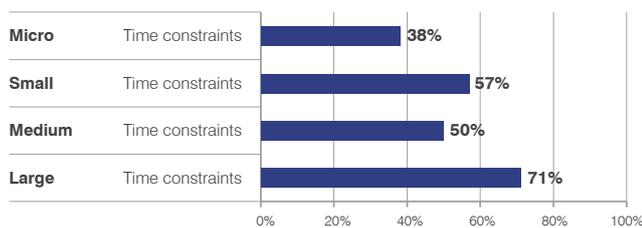
Exporting firms



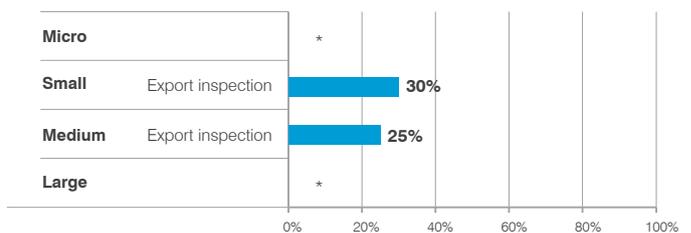
Obstacles at home and abroad



Main procedural obstacle



Main regulatory obstacle



Note: Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

Source: ITC Business Surveys on NTMs, <http://ntmsurvey.org/tanzania>. Survey field work ended in 2013, with 504 companies in phone interviews. Of those, 373 companies (74%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 224 also gave face-to-face interviews.

# Uruguay

## Key indicators

Population (million)	3.4
GDP (\$ billion)	55.0
GDP per capita (\$)	16,092
Share of world GDP (PPP\$, %)	0.1
Current account surplus/deficit, share of GDP (%)	-3.7
Tariff preference margin (percentage points)	5.4
Imports and exports (goods and services), share of GDP (%)	45.9
Services exports, share of total exports (%)	26.0
Geographic region	Latin America and the Caribbean
Development group	
Income group	High income

## SME Competitiveness Grid Summary

Average scores [0-100]	Compete	Connect	Change
FIRM CAPABILITIES			
Small	43.7	39.9	31.3
Medium	53.2	76.2	40.3
Large	73.0	90.5	68.3
All	47.0	49.3	38.1
IMMEDIATE BUSINESS ENVIRONMENT	58.8	51.2	51.4
NATIONAL ENVIRONMENT	60.1	86.3	61.5

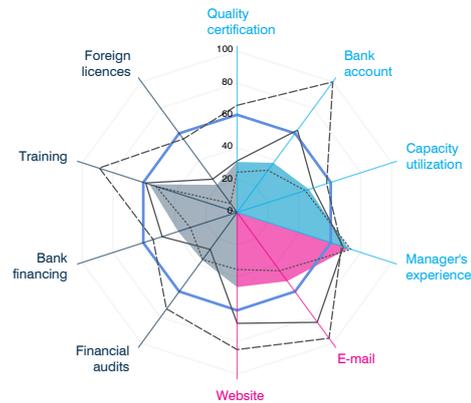
Reference level: 60.6 (a function of GDP per capita \$)

**Strengths are scores above: 90.9**      **Weaknesses are scores below: 30.3**

## SME Competitiveness Grid

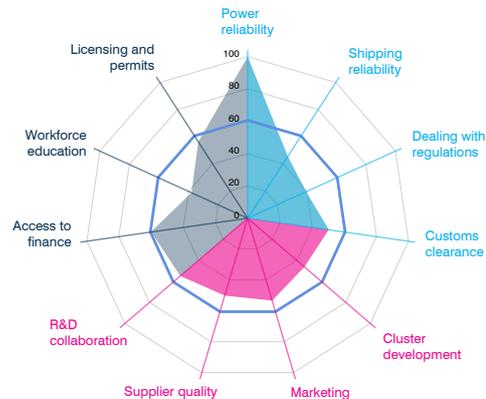
### FIRM CAPABILITIES (Normalized scores)

Compete	Small	Medium	Large	All
International quality certificate	25.0	31.9	66.5	31.3
Bank account	32.3	63.1	100.0	37.9
Capacity utilization	43.9	49.3	57.9	46.7
Manager's experience	73.5	68.7	67.6	72.1
<b>Connect</b>				
E-mail	44.6	83.9	96.1	52.4
Firm website	35.3	68.6	84.9	46.2
<b>Change</b>				
Audited financial statement	36.1	28.1	73.7	36.6
Investment financed by banks	30.2	48.5	54.1	37.9
Formal training programme	52.1	59.0	89.0	56.7
Foreign technology licences	6.9	25.7	56.2	21.3



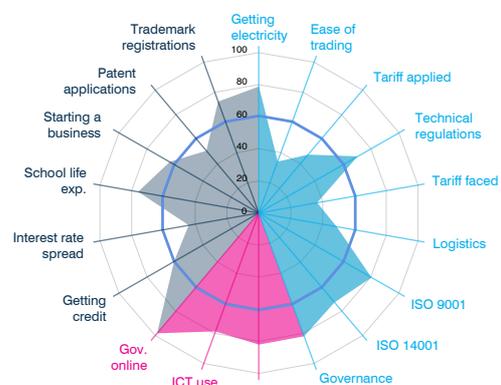
### IMMEDIATE BUSINESS ENVIRONMENT (Normalized scores)

Compete	Small	Medium	Large	All
Power reliability	100.0	100.0	100.0	100.0
Domestic shipping reliability	43.6	43.6	59.6	45.5
Dealing with regulations	43.0	32.1	34.2	39.5
Customs clearance efficiency	46.1	50.0	61.4	50.4
<b>Connect</b>				
State of cluster development				46.2
Extent of marketing				53.4
Local supplier quality				50.1
University-industry collaboration in R&D				54.9
<b>Change</b>				
Access to finance	58.7	63.3	64.1	60.1
Access to educated workforce	39.4	35.1	34.3	38.0
Business licensing and permits	54.6	58.2	66.7	56.2



### NATIONAL ENVIRONMENT (Normalized scores)

Compete	All
Getting electricity	78.9
Ease of trading across borders	34.1
Applied tariff, trade-weighted average	47.5
Prevalence of technical regulations	70.6
Faced tariff, trade-weighted average	36.6
Logistics performance index	48.8
ISO 9001 quality certificates	80.5
ISO 14001 environmental certificates	72.8
Governance index	81.9
<b>Connect</b>	
ICT access	82.1
ICT use	78.7
Government's online service	98.0
<b>Change</b>	
Ease of getting credit	60.7
Interest rate spread	44.1
School life expectancy	75.9
Ease of starting a business	63.7
Patent applications	50.6
Trademark registrations	73.9



■ Compete    ■ Connect    ■ Change  
— Reference level    ⋯ Small    — Medium    - - Large

**Note:** Scores range from 0 to 100, with higher score indicating 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 Annex.

## SME Export Potential

Uruguay is a high income country in South America with a population of 3.4 million and GDP of \$55 billion. Goods and services account for 74% and 26% of exports, respectively.

ITC's export diversification analysis for goods finds that diversification opportunities for Uruguay's exports lie in fresh and processed food, raw and processed agro-based products, and in the chemical sector. ITC identifies *soya bean oil-cake* as a product that can contribute to diversification. Price stability, prevalence of SMEs and female participation in the product's production add a development dimension. Other products for diversification include *sheep cuts*, *potassium chloride*, and *diammonium phosphate*.

Existing export products such as *soya beans, whether or not broken* also have an increased export potential to both OECD and non-OECD countries outside the region. Other products with unexploited potential include *bovine cuts boneless, frozen*, and *milk and cream powder*.

The SME Competitiveness Grid reveals that Uruguay is characterized by large firms' strong performance along many competitiveness indicators, while SMEs lag behind in using financial services and bank finance. Small firms also underperform in the connectivity pillar, contrasting with a good performance in their connectivity at the national level. Both small and medium-sized firms perform poorly on foreign technology licences.

## Diversification opportunities

Product description	Product code	Rank				Development indicators		
		World	Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed
Soya-bean oil-cake&both solid residues,whether or not ground or pellet	230400	1	1	1	4	■	■	■
Soya-bean oil crude, whether or not degummed	150710	4	3	4	39	■	■	■
Sheep cuts, bone in, frozen	020442	5	18	5	2	■	■	■
Potassium chloride, in packages weighing more than 10 kg	310420	10	5	10	23	■	■	■
Diammonium phosphate, in packages weighing more than 10 kg	310530	11	8	9	37	■	■	■
Garlic, fresh or chilled	070320	14	12	13	31	■	■	■
Quebracho extract	320110	16	14	22	6	■	■	■
Sheep cuts, bone in, fresh or chilled	020422	17	669	60	3	■	■	■
Fowls (gallus domesticus), cuts & offal, frozen	020714	21	15	15	202	■	■	■
Zinc not alloyed unwrought containing by weight 99.99% or more of zinc	790111	23	49	21	64	■	■	■

## Unrealized potential: Existing export products

Product description	Product code	Exports (\$ million)	Value of unrealized potential exports (\$ million)			Development indicators			
			Latin America and the Caribbean	non-OECD	OECD	Price stability	SME presence	Women employed	Technology
Soya beans, whether or not broken	1201	1046.2	■	■	■	■	■	■	■
Bovine cuts boneless, frozen	020230	917.6	■	■	■	■	■	■	■
Malt, not roasted	110710	181.0	■	■	■	■	■	■	■
Bovine cuts boneless, fresh or chilled	020130	330.2	■	■	■	■	■	■	■
Wheat and meslin, except durum	1001Xb	239.7	■	■	■	■	■	■	■
Wool tops and other combed wool, other than combed wool in...	510529	149.2	■	■	■	■	■	■	■
Milk and cream powder unsweetened exceeding 1.5% fat	040221	236.0	■	■	■	■	■	■	■
Rice, semi-milled or wholly milled, whether or not polished or...	100630	378.2	■	■	■	■	■	■	■
Live bovine animals	0102	136.7	■	■	■	■	■	■	■
Rice, husked (brown)	100620	54.7	■	■	■	■	■	■	■

**Note:** Products listed are top 10 in decreasing order of their **unrealized export potential** to the world. **Exports** reflect the average value over 2010-2014. **Development indicators:** green reflects performance above a country's trade-weighted mean; red the opposite. **Technology:** green indicates sectors that use technology above a country's median; red the opposite. Products that are not yet exported but have high export potential and enhance the country's technology level are listed in the **Diversification opportunities** table. These opportunities are indicated by each product's **rank**, i.e. the lower the number, the higher is the probability of the country diversifying into this product. Blank spaces indicate data are not available.

**Source:** ITC Export Potential Assessment <http://exportpotential.intracen.org>, covering goods (services not included).

**Imports subject to regulation**

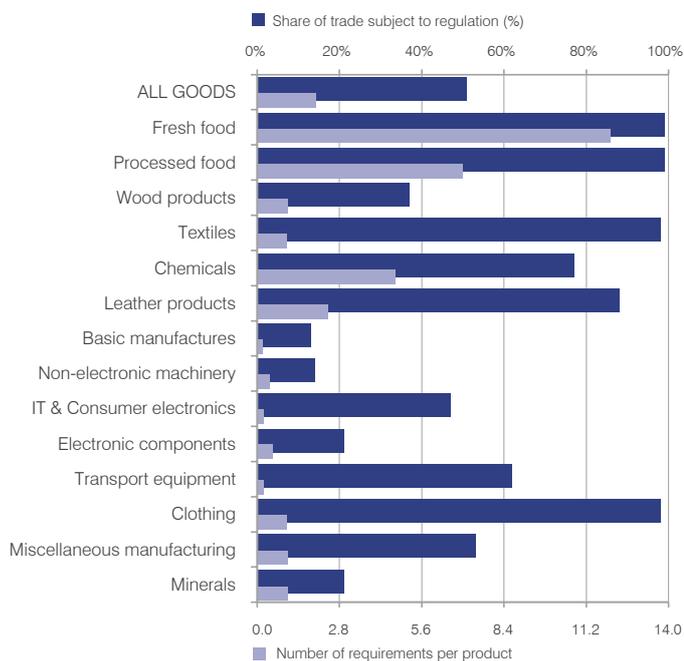


**Requirements per imported product**

2.08

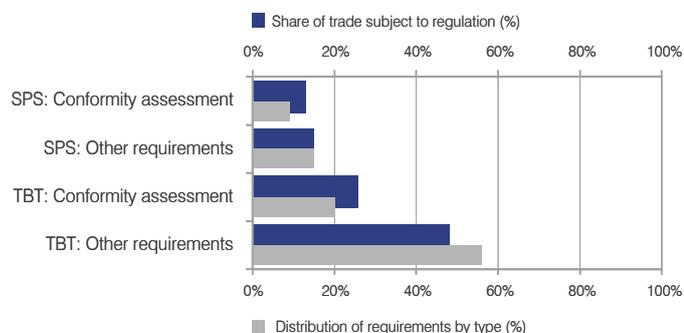
Regulatory environment by sector

**Import regulations**



Regulatory environment by requirement

**Import regulations**



**Note:** Requirements are based on the number of regulations and types of measures. Statistics are based on 195 technical regulations.  
**Source:** ITC-UNCTAD-WB joint data collection, 2012. More data is available at [www.macmap.org](http://www.macmap.org).

# The business perspective on technical regulations

## Key obstacles for small firms

### Importing firms

Technical regulations:  60% of reported problems

### Exporting firms

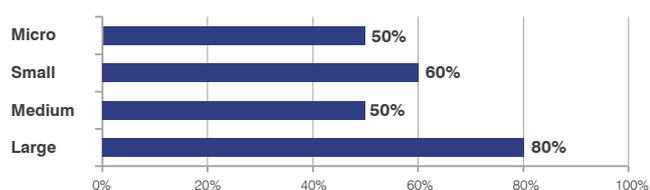
Technical regulations:  48% of reported problems

Main procedural obstacle: Time constraints

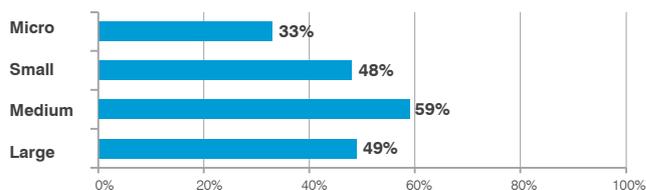
Main regulatory obstacle: Product certification

## Share of problems by company size

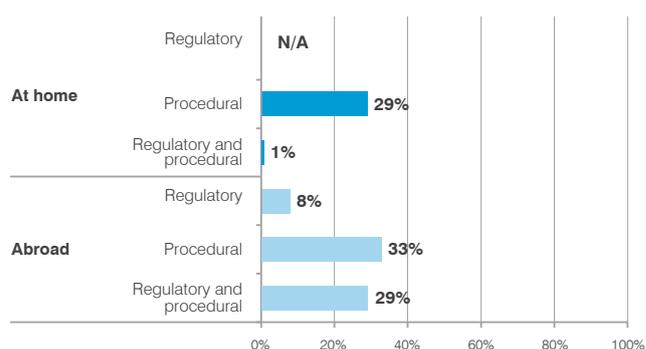
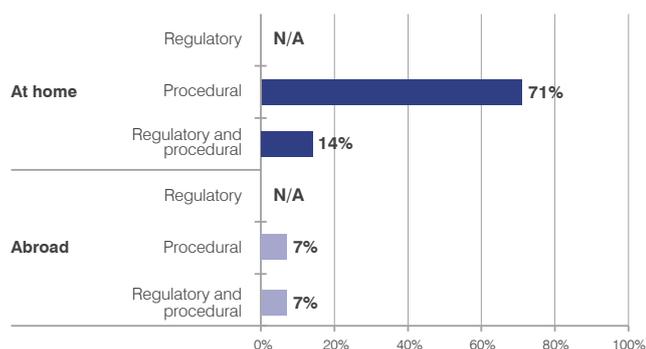
### Importing firms



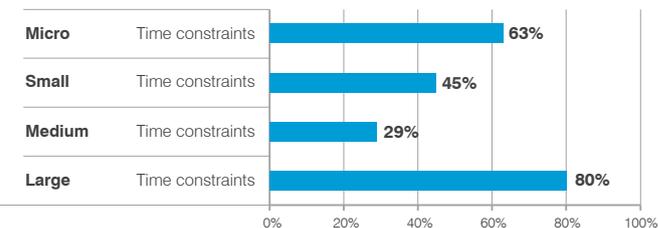
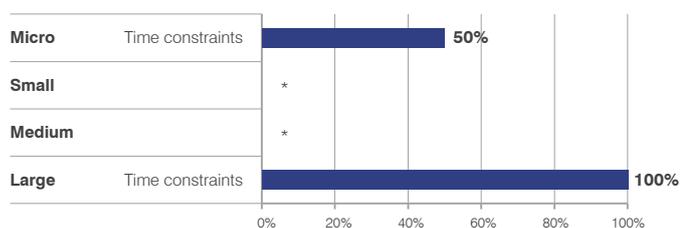
### Exporting firms



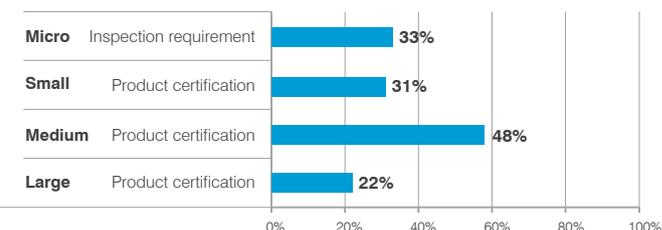
## Obstacles at home and abroad



## Main procedural obstacle



## Main regulatory obstacle



**Note:** Low frequency data (<5 observations): indicated by an asterisk (\*). N/A: "not reported".

**Source:** ITC Business Surveys on NTMs, <http://ntmsurvey.org/uruguay>. Survey field work ended in 2011, with 461 companies in phone interviews. Of those, 201 companies (44%) reported facing regulatory or procedural trade obstacles. Of firms contacted by phone, 87 also gave face-to-face interviews.



PART III.

# Technical Annexes

## Technical notes for country profiles

### Overview and new aspects

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The country profiles of the *SME Competitiveness Outlook 2016* contain new features and improvements in methodology and presentation. Furthermore, the number of countries has increased from 25 to 35. The countries added – Barbados, China, Costa Rica, Ecuador, India, Jordan, Lebanon, Namibia, Nepal and Turkey – were selected based on the availability of data on non-tariff measures (NTMs). In addition, regional groupings now include data for Belize, Benin, Bosnia and Herzegovina, and Liberia.

#### *The SME Competitiveness Grid*

The grid follows the same methodology as in the 2015 edition, but results are not directly comparable across years. This is because most firm-level indicators are not updated yearly. Even when this data remain the same, each country's strengths and weaknesses may differ from last year. Firstly, there may be a change in a country's GDP per capita, and hence the reference level (expected competitiveness). Secondly, the relative position of the country may be different due to the inclusion of new countries in the sample. The grid also uses a new indicator on the frequency of technical regulations. The calculations are based on the International NTM database<sup>218</sup> and provide a good measure of market access conditions and trade-related regulatory environment.

#### *SME export potential*

The SME export potential estimates cover existing and new export products (services are not covered due to data limitations). Regarding existing products, each country profile only suggests products with high *unrealized* potential, to increase usefulness for policymakers. The country profiles also list new products that are not exported so far but offer investment and export opportunities. The work is based on methodology designed by ITC. The focus is on goods, as comparable data for services is not available.

The SME export potential singles out products and sectors that merit attention of trade and investment support institutions (TISIs), policymakers and investors, while the SME competitiveness grid highlights countries' strengths, which can be harnessed to develop these sectors. A succinct analysis in every country profile suggests existing products and markets where exports can be increased; new export products that can be developed to diversify the country's export basket; and key results of the competitiveness analysis.

### *Compulsory technical regulations and ITC Business Surveys on NTMs*

New in this edition are two pages that reflect the 2016 report's focus on regulations. The technical regulations listed on the third page of each country profile offers a snapshot of the regulatory environment of the country, with the share of trade subject to regulation and the average number of regulations per product. The analysis is by sector (reflecting value chains) and by type of regulation (singling out conformity assessment requirements). The analysis covers requirements for imported goods and, whenever data are available, for exported goods. It was not possible to include services due to a lack of comparable data.

The analysis related to ITC Business Surveys on NTMs on the last page of each country profile is based on the data presented in the 2015 edition. In this edition, however, it centres on technical regulations (only technical requirements and associated procedural obstacles are included in the calculations). Furthermore, it reflects experiences reported by importing companies that were not included before. The analysis of small companies is fine-tuned by presenting separately microfirms with fewer than five employees. Both survey results and the data on the regulatory environment start with a summary of the main findings.

Survey results and regulatory data cannot be compared directly, as the regulatory data refers exclusively to the country in focus (based on the country's laws and regulations), while the survey data combine reports on the country and its trading partners.

### SME Competitiveness

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#### *Key Indicators*

Key indicators are derived from ITC Trade Map and ITC Market Access Map data and databases of other international institutions. They have not been transformed or undergone normalization calculations. They are taken directly from their respective sources (see Annex 2), and are expressed in the units indicated alongside the indicator's name.

#### *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 level of competitiveness:

1. Firm Capabilities
2. Immediate Business Environment
3. National Environment.

For indicators in Firm Capabilities, averages are calculated by firm size (small, medium, large, and all firms). For each level of competitiveness, listed horizontally in the table, indicators are averaged by pillar of competitiveness:

1. Capacity to Compete (highlighted in blue)
2. Capacity to Connect (highlighted in pink)
3. Capacity to Change (highlighted in grey).

SME Competitiveness indicators are calculated for 108 countries, i. e. all countries for which both the World Bank Enterprise Surveys (based on their global methodology) and WEF Executive Opinion surveys are available (years are country specific, see Table A.4). Averages are calculated as simple (unweighted) averages.

## Strengths and Weaknesses

'Strengths' are indicated in green and 'weaknesses' in red. These relative measures are based upon 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 of country GDP per capita ( $\log(\text{GDP-per-capita})$ ), over the full sample of all 108 countries. The reference level is then set to the predicted (fitted) value for  $\log(\text{GDP-per-capita})$ , as determined by the least-squares regression line.

An indicator is 'strong' when it surpasses a threshold value of 150% of the reference level. It is indicated by bold green text. Likewise, an indicator is 'weak' when it falls below a threshold value of 50% of the reference level. It is indicated by bold red text. This is a comparison of individual, country-specific indicators to average values over all indicators and countries. This is consistent with ITC methodology as each indicator is transformed and normalized to a scale of [1-100] (see next section). The reference value and threshold values for strengths and weaknesses are presented at the bottom of the SME Competitiveness Grid Summary table. For regional analysis purposes, the reference level is set at 50.

### *SME Competitiveness Grid*

The SME Competitiveness Grid presents transformed and normalized scores for the full set of competitiveness indicators. The absolute values of the indicators are available upon request (they are not reported for the sake of clarity).

The indicators are categorized into three levels of competitiveness, each in turn categorized into three pillars. Indicator scores falling under Firm Capabilities and Compete and Change pillars under Immediate Business Environment are also presented by firm size. See Annex 2 for relevant data sources.

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:

$$Z = 100 \frac{\ln(1 + \alpha Y)}{\ln(1 + 100\alpha)}$$

where

$$\alpha = \frac{100 - 2 \text{median}(Y)}{\text{median}(Y)^2}$$

and  $\text{median}(Y)$  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. It is important to note that the minimum, maximum, and median values are determined using data series that are disaggregated by firm size, that is, taking into consideration mean values calculated for small, medium, and large firms.<sup>219</sup> This implies that an indicator's minimum value, for instance, will be the same at each firm size for which a normalized index is calculated. This is consistent with ITC's definition of competitiveness applied to a firm's line of business irrespective of its size.

Individual indicator values are colour-coded following the same threshold scheme as described above in the grid summary statistics.

The radar diagrams to the right of the SME Competitiveness Grid convey the same statistics indicated in the tables. The solid area plots are colour-coded according to each pillar of competitiveness 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 light grey reference circle indicates the country-specific reference level for all indicators, as defined under 'strengths and weaknesses' above.

## SME Export Potential

### *Unrealized potential: Existing export products*

Unrealized export potential for goods is estimated by using the Export Potential Indicator (EPI) and based on calculations from 223 countries. The EPI is based on a structural model that (1) identifies potential shares of products from supply and demand capacities and (2) converts them into potential trade values.

The gap between actual exports and potential exports indicates short-term opportunities to increase exports. The resulting measure is strictly quantitative in nature and only considers goods, not services. Additional qualitative and contextual analysis should be considered before using this measure to inform any policy or investment decisions. The methodology is explained in detail by Decreux and Spies<sup>220</sup> and ITC.<sup>221</sup> What follows is a short summary of the EPI calculations.

## Components of the Export Potential Indicator

The share of product  $k$  in total exports of country  $i$  can be decomposed into Balassa's revealed comparative advantage (RCA)<sup>222</sup> and the share of a product in total demand, assuming that at world level  $\frac{x_{ik}}{x_i} \approx \frac{m_k}{m}$ .

$$\frac{x_{ik}}{x_i} \approx \frac{x_{ik}/x_i}{x_k/x} \times \frac{m_k}{m}$$

The potential share of country  $i$ 's export product in a particular target market  $j$  deviates from decomposition (1) because of the specific situation in the target market that causes its demand to deviate from world demand, and because of other measurable factors that impact supply and demand conditions. Replacing product  $k$ 's share in world demand by product  $k$ 's share in market demand and normalization yields:

$$\left[ \frac{x_{ijk}}{x_{ij}} \right] = \frac{RCA_{ik}}{\sum_k (RCA_{ik} \times \frac{m_{jk}}{m_j})} \times \frac{m_{jk}}{m_j}$$

This is the basic model from which the EPI is calculated; however, ITC made a number of supply- and demand-side adjustments in the indicator's implementation.

More specifically, supply capacities are based on a dynamic version of Balassa's RCA, corrected for some of the factors that hide true comparative advantages (CA). True CA is a function of RCA, projected RCA growth, export-import ratio, and a global tariff disadvantage ratio. See the original reference for full documentation on this index and its sub-components.<sup>223</sup>

ITC has also modified the implementation of demand conditions, which are captured in a dynamic version of demand shares that accounts for the openness of the target market to the exporting country's products. The *Demand factor* incorporates market demand share, demand share projected growth, target market tariff advantage, and a distance factor.<sup>224,225</sup> The adjusted supply and demand components are combined in equation (3):

$$Potential\ share_{ijk}^{EPI} = \frac{CA_{ik} \times Demand\ factor_{ijk}}{\sum_k (CA_{ik} \times Demand\ factor_{ijk})}$$

To aggregate potential shares to the level of regions, they are transformed into potential values through multiplication with projected total bilateral exports capturing all observable and unobservable determinants of bilateral trade relations. While potential shares rank products within a market, potential values allow for comparisons across markets. Projected bilateral exports, in turn, are defined as current exports (to the target market  $j$ ) multiplied by expected growth of market  $j$ 's GDP (as published in IMF's *World Economic Outlook*).

Once the potential value is determined, for product  $i$  in country  $k$  to market  $j$ , it is compared to its current export value; if the potential value exceeds its current value, the difference is expressed as unrealized export potential. In other words, the total potential value is decomposed into realized and unrealized potential value. Realized potential value is determined from actual total export value, but is not necessarily equal to it. The country profiles only report on unrealized potential.

## Diversification opportunities

Diversification opportunities into new products are estimated with the Product Diversification Indicator (PDI), which, like the EPI, is calculated for 223 countries. The PDI is based on Hausmann and Hidalgo's concept of the product space<sup>226</sup> and related applications to product complexity,<sup>227</sup> which establishes links between products through an assessment of how frequently they are found together in countries' export baskets. Demand and supply combined results in a product ranking of diversification opportunities for a given target market that may yield export revenues in the medium- to long-term future. Like the EPI, the PDI only considers goods, not services. This section presents a short summary of the PDI calculations while the full reference is available in a dedicated methodological paper.<sup>228</sup>

## Components of the Product Diversification Indicator

The PDI differs from the EPI in how supply conditions are captured. Comparative advantages can only be computed for existing products. To identify diversification opportunities, the product space concept<sup>229</sup> 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 comparative advantage as an estimate of supply capacity. Demand and market access indicators remain identical to the EPI methodology.

The potential for a country to diversify is based on a density measure, which determines the proximity between products. The density of a potentially new 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  $l$ , as defined earlier. 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 insure that their range follows that of the corresponding comparative advantage measure CA.

Several qualification filters are applied to potential new export products. First, only products accounting for less than 0.5% of the country's total current exports are considered. 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).

The final PDI index is calculated as:

$$\text{Potential share}_{ijk}^{PDI} = \frac{\text{Density}'_{ik} \times \text{Demand factor}_{ijk}}{\sum_k (\text{Density}'_{ik} \times \text{Demand factor}_{ijk})}$$

As the PDI index does not allow for the prediction of potential values, only regional market ranks are reported for individual potential products. Higher ranks (lower number) indicate higher potential.

In both cases, EPI for existing export products and PDI for new export products, blank values indicate that the product has not been in consistent demand for over five years by any country in the respective region.

### Development indicators for existing export products

Development indicator measures are calculated relative to the country's performance in other sectors. Light-green bullets indicate performance above the trade-weighted mean (median, for Technology), and light-red bullets indicate performance below the mean (median, for Technology). Indicator cells are left empty in the case of missing data. The four indicators considered and their definitions are:

- **Price stability:** Stability of export revenues is based on the standard deviation of unit values, in turn based on product-level CEPII data for unit values.
- **SME presence:** Share of SMEs in the sector, based on data from the World Bank Enterprise Surveys.
- **Women employed:** Proportion of female employment in the sector, based on data from the World Bank Enterprise Surveys.
- **Technology:** Technological advancement is based on Hidalgo and Hausmann's<sup>230</sup> concept of product complexity using product-level trade statistics from ITC Market Analysis Tools.

Country profiles present 10 products with the highest unrealized export potential and 10 products for export diversification. To receive information for other products or a more detailed and customized analysis, please contact [marketanalysis@intracen.org](mailto:marketanalysis@intracen.org).

### Compulsory technical regulations

The indices for technical regulations are based on the regulatory data from the International NTM Database jointly produced by ITC, UNCTAD and the World Bank,<sup>231</sup> and trade data from ITC Trade Map. They are calculated for 85 countries (countries with available data).

The calculations are performed at the product level (HS 6-digit level) taking into account bilateral measures, and subsequently aggregated by sector or measure type. The indices are

calculated for traded products (based on direct trade data reported for 2014, or earlier if 2014 is not available).

The International NTM Database maps compulsory national requirements regulating products, imports and exports to HS codes and type of measures based on the International classification of NTMs<sup>232</sup> containing 16 chapters (see Table A.1).

The technical regulations represent a subset of NTMs and include regulations defining product characteristics or production processes. Calculations include sanitary and phytosanitary measures (SPS) and technical barriers to trade (TBT) to increase each country's coverage (data on pre-shipment inspection and other formalities are not collected for some countries). The calculations are based on the most recent available data. The footnote in the following country profiles indicates the year of data collection and the number of technical regulations covered.

The *requirement* is defined as a combination of the country imposing the requirement, partner country, product, type of measure according to the NTM Classification and the number of regulations (e. g. laws, decrees, rules or protocols). Based on the requirements, two indices have been calculated to capture the extent to which a country's trade is regulated. The first one is the coverage ratio measuring the share of trade subject to regulation. The second is the prevalence score measuring the average number of requirements per product (details below).

### Regulatory environment by sector and by requirement

#### Share of trade subject to regulation: Coverage ratio

The coverage ratio captures the share of import that is subject to technical regulation in total trade value:

$$C_i = \frac{\sum_1^j \sum_1^p D_{ijp} V_{ijp}}{\sum_1^j \sum_1^p V_{ijp}} \cdot 100$$

where  $C_i$  is the coverage ratio in percentages for each importing country  $i$ ,  $D_{ijp}$  is a dummy variable equal to 1 in the presence of one or more technical requirement applied by country  $i$  for product  $p$  imported from country  $j$ ,  $V_{ijp}$  is the value of imports of the product  $p$  to country  $i$  from country  $j$ .<sup>233</sup>

#### Average number of requirements per product: Prevalence score

The prevalence score captures the average number of technical requirements per traded product:

$$P_i = \frac{\sum_1^j \sum_1^p N_{ijp} M_{ijp}}{\sum_1^j \sum_1^p M_{ijp}}$$

where  $P_i$  is the prevalence score (value) for each importing country  $i$ ,  $N_{ijp}$  is the number of requirements applied by country  $i$  to regulate import of product  $p$  from partner country  $j$ , and  $M_{ijp}$  is a dummy equal to 1 if the product  $p$  is imported to country  $i$  from country  $j$ .<sup>234</sup>

The above formulas can also be applied for the analysis of export-related measures. In this case, the country  $i$  applying the requirement is the country exporting product  $p$  to partner

TABLE A.1: NTM classification

	Technical measures	A Sanitary and phytosanitary measures (SPS) B Technical barriers to trade (TBT) C Pre-shipment inspection and other formalities
	Non-technical measures	D Contingent trade-protective measures E Non-automatic licensing, quotas, prohibitions and quantity control measures other than SPS or TBT reasons F Price-control measures, including additional taxes and charges G Finance measures H Measures affecting competition I Trade-related investment measures J Distribution restrictions K Restrictions on post-sale services L Subsidies (excluding export subsidies under P7) M Government procurement restrictions N Intellectual property O Rules of origin
<b>Imports</b>	Technical measures	
	Non-technical measures	
<b>Exports</b>	Technical measures	P6 Export technical measure
	Non-technical measures	P1 Export-licence, -quota, -prohibition, and other quantitative restrictions P2 State-trading enterprises, for exporting; other selective export channels P3 Export price-control measures P4 Measures on re-export P5 Export taxes and charges P7 Export subsidies P8 Export credits P9 Export measures, n. e. s.

**Source:** International NTM Classification, Multi-Agency Support Team (2012).

country  $j$ , and  $V_{ijp}$  is the value of exports of the product  $p$  from country  $i$  to country  $j$ .

The third page of each country profile (regulatory environment by sector and by requirement) presents the coverage ratio and prevalence score for import regulations with decomposition by sector. Furthermore, the statistics show each requirement type, including the share of trade covered by each type of requirement, and the share of each type in the total number of requirements referred to as the 'Distribution of requirements by type (%)'. Similar statistics are reported for export requirements when data on export-related NTMs are available.

## Business Perspective on Technical Regulations

Business perspectives on technical regulations are derived from the ITC Business Survey on NTMs, which were available for 25 countries (at the time of preparation of this report), all of which are presented in this report's country profiles. The ITC Business

Survey is based on a global methodology adjusted to country-specific requirements. The core part of the NTM survey is identical in all surveyed countries, which enables cross-country comparisons and analyses. The mapping has been verified by the ITC project team. The fieldwork takes about one year per country and was completed 2010–2015.<sup>235</sup>

The NTM Survey captures any regulatory or procedural obstacles as long as they are reported by companies as affecting their export or import operations. To reflect the focus of this year's report, the statistics are calculated only for technical regulations (SPS and technical requirements and related conformity assessment), and procedural obstacles linked to technical regulations.

The NTM Survey covers legally registered companies only, of all sizes and types of ownership, in sectors cumulatively accounting for at least 90% of the total export value of each country (excluding minerals and arms). The survey covers only good-producing sectors, and includes sectors with more than 2% share in total exports. The only exception is Tunisia, where the survey includes only manufacturing firms.

The NTM Survey provides information on several dimensions of an NTM 'case', that is, a situation in which the surveyed firm encounters a regulatory or procedural obstacle to trade. These dimensions include the reporting company, the product affected (HS 6-digit level), the direction of trade (export or import), the partner country and the type of NTM based on the NTM classification for surveys. In cases of import-related measures, the partner dimension is not included in the calculations because import requirements are generally applied equally to all imported products, independently of their country of origin.

The multi-dimensional nature of each NTM case is demonstrated in Figure A.1, which shows that a firm can perceive domestic or foreign regulations as burdensome, which additionally may be associated with procedural obstacles, that in turn may occur at home or abroad (including partner and transit countries). For example, the container fumigation requirement imposed by the United States on the imports of fresh fruits may be difficult to meet because mango exporters from the Philippines have limited access to the fumigation facilities in the Philippines. Furthermore, it is also possible that the requirement per se (for example, maximum allowed pesticide limit) is not perceived as burdensome, but companies experience procedural hurdles when trying to comply with it (for example, a delay in obtaining a certificate).

Procedural obstacles captured by the NTM surveys go beyond customs procedures, can be of any nature, and may be related to any process or institution that exporters and importers have to deal with. To facilitate a quantitative analysis, all captured procedural obstacles are mapped by type (Table A.2).

TABLE A.2: Types of procedural obstacles

- Administrative burdens related to regulation
- Information / transparency issues
- Discriminatory behaviour of officials

- Time constraints
- Informal or unusually high payment
- Lack of sector-specific facilities
- Lack of recognition / accreditation
- Other.

The following indicators capture the business perspective on technical regulations.

### Share of problems by company size

Indicator  $Y_{ic}$  uses the information on the trade markets reported by each firm. A firm  $f$  from country  $i$  exports/imports the HS 6-digit product  $p$  to/from partner  $j$ . The firm  $i$  reports facing a regulatory or procedural obstacle in some of the  $pj$  markets it serves. The numerator is the sum of the  $pj$  markets, defined as  $C_{ifpj}^T$  ('case'), where the perceived obstacle is associated with a technical regulation (superscript  $T$ ), while the denominator is the sum of all  $pj$  markets where firms perceive an obstacle related to any NTM (technical, superscript  $T$ , and non-technical, superscript  $NT$ ). The share is calculated by firm size category  $c$ , for each surveyed country  $i$ .

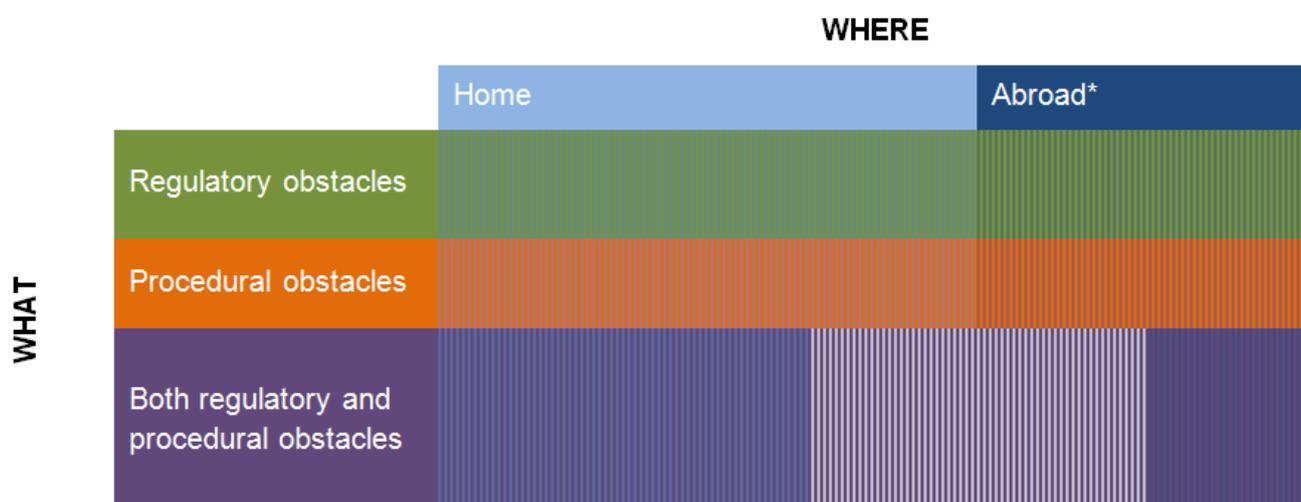
$$Y_{ic} = \frac{\sum_{i,c} C_{ifpj}^T}{\sum_{i,c} (C_{ifpj}^T + C_{ifpj}^{NT})}$$

The indicators are calculated by company size (with the only exception of Peru, where data cannot be disaggregated by firm size), which is defined according to the number of full-time employees: micro (between 1 and 4), small (between 5 and 20), medium (between 21 and 100), large (more than 100).

### Obstacles at home and abroad

The second indicator focuses solely on the 'cases' related to technical regulations:  $\sum_{i,c} C_{ifpj}^T$ . Each case is broken into its different components:

FIGURE A.1: Multidimensional nature of NTM cases, regulatory and procedural obstacles



Note: \*Abroad includes partner and transit countries

1. Is the problem due to the procedure, the regulation or both the procedure and the regulation?
2. Does the case occur at home or in the partner (or transit) country?

Accordingly, a categorical variable is built to define each possible obstacle  $O$  for each country  $i$ 's importing and exporting firms, separately:

$$O = \begin{cases} 1 & \text{if } H = 1 \text{ and } X = 1 \\ 2 & \text{if } H = 1 \text{ and } X = 2 \\ 3 & \text{if } H = 1 \text{ and } X = 3 \\ 4 & \text{if } H = 0 \text{ and } X = 1 \\ 5 & \text{if } H = 0 \text{ and } X = 2 \\ 6 & \text{if } H = 0 \text{ and } X = 3 \end{cases}$$

Where  $H$  is a dummy variable, equalling 1 if the obstacle occurs in the home country and 0 if the obstacle occurs in the partner or transit country.  $X$  is another categorical variable equalling 1, 2 or 3 if the case is due to, respectively, a regulatory obstacle, a procedural obstacle, or both a regulatory and a procedural obstacle. (A graphical presentation of each category is shown in Figure A.1). Finally, all cases related to technical regulations are summed according to the categorical variable  $O$  they are identified by, and their share over all cases associated with technical regulations  $S_i^O$  is calculated separately for each country  $i$ 's importing and exporting firms:

$$S_i^O = \frac{\sum_i^O C_{ifpj}^T}{\sum_i C_{ifpj}^T}$$

### ***Main procedural obstacles***

All cases related to procedural obstacles are summed up by their type (Table A.2) for each firm size (micro, small, medium-sized and large). The types of procedural obstacles are then ranked for each country and firm size category according to the number of cases reported, and the top category is displayed for each size category. These statistics are available for importing and exporting firms.

### ***Main regulatory obstacles***

All cases related to regulatory obstacles (technical requirements and related conformity assessment) are summed up by NTM classification categories for each firm size (micro, small, medium and large). The results are ranked according to the number of cases reported, and the top category is displayed for each firm size. These statistics are not shown for importing firms due to a low frequency of regulatory obstacles reported by importing firms.

## ANNEX 2:

## Definitions and data sources

This Annex describes data used in the country profiles that are listed in Part II of this report. They include each indicator's title, definition, description, and source. Whenever the indicator is generated through survey data, this section provides the exact survey question. Each indicator is calculated using the most recent data available, with specific periods for data series provided in parenthesis next to the source. Table A.4 later in this Annex provides the complete reference year for situations in which data year availability varies by country. Indicators rely on actual values, with the exception of GDP and population, which rely on a 2015 forecast to ensure that the calculated reference level is the same for all countries.

Some indicators are calculated from raw data on an inverted (negative) 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. These indicators are indicated with the phrase 'inverted scale' in the description tag. All of the following indicators are expressed on a positive scale.

## Standards and regulations

The multifaceted nature of standards and regulations has resulted in a situation where different terms are used for the same concept, or even more confusingly, the same term is used for distinct concepts. For the ease of reading, this report is aligned to the following definitions and assumptions as summarized in Table A.3.

TABLE A.3: Standards and regulations terms used in this report

Term	Criteria	Mandatory		Voluntary
		Goods (technical)	Services	Goods or services
Technical regulation		X		
Services regulation			X	
Regulation		X	X	
Standard				X
Standards and regulations		X	X	X
Non-tariff measures		X	X	

A **regulation** is compulsory. A **standard** is *de jure* voluntary. The term standard is used when referring to the level of quality or attainment. **Sustainability standards** is used when referring to voluntary sustainability standards (VSS) and initiatives, for example those included in the ITC Standards Map.

A **technical regulation** defines product or service characteristics or their related processes and production methods. Thus, it specifies a mandatory product or process requirement imposed by an authority on goods or services, and includes both SPS and TBT measures, and related conformity assessment procedures. **Non-technical** groups together everything else, for example requirements related to the company, or processes related to border crossing. The substantive part of the report generally covers both goods and services, while country profiles focus on goods due to a lack of data on services.

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## Firm size

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The report covers the following firm-size categories, based on the number of full-time employees:

- Micro: 1 to employees
- Small: 5 to 20 employees
- Medium: 21 to 100 employees
- Large: 101 or more

All firm-level indicators in the SME Competitiveness Grid (reported on the first page of each country profile) and all development indicators in the SME export potential (reported on the second page) are based on World Bank Enterprise Surveys in manufacturing and services sectors. The World Bank's definitions are also based on the number of full-time employees but the cut offs are slightly different: firms are considered small if they have five to 19 employees, medium if they have 20 to 99 employees, and large if they have 100 or more employees. Micro firms are not included.<sup>236</sup>

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## Key indicators

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### ■ Population

*Country population, forecast, measured in millions*

*Source:* IMF World Economic Outlook, 2015 (edition and data) ([www.imf.org/en/data](http://www.imf.org/en/data)).

### ■ GDP

*Country gross domestic product, forecast, measured in \$ billions*

*Source:* IMF World Economic Outlook, 2015 edition and data (except Egypt, 2014) ([www.imf.org/en/data](http://www.imf.org/en/data)).

### ■ GDP per capita

*Country gross domestic product per capita, forecast, measured in \$*

*Source:* IMF World Economic Outlook, 2015 edition and data (except Egypt, 2014) ([www.imf.org/en/data](http://www.imf.org/en/data)).

### ■ Share of world GDP

*Percentage of country's GDP as a share of world GDP, forecast, expressed in Purchasing Power Parity (PPP) adjusted terms*

*Source:* IMF World Economic Outlook, 2015 (edition and data) ([www.imf.org/en/data](http://www.imf.org/en/data)).

### ■ Current account surplus/deficit

*Percentage of current account surplus or deficit as a share of country GDP, forecast*

*Source:* IMF World Economic Outlook, 2015 (edition and data) ([www.imf.org/en/data](http://www.imf.org/en/data)).

### ■ Tariff preference margin

*Trade-weighted average difference between the Most Favourite Nation (MFN) duty and the most advantageous preferential duty, taking the perspective of an exporter, expressed as a percentage*

Prior to aggregation, all duties are converted to *ad valorem* equivalents. Tariff lines have been excluded when either MFN or preferential duties cannot be expressed in *ad valorem* terms. The weights refer to the importing country's bilateral trade (based on 2014 trade statistics).

*Source:* ITC Market Analysis Tools, 2006–2015 ([www.intracen.org/marketanalysis](http://www.intracen.org/marketanalysis)).

### ■ Imports and exports (goods and services)

*Percentage of total imports and exports for goods and services as a share of GDP*

Services trade indicators are calculated using most recent available data and the combined revision of the Balance of Payments Manual (either BMP5 or BMP6). For countries not reporting services trade data, estimated values were used. For goods trade and GDP, the data year matches that of the trade in services data.

*Source:* Imports and exports of goods and services: ITC Trade Map, 2011–2014, GDP IMF World Economic Outlook ([www.trademap.org](http://www.trademap.org)).

### ■ Services exports

*Percentage of service exports as a share of total exports*

*Source:* ITC Trade Map, 2011–2014 ([www.trademap.org](http://www.trademap.org)).

### ■ Geographic region

*Geographic region combines geographic and development approach, based on ITC programme definitions.*

Developing countries are divided into the following regions: Asia-Pacific, Eastern Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, and sub-Saharan Africa. Developed countries from any geographic region are grouped together under 'Other (developed)'. See Annex 3 for the list of countries by region.

#### ■ Development group

Definitions are based on the United Nations classification, including LDCs, LLDCs, and SIDS.

**Source:** United Nations classification (31 October, 2013, accessed 26 May 2016) (<http://unstats.un.org/unsd/methods/m49/m49regin.htm>).

#### ■ Income group

Income group per country GDP, based on World Bank classification, including low income, lower-middle income, upper-middle income, and high income

**Source:** World Bank classification, July 1, 2015 (<http://data.worldbank.org/news/2015-country-classifications>).

## SME Competitiveness Grid indicators

### Firm capabilities

#### Compete

##### ■ International quality certificate

Percentage of firms with internationally-recognized quality certification

**Question:** Does this establishment have an internationally-recognized quality certification? The question refers exclusively to internationally recognized certifications. Some examples include: the ISO 9000 series (Quality management systems), the ISO 14000 series (Environmental management systems), HACCP (Hazard Analysis and Critical Control Point) for food, and AATCC (American Association of Textiles Chemists and Colorists) for textiles. Certificates granted only nationally and not recognized in international markets are not included.

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

##### ■ Bank account

Percentage of firms with a checking or savings account

**Question:** At this time, does this establishment have a checking or savings account?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

##### ■ Capacity utilization

Capacity utilization based on comparison of the current output with the maximum output possible using the current inputs

**Question:** In the last fiscal year, what was this establishment's output produced as a proportion of the maximum output possible if using all the resources available (capacity utilization)?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

##### ■ Manager's experience

Years of the top manager's experience working in the firm's sector

**Question:** How many years of experience working in this sector does the top manager have?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

#### Connect

##### ■ E-mail

Percentage of firms using e-mails to communicate with clients/suppliers

**Question:** At the present time, does this establishment use e-mails to communicate with clients or suppliers?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

##### ■ Firm website

Percentage of firms having their own website

**Question:** At the present time, does this establishment use its own website? (Percentage of firms using a website for business-related activities, i.e. sales, product promotion)

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

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## Change

### ■ Audited financial statement

*Percentage of firms with their annual financial statement reviewed by an external auditor*

**Question:** In the last fiscal year, did this establishment have its annual financial statements checked and certified by an external auditor?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

### ■ Investments financed by banks

*Estimated proportion of purchases of fixed assets that was financed from bank loans*

**Question:** Over the last fiscal year, please estimate the proportion of this establishment's total purchase of fixed assets that was financed from each of the following sources:

1. Internal funds or retained earnings;
2. Owners' contribution or issued new equity shares;
3. Borrowed from banks: private and state-owned;
4. Borrowed from non-bank financial institutions;
5. Purchases on credit from suppliers and advances from customers; or
6. Other, moneylenders, friends, relatives, bonds, etc.

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

### ■ Formal training programme

*Percentage of firms offering formal training programmes for permanent, full-time employees*

**Question:** Over the fiscal year, did this establishment have formal training programmes for its permanent, full-time employees?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

### ■ Foreign technology licences

*Percentage of firms using technology licensed from foreign companies*

**Question:** Does this establishment at present use technology licensed from a foreign-owned company, excluding office software?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

## Immediate business environment

### Compete

#### ■ Power reliability

*Losses due to electrical outages, as percentage of total annual sales (inverted scale)*

**Question:** Please estimate the losses that resulted from power outages either as a percentage of total annual sales or as total annual losses.

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

#### ■ Domestic shipping reliability

*Proportion of products lost to breakage or spoilage during shipping to domestic markets (inverted scale)*

**Question:** In the last fiscal year, what percentage of value of products this establishment shipped to supply domestic markets was lost while in transit because of breakage or spoilage?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

#### ■ Dealing with regulations

*Percentage of senior management time spent in a typical week in dealing with requirements imposed by government regulation (inverted scale)*

**Question:** In a typical week over the last year, what percentage of total senior management's time was spent on dealing with requirements imposed by government regulations? [Senior management means managers, directors, and officers above direct supervisors of production or sales workers. Some examples of government regulations are taxes, customs, labour regulations, licensing and registration, including dealings with officials and completing forms].

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

### ■ Customs clearance efficiency

*This indicator is the average of two indicators: average number of days to clear direct exports through customs, and average number of days to clear imports from customs (inverted scale)*

Average number of days to clear direct exports through customs

**Question:** When this establishment exported goods directly, how many days did it take on average from the time this establishment's goods arrived at their main point of exit (e.g., port, airport) until the time these goods cleared customs?

Average number of days to clear imports from customs

**Question:** When this establishment imported material inputs or supplies, how many days did it take on average from the time these goods arrived to their point of entry (e.g. port, airport) until the time these goods could be claimed from customs?

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

## Connect

### ■ State of cluster development

*Averaged country cluster development score*

**Question:** In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)?

[1 = non-existent; 7 = widespread in many fields]

**Source:** World Economic Forum, Executive Opinion Survey, 2014–2015 (2013–2014 data years for Angola, Burkina Faso, Suriname, Timor-Leste and Yemen).

### ■ Extent of marketing

*Averaged country marketing extent score*

**Question:** In your country, to what extent do companies use sophisticated marketing tools and techniques?

[1 = not at all; 7 = to a great extent]

**Source:** World Economic Forum, Executive Opinion Survey, 2014–2015 (2013–2014 data years for Angola, Burkina Faso, Suriname, Timor-Leste and Yemen).

### ■ Local supplier quality

*Averaged country local supplier quality score*

**Question:** In your country, how would you assess the quality of local suppliers?

[1 = extremely poor quality; 7 = extremely high quality]

**Source:** World Economic Forum, Executive Opinion Survey, 2014–2015 (2013–2014 data years for Angola, Burkina Faso, Suriname, Timor-Leste and Yemen).

### ■ University-industry collaboration in R&D

*Averaged country university-industry collaboration in R&D score*

**Question:** In your country, to what extent do businesses and universities collaborate on research and development (R&D)?

[1 = do not collaborate at all; 7 = collaborate extensively]

**Source:** World Economic Forum, Executive Opinion Survey, 2014–2015 (2013–2014 data years for Angola, Burkina Faso, Suriname, Timor-Leste and Yemen).

## Change

### ■ Access to finance

*Percentage of firms identifying access to finance as an obstacle to current operations (inverted scale)*

**Question:** To what degree is access to finance an obstacle to the current operations of this establishment?

Choices range from 0 (no obstacle) to 4 (very severe obstacle)

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

### ■ Access to educated workforce

*Percentage of firms identifying an inadequately educated workforce as an obstacle to current operations (inverted scale)*

**Question:** To what degree is an inadequately educated workforce an obstacle to the current operations of this establishment? Choices range from 0 (no obstacle) to 4 (very severe obstacle)

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

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## ■ Business licensing and permits

*Percentage of firms identifying business licensing and permits as an obstacle to current operations (inverted scale)*

**Question:** To what degree are business licensing and permits an obstacle to the current operations of this establishment?  
Choices range from 0 (no obstacle) to 4 (very severe obstacle)

**Source:** Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank (2006–2015).

## National environment

### Compete

#### ■ Getting electricity

*Doing Business's 'Ease of getting electricity' score*

Doing Business records all procedures required for a business to obtain a permanent electricity connection and supply for a standardized warehouse. These procedures include applications and contracts with electricity utilities, all necessary inspections and clearances from the utility and other agencies, and the external and final connection works. The questionnaire divides the process of getting an electricity connection into distinct procedures and solicits data for calculating the time and cost to complete each procedure. The ranking of economies on the ease of getting electricity is determined by sorting their distance to frontier scores for getting electricity. These scores are the simple average of the distance to frontier scores for each of the component indicators.

**Source:** World Bank, International Finance Corporation, *Doing Business 2016* (<http://www.doingbusiness.org/methodologysurveys/>).

#### ■ Ease of trading across borders

*Doing Business's 'Ease of trading across borders' score (%)*

The 'Ease of trading across borders' index measures the time and cost (excluding tariffs) associated with exporting and importing a standardized cargo of goods by sea transport. The index records the time and costs necessary to complete four predefined stages for importing and exporting goods (document preparation; customs clearance and inspections; inland transport and handling; and port and terminal handling). This includes any time, costs and documents associated with processes at inland borders (i.e. for landlocked countries), and those associated with the issuance or advising of a letter of credit (for payments). The time and costs associated with sea transport are not included.

The trading across borders indicator is calculated from the simple average of the Distance to Frontier score for each of the component indicators. Data in turn is compiled from local freight forwarders, shipping lines, customs brokers, port officials and banks, and is made comparable across economies.

**Source:** World Bank, International Finance Corporation, *Doing Business 2016* (<http://www.doingbusiness.org/methodologysurveys/>).

#### ■ Applied tariff, trade-weighted average

*Applied tariff rate, trade-weighted mean, all products (%) (inverted scale)*

A tariff is a customs duty that is levied by the destination country on imports of merchandise goods. The trade-weighted average tariff is calculated for each importing country using the trade patterns of the importing country's reference group (based on 2014 trade statistics). To the extent possible, specific rates have been converted to their ad valorem equivalent rates and included in the calculation of trade-weighted average tariffs. Preferential tariff arrangements (tariff preferences) have been taken into account.

**Source:** ITC, based on data from ITC Market Analysis Tools, 2006–2015 ([www.intracen.org/marketanalysis](http://www.intracen.org/marketanalysis)).

#### ■ Prevalence of technical regulations

*Average number of technical regulations per imported product (inverse measure)*

The prevalence of technical regulations is calculated as an average number of technical requirements per imported product (HS 6-digit level), where requirements are defined as a combination of the measure type from the NTM Classification (belonging to technical requirements covered by SPS and TBT chapters) and the number of regulations. The calculations are performed at country level, taking into account bilateral regulations.

**Source:** International NTM database, available from ITC Market Access Map, 2008–2015 ([www.macmap.org](http://www.macmap.org)).

#### ■ Faced tariff, trade-weighted average

*Trade-weighted average tariff faced in destination markets (%) (inverted scale)*

The tariff faced is an indicator calculated as the trade-weighted average of the applied tariff rates, including preferential rates that the rest of the world applies to each country. The weights are the trade patterns of the importing country's reference group (based on 2014 trade statistics).

**Source:** ITC, based on data from ITC Market Analysis Tools, 2006–2015, [www.intracen.org/marketanalysis](http://www.intracen.org/marketanalysis).

## ■ Logistics performance index

### *Logistics Performance Index score*

A multidimensional assessment of logistics performance, the Logistics Performance Index (LPI), compares the trade logistics profiles of countries and rates them on a scale of 1 (worst) to 5 (best). The LPI's six components include: (1) customs: the efficiency of the clearance process (speed, simplicity, and predictability of formalities) by border control agencies, including customs; (2) infrastructure: the quality of trade- and transport-related infrastructure (ports, railroads, roads, IT); (3) international shipments: the ease of arranging competitively priced shipments; (4) logistics competence: the competence and quality of logistics services (transport operators, customs brokers); (5) tracking & tracing: the ability to track and trace consignments; and (6) timeliness: the frequency with which shipments reach the consignee within the scheduled or expected delivery time. Scores are averaged across all respondents.<sup>237</sup>

**Source:** World Bank and Turku School of Economics, Logistics Performance Index, 2007–2014 (<http://lpi.worldbank.org/>).

## ■ ISO 9001 quality certificates

### *ISO 9001:2008 Quality management systems: Number of certificates issued (per million people)*

**Source:** ISO, ISO Survey of Management System Standard Certifications, 2014 ([www.iso.org](http://www.iso.org)).

## ■ ISO 14001 environmental certificates

### *ISO 14001:2004 Environmental management systems: Number of certificates issued (per million people)*

**Source:** ISO, ISO Survey of Management System Standard Certifications, 2014 ([www.iso.org](http://www.iso.org)).

## ■ Governance index

### *Governance index*

The governance index is the average score of six governance dimensions: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption.

**Source:** World Bank, Worldwide Governance Indicators, 2014 (<http://info.worldbank.org/governance/wgi/index.aspx#home>).

## Connect

### ■ ICT access

#### *ICT access score*

The ICT access sub-index is the first sub-index in ITU's ICT Development Index. It is a composite index that weights five ICT indicators (20% each): (1) fixed-telephone subscriptions per 100 inhabitants; (2) mobile-cellular telephone subscriptions per 100 inhabitants; (3) international Internet bandwidth (bit/s) per Internet user; (4) percentage of households with a computer; and (5) percentage of households with Internet access.

**Source:** ITU, Measuring the Information Society (2015), ICT Development Index 2015 (except for: Tajikistan, 2008; Guinea, 2013; Swaziland, 2013) (<http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2015.aspx>).

### ■ ICT use

#### *ICT use score*

The ICT use sub-index is the second sub-index in ITU's ICT Development Index. It is a composite index that weights three ICT indicators (33% each): (1) percentage of individuals using the Internet; (2) fixed (wired)-broadband subscriptions per 100 inhabitants; and (3) wireless-broadband subscriptions per 100 inhabitants.

**Source:** ITU, Measuring the Information Society (2015), ICT Development Index 2015 (except for: Tajikistan, 2008; Guinea, 2013; Swaziland, 2013) (<http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2015.aspx>).

### ■ Government's online service

#### *Government's online service index*

To arrive at a set of online service index values, research teams assessed each country's national website, including the national central portal, e-services portal, and e-participation portal as well as the websites of the related ministries of education, labour, social services, health, finance, and environment, as applicable. The websites are assessed for content, features, accessibility and uptake.

The survey covers four stages of government's online service development, with points assigned for: (1) an emerging presence, providing limited and basic information; (2) an enhanced presence, providing greater public policy and governance sources of information such as policies, laws and regulation, downloadable databases; (3) a transactional presence, allowing two-way interactions between government and citizens (G2C and C2G), including paying taxes and applying for ID cards, birth certificates, passports, licence renewals, etc.; and (4) a connected presence, characterized by G2G, G2C, and C2G interactions, as well as participatory deliberative policy- and decision-making. A citizen-centric approach was followed.

**Source:** UNPAN, e-Government Survey 2014 (<http://www2.unpan.org/egovkb/Change>).

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## Change

### ■ Ease of getting credit

*Doing Business 'Ease of getting credit' score*

Doing Business measures the legal rights of borrowers and lenders with respect to secured transactions through one set of indicators and the sharing of credit information through another. The ranking is the simple average of the percentile rankings on the component indicators of the ease of getting credit index: strength of legal rights index (range 0–10); and depth of credit information index (range 0–6). The first set of indicators measures whether certain features that facilitate lending exist within the applicable collateral and bankruptcy laws. The second set measures the coverage, scope and accessibility of credit information available through credit reporting service providers such as credit bureaus or registries. The ranking of economies on the ease of getting credit is determined by sorting their distance to frontier scores for getting credit.

**Source:** World Bank, Doing Business 2016 (<http://www.doingbusiness.org/reports/global-reports/doing-business-2016>).

### ■ Interest rate spread

*Interest rate spread score (inverted scale)*

The interest rate spread is the interest rate charged by banks on loans to private sector customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits. The terms and conditions attached to these rates differ by country, however, limiting their comparability.

**Source:** World Bank, on the basis of IMF data, International Financial Statistics and data files, 1988–2015 (<http://data.worldbank.org/indicator/FR.INR.LNDP/countries>).

### ■ School life expectancy

*School life expectancy, primary to tertiary education*

Total number of years of schooling that a child of a certain age can expect to receive in the future, assuming that the probability of his or her being enrolled in school at any particular age is equal to the current enrolment ratio for that age.

**Source:** UNESCO Institute for Statistics, 2001–2015 (<http://stats.uis.unesco.org>).

### ■ Ease of starting a business

*Doing Business 'Ease of starting a business' score*

Doing Business measures the number of procedures, the time and cost for a small and medium-size limited liability company to start up and formally operate. To make the data comparable across economies, Doing Business uses a standardized business that is 100% domestically owned, has start-up capital equivalent to 10 times income per capita, engages in general industrial or commercial activities, and employs between 10 and 50 people within the first month of operations.

**Source:** World Bank, Doing Business 2016 (<http://www.doingbusiness.org/methodology/starting-a-business>).

### ■ Patent applications

*Resident patent applications (per million people), equivalent count by applicant's origin*

Patent filings made by applicants at their home office (national or regional), also called domestic applications. Applications at regional offices are equivalent to multiple applications, one in each of the state members of those offices, therefore each application is multiplied by the corresponding number of member states, except for the European Patent Office and the African Regional Intellectual Property Organization, for which designated countries are not known, in which case each application is counted as one application abroad if the applicant does not reside in a member state; or as one resident and one application abroad if the applicant resides in a member state.

**Source:** WIPO, 2000–2014 (<http://www.wipo.int/portal/en/index.html>).

### ■ Trademark registrations

*Resident trademark registrations (per million people), equivalent class count by applicant's origin*

A trademark is a distinctive sign distinguishing certain goods or services of one undertaking from those produced or provided by other undertakings. The holder of a registered trademark has the legal right to exclusive use of the mark in relation to the products or services for which it is registered. The owner can prevent unauthorized use of the trademark, or a confusingly similar mark, used for goods or services that are identical or similar to the goods and services for which the mark is registered.

Depending on different legal systems, one trademark application may specify several classes. Technically, that trademark turns into several marks linking to different goods or services. For the reason of international comparability, one should look at the count of classes to counter systemic differences between countries.

**Source:** WIPO, 2004–2014, <http://www.wipo.int/portal/en/index.html>.

## Export Potential Assessment

### ■ Exports

Country's yearly total export value, simple average over the period 2010–2014, measured in \$ millions

**Source:** ITC Trade Map, 2010–2014 for the table (for calculations: 2008–2014 for growth rates, 2001–2014 for pass-through estimation).

### ■ Value of unrealized potential exports

Estimated value of potential additional exports for existing export product lines, measured in \$ millions; based on Export Potential Indicator (EPI); see Annex 2 for calculations

**Source:** ITC, Export Potential Assessment Methodology.

### ■ Rank

Product ranking by diversification potential to world market; based on Product Diversification Indicator (PDI); see Annex 2 for calculations

**Source:** ITC Export Potential Assessment Methodology.

### ■ Price stability

Indicator for stability of export revenue, based on the standard deviation of product-level unit values (relative to country mean)

**Source:** ITC calculations based on CEPII data (Centre d'études prospectives et d'informations internationales) data.

### ■ SME presence

Indicator for the share of SMEs in the sector corresponding to indicated product (relative to country mean)

**Source:** ITC calculations based on Enterprise Surveys (<http://www.enterprisesurveys.org>), World Bank (2006–2015).

### ■ Women employed

Indicator for the proportion of female employment by sector corresponding to indicated product (relative to country mean)

**Source:** ITC calculations based on Enterprise Surveys (<http://www.enterprisesurveys.org>), World Bank (2006–2015).

### ■ Technology

Indicator for the level of production technology, based on product complexity following Hidalgo and Hausmann (2009)<sup>238</sup> and its application in Klotz, Kniahin and Jansen (2016)<sup>239</sup> (relative to country median)

**Source:** ITC based on ITC Market Analysis Tools data, 2006–2015. ([www.intracen.org/marketanalysis](http://www.intracen.org/marketanalysis)).

The underlying calculations also include the following data. Ad-valorem tariff data is derived from the ITC Market Access Map, for the most recent year available (as of December 2015). Price elasticities are derived from GTAP.<sup>240</sup> Distances between main cities are from CEPII GeoDist.<sup>241</sup> GDP growth projections are from the World Economic Outlook database, October 2015. Trade unit values are from CEPII TUV,<sup>242</sup> for years 2003–2013.

## Technical regulations

### ■ Share of trade subject to regulation

Coverage ratio, %; see Annex 1 for calculations

**Source:** Calculations based on ITC Market Access Map ([www.macmap.org](http://www.macmap.org)).

### ■ Number of requirements per product

Prevalence score; see Annex 1 for calculations

**Source:** Calculations based on ITC Market Access Map ([www.macmap.org](http://www.macmap.org)).

### ■ Distribution of requirements by type

Share of requirements of a given type in the total number of requirements, %; see Annex 1 for calculations

**Source:** Calculations based on ITC Market Access Map ([www.macmap.org](http://www.macmap.org)).

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## The business perspective on technical regulations

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### ***NTMs reported as challenging***

The statistics are based on the 'NTM case', the most disaggregated data unit of the survey. The chart on the types of challenging NTMs is generated using responses to the following questions:

- *Can you please describe in detail which type of burdensome regulation you face for this product, and what related challenges/procedural obstacles you experience? Please provide as much detail as you can.*
- *Please specify the official name of this regulation/requirement/document/certificate, if you know it – or describe it in your own words (e.g. 'phytosanitary certificate'):*
- *Who applies the regulation, is it your own country or the partner country?*
  - 1  *The regulation is applied by the partner country*
  - 2  *The regulation is applied by home country*
  - 3  *The regulation is applied by the transit country*
  - 4  *It's not a government-imposed regulation, but a voluntary standard*

The interviewers are trained to map regulatory obstacles to the types of measures as defined in the International NTM Classification for Surveys.

### ***Regulatory and procedural obstacles***

The statistics are based on 'NTM cases' and constructed based on the answers to the following question, distinguishing between regulatory and procedural issues:<sup>243</sup>

- *Is the described regulation burdensome because of:*
  - 1  *the measure/requirement itself that is too strict or too difficult to comply with*
  - 2  *the related procedural obstacles*
  - 3  *both of the above*

### ***Location of procedural obstacles***

Each reported regulation can be applied by either the home country, transit country or partner country. Furthermore, each regulation may be associated with procedural obstacles (POs), which can take place in either the home country, transit country or partner country. The statistics on the location of POs aggregates experience in partner and transit countries and compares it to the experience in the exporter's home country.

The statistics are based on the number of POs linked to each reported 'NTM case' and constructed based on the answers to the following questions:

- *Please specify which procedural obstacle you experience with the described measure (in other words WHY the measure is difficult?). You can mention different problems. (Note to interviewer: If applicable, ask for the number of days of delay, number and names of required documents, amount of additional fee, institutions involved etc. )*
- *Q27a. In which country does the problem occur?*
  - Partner country*
  - Home country*
  - Transit country*

The interviewers are trained to map procedural obstacles to their types (high-level categories are available in Table A.2).

The complete dataset and further details are available at <http://ntmsurvey.intracen.org>.

### ***Data availability for the SME Competitiveness Grid***

All data sources and the latest available year used in the calculation of the SME Competitiveness Grid are listed below, by country. Not available data is indicated as "n/a".

Table A.4: Data availability for the SME Competitiveness Grid

	Enterprise survey (World Bank)	Logistics performance index	ICT access and use (ITU)	Applied tariff (ITC)	Prevalence of technical regulations (ITC)	Interest rate spread (World Bank)	School life expectancy (UNESCO)	Patent applications (WIPO)	Trademark registrations (WIPO)
Albania	2013	2012	2015	2015	N/A	2014	2014	2014	2014
Angola	2010	2014	2015	2015	N/A	2014	2011	N/A	N/A
Argentina	2010	2014	2015	2015	2012	2015	2013	2014	2014
Armenia	2013	2014	2015	2015	N/A	2013	2009	2014	2014
Azerbaijan	2013	2014	2015	2015	N/A	2013	2014	2014	2014
Bangladesh	2013	2014	2015	2007	N/A	2014	2011	2000	2014
Barbados	2010	N/A	2015	2013	2015	2014	2011	2014	2014
Belize	2010	N/A	2015	2015	N/A	2013	2013	2006	N/A
Benin	2009	2014	2015	2015	N/A	1992	2013	N/A	N/A
Bhutan	2015	2014	2015	2015	N/A	2014	2013	2013	2013
Bolivia (Plurinational State of)	2010	2014	2015	2015	2012	2014	2007	2014	2014
Bosnia and Herzegovina	2013	2014	2015	2015	N/A	2014	N/A	2014	2014
Botswana	2010	2014	2015	2015	N/A	2013	2013	2014	2014
Brazil	2009	2014	2015	2015	2012	2014	N/A	2014	2014
Bulgaria	2013	2014	2015	2015	2011	2014	2014	2014	2014
Burkina Faso	2009	2014	2015	2015	2010	2014	2013	N/A	N/A
Burundi	2014	2014	N/A	2015	N/A	1988	2013	N/A	N/A
Cabo Verde	2009	N/A	2015	2015	N/A	2014	2014	N/A	N/A
Cambodia	2013	2014	2015	2014	N/A	N/A	2008	N/A	2014
Cameroon	2009	2014	2015	2014	2015	2007	2011	N/A	N/A
Chad	2009	2014	2015	2015	N/A	2007	2011	N/A	N/A
Chile	2010	2014	2015	2015	2012	2014	2013	2014	2014
China	2012	2014	2015	2015	2012	2013	2013	2014	2014
Colombia	2010	2014	2015	2014	2012	2014	2009	2014	2014
Costa Rica	2010	2014	2015	2014	2012	2014	2014	2014	2014
Côte d'Ivoire	2009	2014	2015	2015	2012	1992	2014	2012	N/A
Croatia	2013	2014	2015	2015	N/A	2014	2012	2014	2014
Czech Republic	2013	2014	2015	2015	2011	2013	2013	2014	2014
Dominican Republic	2010	2014	2015	2015	N/A	2014	2014	2014	2014
Ecuador	2010	2014	2015	2015	2012	2014	2013	2006	2010
Egypt	2013	2014	2015	2015	2014	2013	2013	2014	2014
El Salvador	2010	2014	2015	2015	N/A	2000	2013	N/A	N/A
Estonia	2013	2014	2015	2015	2011	2013	2013	2014	2014
Ethiopia	2011	2014	2015	2015	N/A	2008	2012	N/A	N/A

Gabon	2009	2014	2015	2015	N/A	2007	2001	N/A	N/A
Gambia	2006	2014	2015	2012	N/A	2013	2010	N/A	2013
Georgia	2013	2014	2015	2015	N/A	2013	2014	2014	2014
Ghana	2013	2014	2015	2013	N/A	1988	2014	N/A	N/A
Guatemala	2010	2014	2015	2015	2012	2013	2013	2014	2010
Guinea	2006	2014	2013	2012	N/A	2014	2014	N/A	N/A
Guyana	2010	2014	2015	2015	2015	2013	2012	N/A	2014
Honduras	2010	2014	2015	2015	N/A	2013	2014	2013	2014
Hungary	2013	2014	2015	2015	2011	2015	2013	2014	2014
India	2014	2014	2015	2009	2015	N/A	2013	2014	2014
Indonesia	2009	2014	2015	2013	N/A	2013	2013	2014	2014
Israel	2013	2014	2015	2015	2014	2012	2013	2014	2014
Jamaica	2010	2014	2015	2011	2015	2014	2004	2014	2014
Jordan	2013	2014	2015	2015	2014	2014	2012	2014	2014
Kazakhstan	2013	2014	2015	2015	2012	2014	2015	2014	2013
Kenya	2013	2014	2015	2015	N/A	2014	2009	2014	N/A
Kyrgyzstan	2013	2014	2015	2015	N/A	2013	2013	2014	2014
Lao People's Democratic Republic	2012	2014	2015	2015	N/A	2014	2014	N/A	N/A
Latvia	2013	2014	2015	2015	2011	2014	2013	2014	2014
Lebanon	2013	2014	2015	2015	2014	2013	2013	N/A	N/A
Lesotho	2009	2014	2015	2015	N/A	2013	2014	N/A	N/A
Liberia	2009	2014	2015	2014	N/A	2014	2000	N/A	N/A
Lithuania	2013	2014	2015	2015	2011	2010	2013	2014	2014
Madagascar	2013	2014	2015	2014	2011	2014	2012	2008	2014
Malawi	2014	2014	2015	2015	2011	2014	2011	N/A	2006
Mali	2010	2014	2015	2015	N/A	1992	2011	N/A	N/A
Mauritania	2014	2014	2015	2015	2015	2014	2013	N/A	N/A
Mauritius	2009	2014	2015	2015	2011	2014	2014	2013	2013
Mexico	2010	2014	2015	2014	2012	2013	2013	2014	2014
Moldova	2013	2014	2015	2015	N/A	2014	2013	2014	2014
Mongolia	2013	2014	2015	2015	N/A	2013	2014	2014	2014
Montenegro	2013	2014	2015	2015	N/A	2015	2010	2014	N/A
Morocco	2013	2012	2015	2015	2014	2005	2012	2014	2014
Mozambique	2007	2014	2015	2014	N/A	2013	2014	2007	2007
Myanmar	2014	2014	2015	2015	N/A	2014	2007	N/A	2012
Namibia	2014	2014	2015	2015	2011	2013	2006	N/A	N/A
Nepal	2013	2014	2015	2015	2012	2015	2014	2013	2014
Nicaragua	2010	2014	2015	2015	N/A	2013	2002	2012	2013
Nigeria	2014	2014	2015	2015	N/A	2015	2005	N/A	2013
Pakistan	2013	2014	2015	2015	2015	2014	2014	2014	2014
Panama	2010	2014	2015	2013	N/A	2014	2013	2014	2014
Paraguay	2010	2014	2015	2015	2012	2014	2010	2010	2010
Peru	2010	2014	2015	2014	2012	2014	2010	2014	2014

Philippines	2009	2014	2015	2013	2008	2013	2013	2014	2014
Poland	2013	2014	2015	2015	2011	2006	2013	2014	2014
Romania	2013	2014	2015	2015	2011	2014	2011	2014	2014
Russian Federation	2012	2014	2015	2015	2009	2013	2013	2014	2014
Rwanda	2011	2014	2015	2015	2011	2014	2013	2012	2012
Senegal	2014	2014	2015	2015	2011	2015	2010	N/A	N/A
Serbia	2013	2014	2015	2015	N/A	2013	2014	2014	2014
Sierra Leone	2009	2012	N/A	2006	N/A	2013	2001	N/A	2014
Slovakia	2013	2014	2015	2015	2011	2008	2013	2014	2014
Slovenia	2013	2014	2015	2015	2011	2009	2013	2011	2010
South Africa	2007	2014	2015	2015	N/A	2014	2013	2014	2014
Sri Lanka	2011	2014	2015	2014	2012	2014	2013	2013	2013
Suriname	2010	N/A	2015	2007	2015	2013	2002	N/A	2014
Swaziland	2006	N/A	2013	2015	N/A	2013	2013	2012	N/A
Sweden	2014	2014	2015	2015	2011	2014	2013	2014	2014
Tajikistan	2013	2014	2008	2015	N/A	2013	2013	2012	2013
Thailand	2006	2014	2015	2015	N/A	2014	2013	2014	2014
The former Yugoslav Republic of Macedonia	2013	2014	2015	2015	N/A	2013	2012	2013	2004
Timor-Leste	2009	2007	N/A	2015	N/A	2014	2010	N/A	N/A
Trinidad and Tobago	2010	N/A	2015	2008	2015	2013	2004	2014	2014
Tunisia	2013	2014	2015	2015	2014	1988	2013	2014	N/A
Turkey	2013	2014	2015	2015	2012	N/A	2013	2014	2014
Uganda	2013	2010	2015	2015	N/A	2014	2011	N/A	2014
Ukraine	2013	2014	2015	2015	N/A	2014	2014	2014	2014
United Rep. of Tanzania	2013	2014	2015	2015	2011	2014	2013	N/A	2007
Uruguay	2010	2014	2015	2015	2012	2013	2010	2014	2014
Venezuela (Bolivarian Republic of)	2010	2014	2015	2015	2012	2013	2009	2011	2011
Viet Nam	2009	2014	2015	2015	N/A	2014	N/A	2014	2014
Yemen	2013	2014	2013	2015	N/A	2014	2011	2014	2014
Zambia	2013	2014	2015	2013	N/A	2013	N/A	2014	2014
Zimbabwe	2011	2014	2015	2015	N/A	2015	2012	N/A	N/A

## ANNEX 3:

# Countries covered and composition of regions

The following Annex lists 108 countries included in the calculations of the SME Competitiveness Grid and regional aggregations are listed below, grouped by their geographic region, with indication of whether countries belong to LDCs, LLDCs, SIDS, and/or to OECD. The countries included in the country profiles are indicated in bold.

### Asia-Pacific

Bangladesh	LDC	Lao People's Democratic Republic	LDC, LLDC	Philippines	
Bhutan	LDC, LLDC	Myanmar	LDC	Sri Lanka	
China		Mongolia	LLDC	Thailand	
Cambodia	LDC	Nepal	LDC, LLDC	Timor-Leste	LDC, SIDS
India		Pakistan		Viet Nam	
Indonesia					

### Eastern Europe and Central Asia

Albania		Kazakhstan	LLDC	Serbia	
Armenia	LLDC	Kyrgyzstan	LLDC	Tajikistan	LLDC
Azerbaijan	LLDC	Moldova, Republic of	LLDC	The Former Yugoslav Republic of Macedonia	LLDC
Bosnia and Herzegovina		Montenegro		Turkey	OECD
Georgia		Russian Federation		Ukraine	

### Middle East and North Africa

Egypt		Lebanon		Tunisia	
Jordan		Morocco		Yemen	LDC

### Latin America and the Caribbean

Argentina		Dominican Republic	SIDS	Panama	
Bolivia	LLDC	Ecuador		Peru	
Brazil		Guatemala		Paraguay	LLDC
Barbados	SIDS	Guyana	SIDS	El Salvador	
Belize	SIDS	Honduras		Suriname	SIDS
Chile	OECD	Jamaica	SIDS	Trinidad and Tobago	SIDS
Colombia		Mexico	OECD	Uruguay	
Costa Rica		Nicaragua		Venezuela (Bolivarian Republic of)	

### Sub-Saharan Africa

Angola	LDC	Guinea	LDC	Nigeria	
Benin	LDC	Gambia	LDC	Rwanda	LDC, LLDC
Burundi	LDC, LLDC	Kenya		Senegal	LDC
Burkina Faso	LDC, LLDC	Lesotho	LDC, LLDC	Sierra Leone	LDC
Botswana	LLDC	Liberia	LDC	Swaziland	LLDC
Côte d'Ivoire		Madagascar	LDC	Uganda	LDC, LLDC
Cameroon		Mali	LDC, LLDC	United Republic of Tanzania	LDC
Cabo Verde	SIDS	Mozambique	LDC	South Africa	
Chad	LDC, LLDC	Mauritania	LDC	Zambia	LDC, LLDC
Ethiopia	LDC, LLDC	Mauritius	SIDS	Zimbabwe	LLDC
Gabon		Malawi	LDC, LLDC		
Ghana		Namibia			

### Other (developed)

Bulgaria		Israel	OECD	Slovakia	OECD
Czech Republic	OECD	Lithuania		Slovenia	OECD
Estonia	OECD	Latvia		Sweden	OECD
Croatia		Poland	OECD		
Hungary	OECD	Romania			





# Endnotes and References

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# Endnotes

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205. National Environment scores are calculated using the same method used in the Country Profiles. Briefly, this implies that scores are normalized using a 108 country data set. See Technical Annex for a detailed explanation of the methodology.

## Chapter 8

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213. Country selection was driven mainly by the availability of firm-level data and/or data on the regulatory environment.

## Chapter 9

214. Values printed in green are at least 50% above the reference level while values in red are at least 50% below the reference level, with reference levels being calculated on the basis of countries' GDP per capita.
215. See previous endnote.
216. Hidalgo, C., Klinger, B., Barabási, A.-L., & Hausmann, R. (2007). The product space conditions the development of nations. *Science*, (317): 482–487.
217. The multi-agency NTM Database is accessible through the ITC Market Access Map ([www.macmap.org](http://www.macmap.org)) and the World Integrated Trade Solution (WITS) of the World Bank (<http://wits.worldbank.org>)

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## Annex I

218. International NTM Database is accessible through the ITC Market Access Map ([www.macmap.org](http://www.macmap.org)) and the World Integrated Trade Solution (WITS) of the World Bank (<http://wits.worldbank.org>)
219. Note that the World Bank classification of firm size does not include a separate category for micro enterprises (1-5 employees). Their three-category topology was adapted to make firm sizes of ITC Business Surveys on NTMs compatible with the firm-level indicators of the SME Competitiveness Grid (first page of country profiles). In addition a fourth category (for micro enterprises) is reported for the results of ITC Business Surveys on NTMs (fourth page of the country profiles).
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