



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.

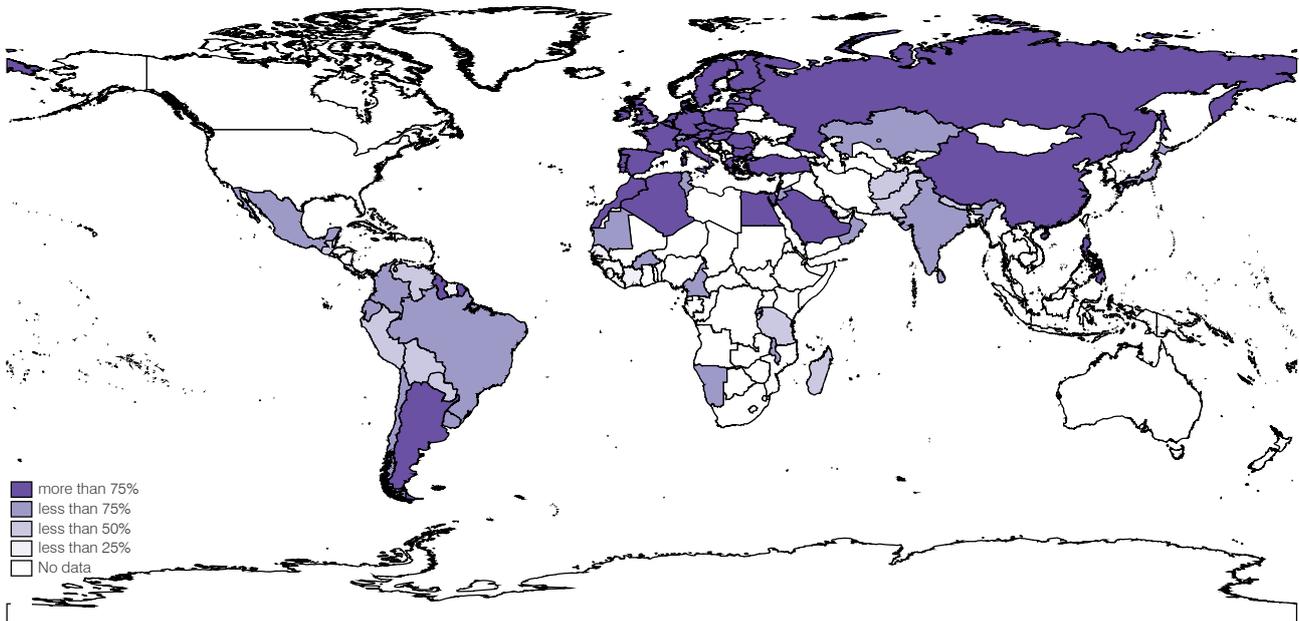
For entrepreneurs, however, terminology may not matter. ITC firm-level surveys repeatedly show that interviewees in SMEs do not necessarily identify whether a government, a non-governmental organization (NGO) or a private-sector buyer imposes a required level of attainment. They may not distinguish between 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



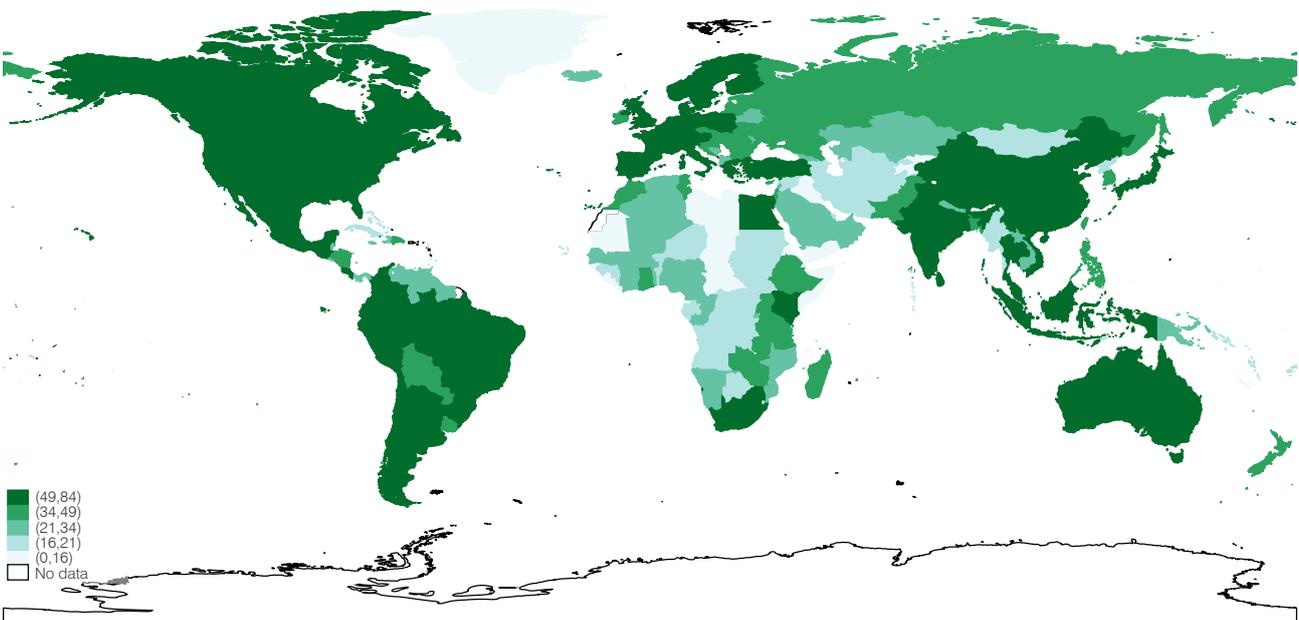
Note: The colour intensity indicates the share of imports subject to at least one technical requirement.

Source: ITC calculations based on the multi-agency regulatory database on NTMs, accessed through Market Access Map (www.macmap.org). 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.

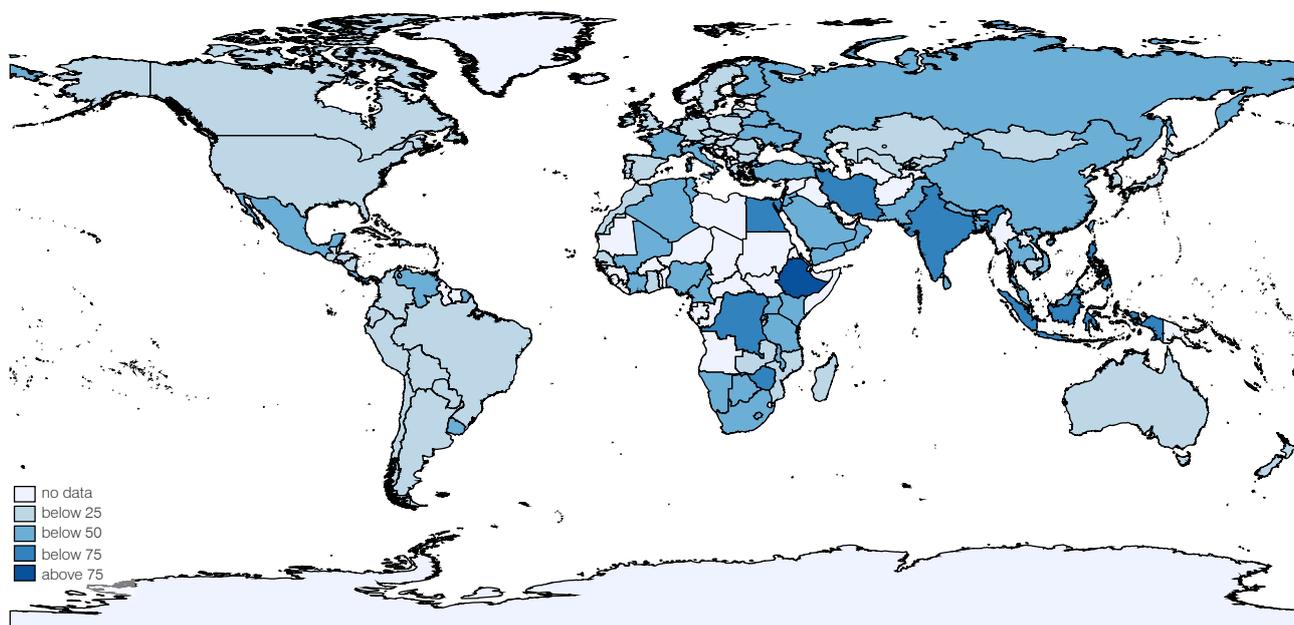
FIGURE 2 Voluntary sustainability standards are now widespread



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).¹

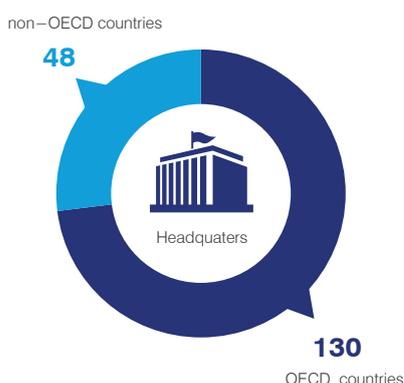
The World Bank's Service Trade Restrictions Index (STRI) helps measure the impact of the regulatory environment

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

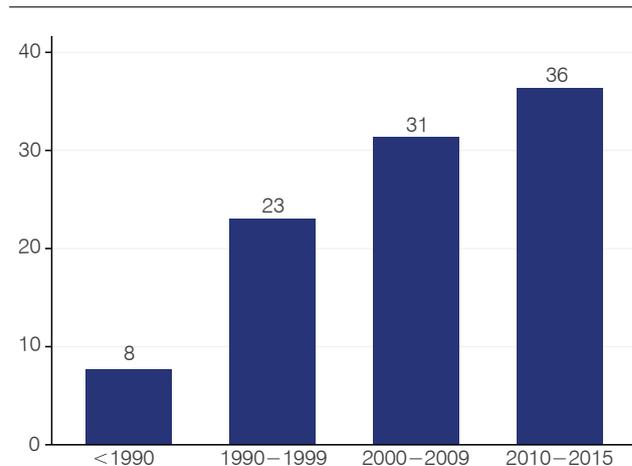
is not entirely surprising, as food consumption has a direct effect on human health and life. In many countries, the quality of food reaching consumers is heavily controlled by governments.

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 NTMs².

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.

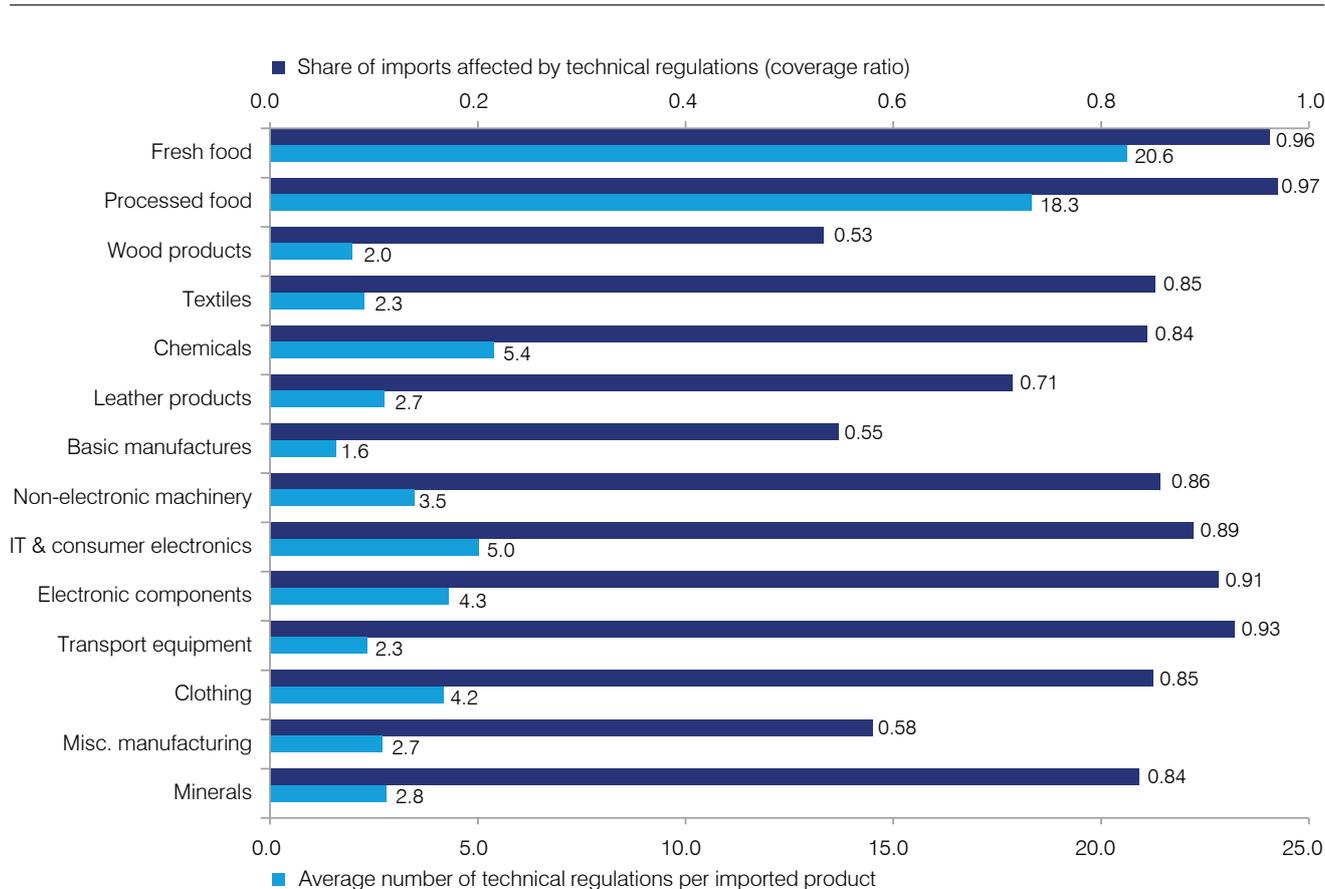
FIGURE 5 Voluntary sustainability standards' headquarters are on the rise in non-OECD countries



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.

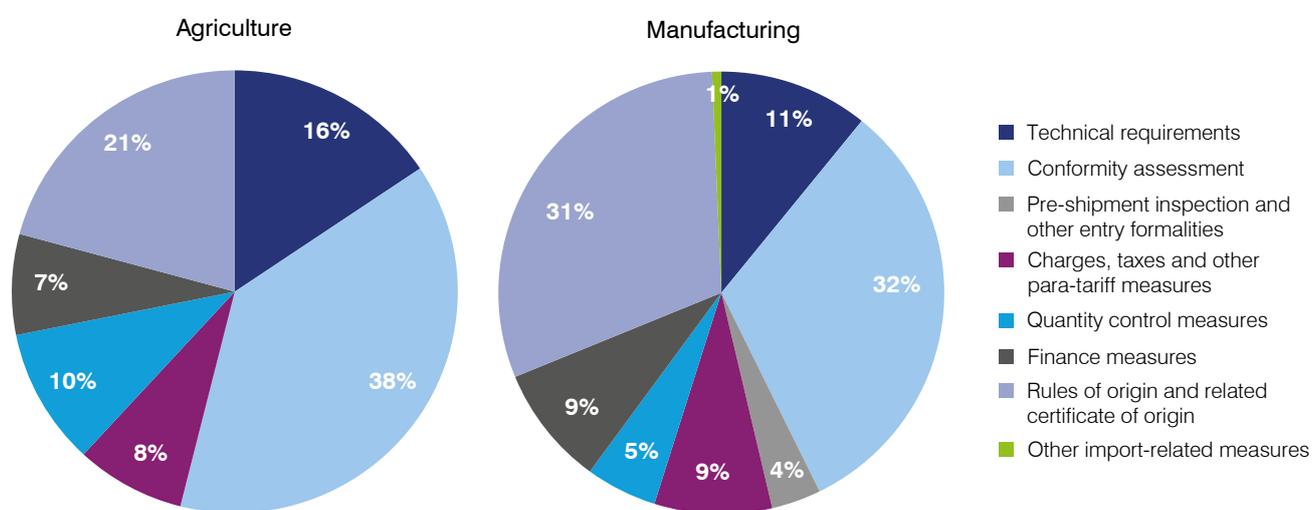
FIGURE 6 Some sectors face more technical regulations



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

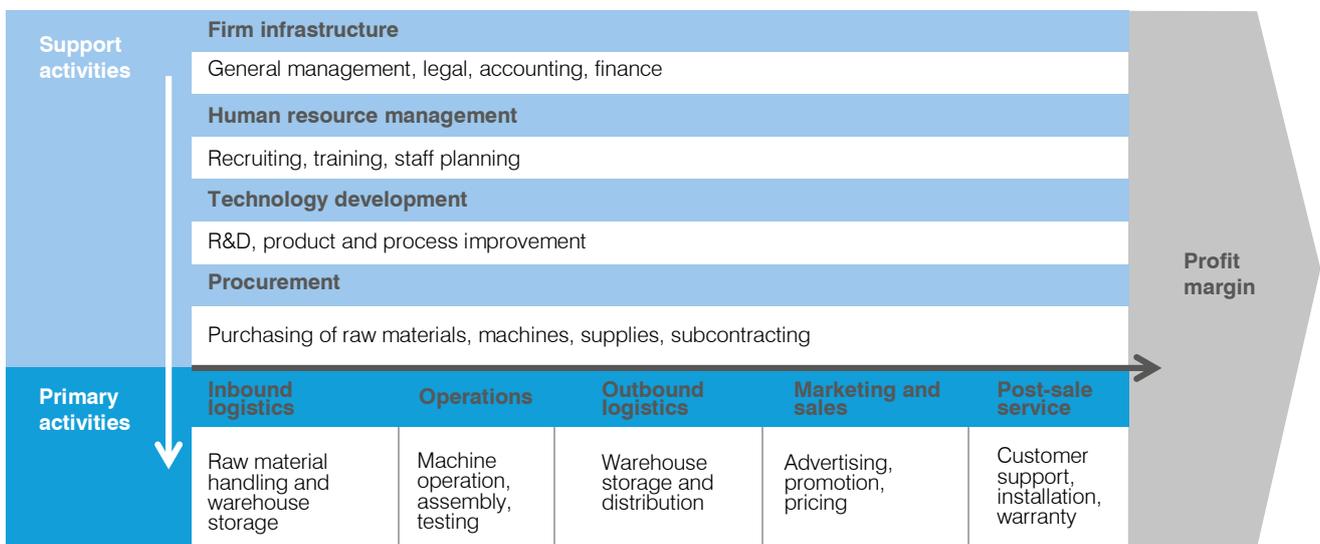
they cover very different worlds. For small exporters, the quantity, variety and specificity and range of standards can be hard to meet.

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).

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.³ 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

A firm's infrastructure informs all primary and support activities.⁴ 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)

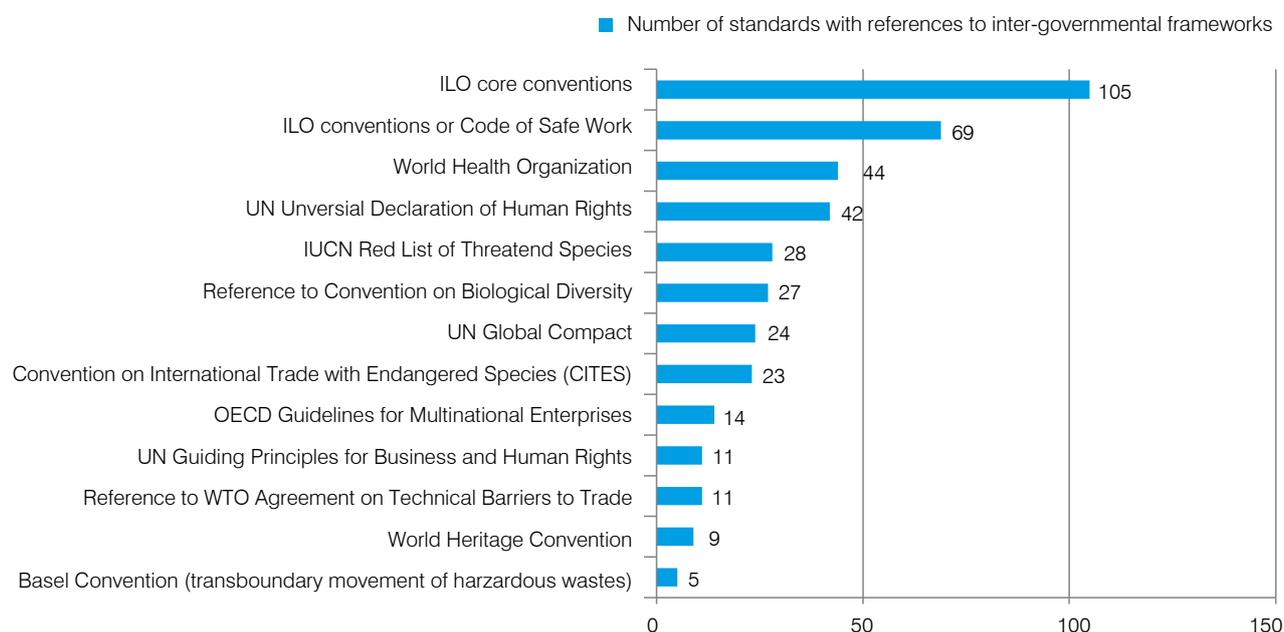
- **Non-discrimination**

- 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

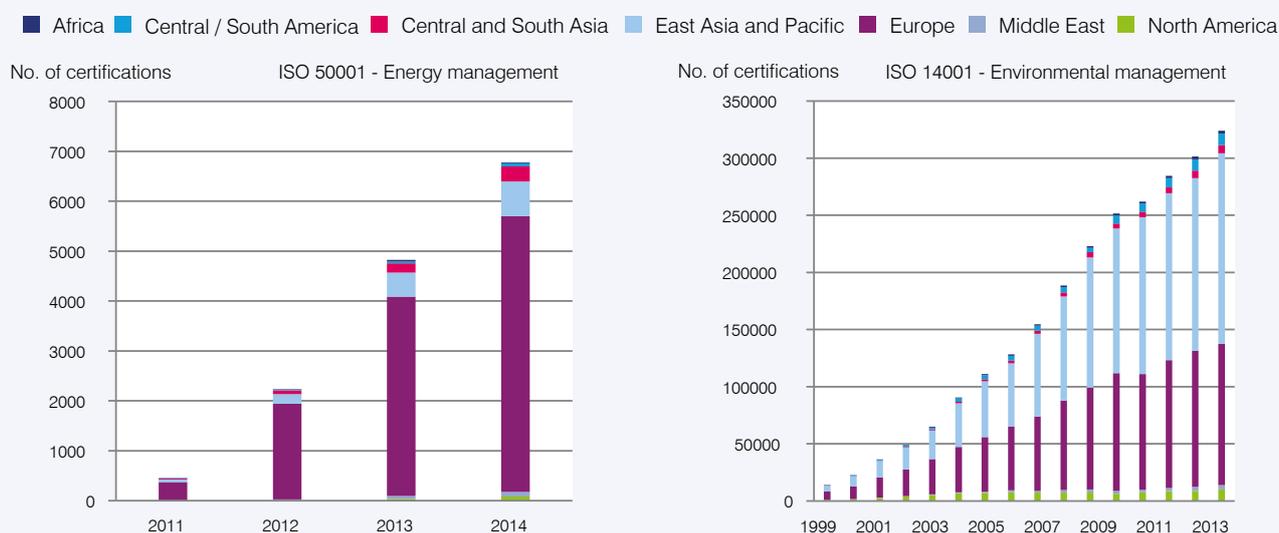
The complexity and sheer number of standards and regulations can cause an information overload to companies of all sizes – but in particular to small and medium-sized enterprises (SMEs). ITC helps SMEs from developing countries to strengthen their capacity to compete, connect and change by supporting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



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

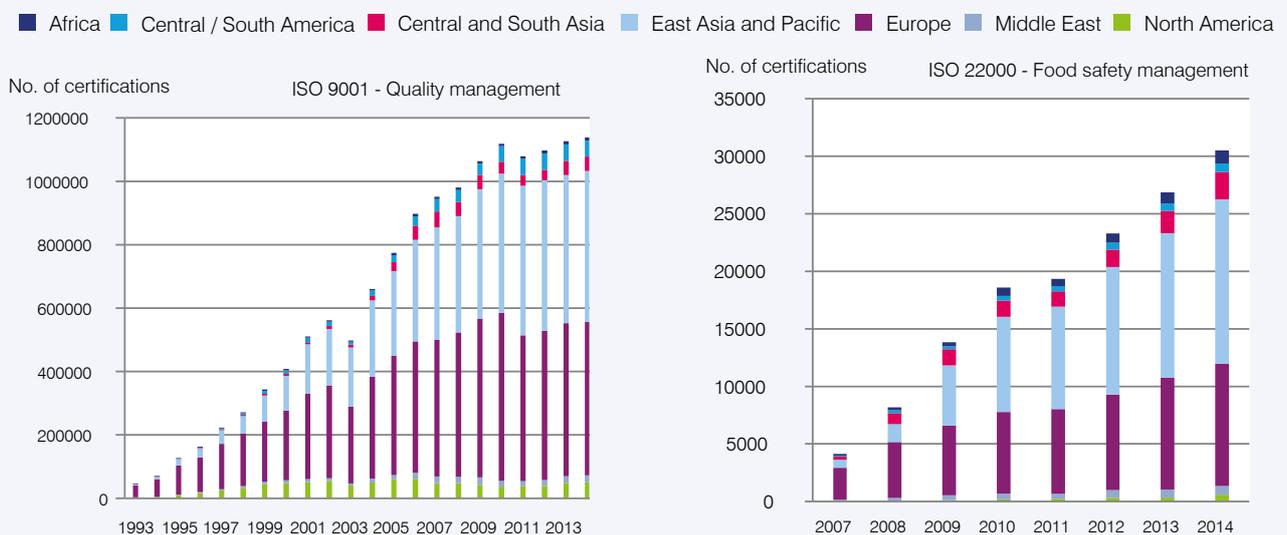
was customized with a separate directory of services for SMEs in the State of Palestine, Jordan, Nepal, and Egypt.

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/>.



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.⁵

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.⁶ 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 2016.⁷ 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.⁸

The outsourcing boom led to the creation of ISO 37500:2014.⁹ 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.¹⁰

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

associated insurance costs, and increase traceability.¹¹ 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.¹²

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.¹³

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



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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.

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 must¹⁴:

- 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.

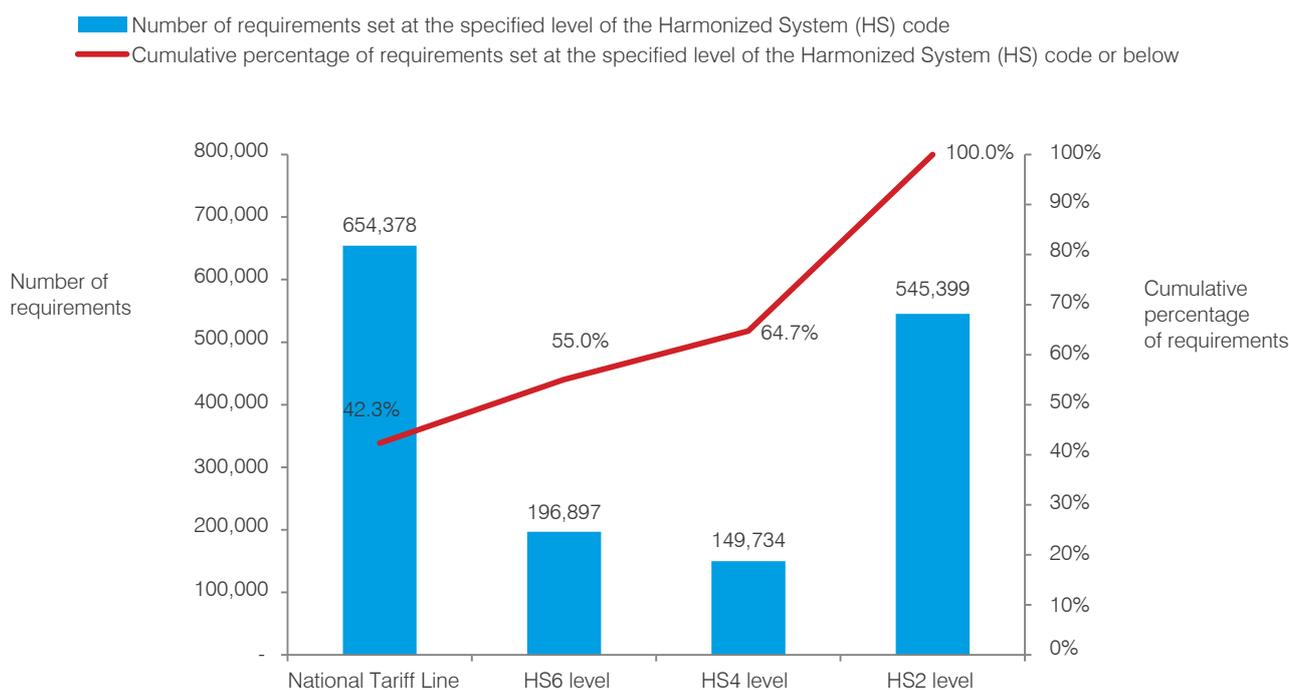
Operations: Product and sector-specificity

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.¹⁵ 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.

which is very detailed, including products like green tea or insulated wires.¹⁶ (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.¹⁷ 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.¹⁸

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.¹⁹

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.²⁰

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.²¹ 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.²¹ 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.²²

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

Knowing your core business is not enough

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.²² 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.²³ 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.²⁴ 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:²⁵

- 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.²⁶

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.²⁷

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).²⁸

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),²⁹ 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 2009.³⁰ 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).³¹ 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.³²

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.³³

Demand for fish is increasing, but a large number of the world's fish stocks are currently depleted.³⁴ 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.³⁵

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.³⁶

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.

Responsible gold mining

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.³⁷

Food products: From consumer safety to quality certification

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.³⁸

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.³⁹ 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.⁴⁰

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:

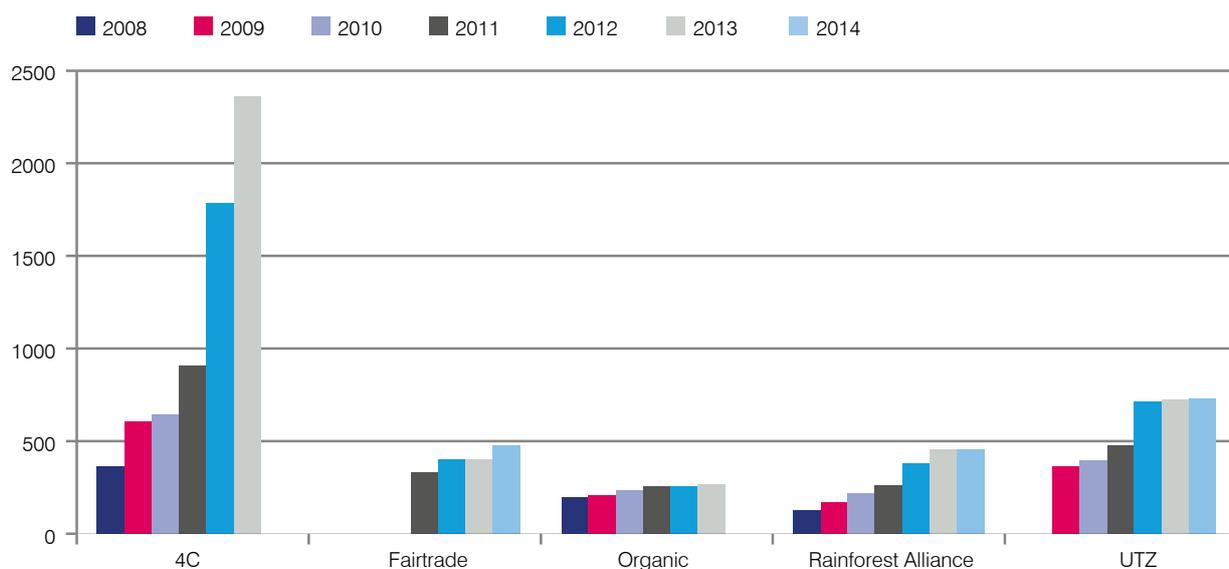
- Arabica, associated with more pleasing flavours and aromatic properties.
- Robusta, of a lower intensity, easier to grow and maintain, more disease resistant and producing a higher yield.

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 survey⁴¹ 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.

Textiles: From labour standards to textile care labels

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).⁴² This, in combination with lack of legal knowledge, has prevented many countries from improving working conditions in textiles and garment production.⁴³

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.

A toy story: Standards to reduce hazards

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.⁴⁴ 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,⁴⁵ 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.⁴⁶ 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.⁴⁷

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.⁴⁸

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

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

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.⁴⁹

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.⁵⁰

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.⁵¹

Tourism: Guaranteeing tourist safety and signalling quality

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.⁵²

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.⁵³ 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.⁵⁴ 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

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 ⁵⁵	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 ⁵⁶	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 ⁵⁷	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 ⁵⁸	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 ⁵⁹	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 ⁶⁰	Tourism Grading Council of South Africa	1 to 5 stars	947 criteria	South Africa
Hotel rating system in Ethiopia ⁶¹	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. ⁶²	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

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.⁶³ 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 2007.⁶⁴ 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.⁶⁵ There is now a programme to develop 'IMT for 2020 and beyond'⁶⁶ reflecting that movement towards the next generation of mobile technology is well underway and standards will have to be updated.

Medical industry

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

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.⁶⁷

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 2015.⁶⁸

Common threads, complex picture

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:⁶⁹

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.⁷⁰ 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.⁷¹

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).

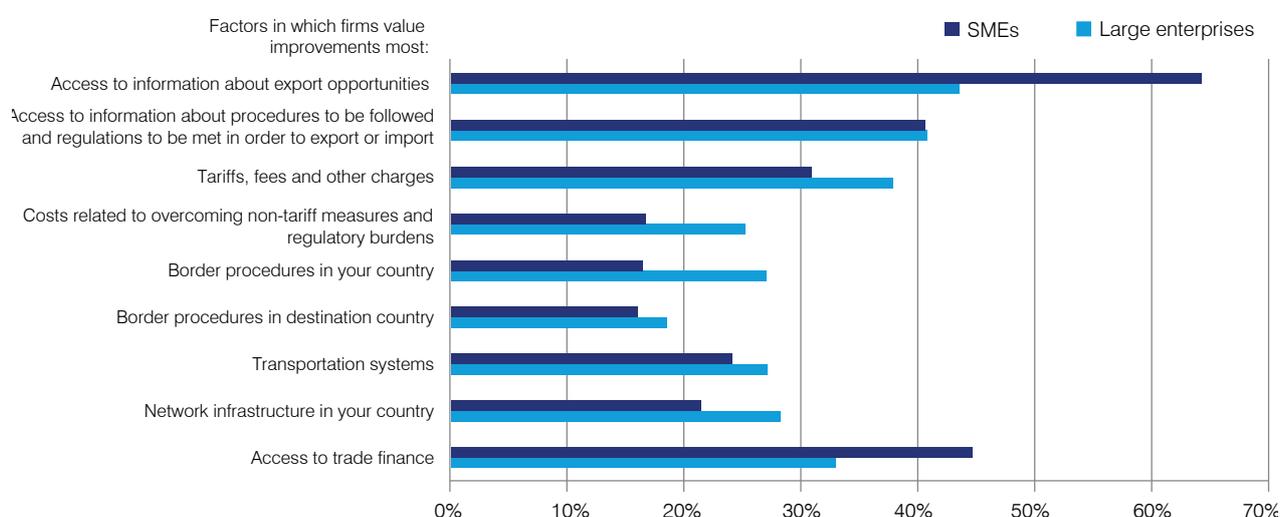
Compliance and certification costs

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.⁷² Exporters in environment-related manufacturing and services, for instance, cite constraints in both developed and developing countries due to environmental compliance regulations.⁷³ 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.⁷⁴

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.⁷⁵ These high costs

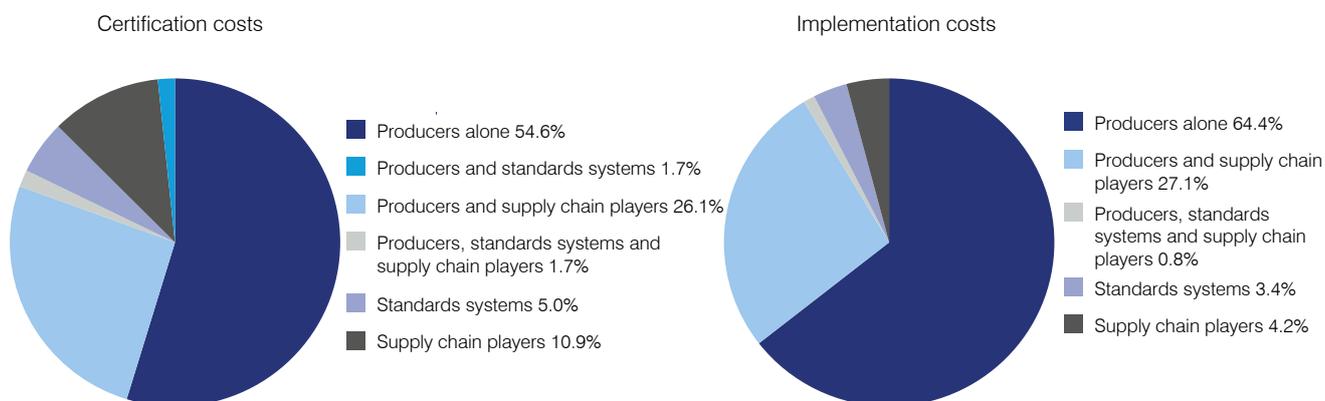
FIGURE 14 Costs where firms value improvements



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.⁷⁶

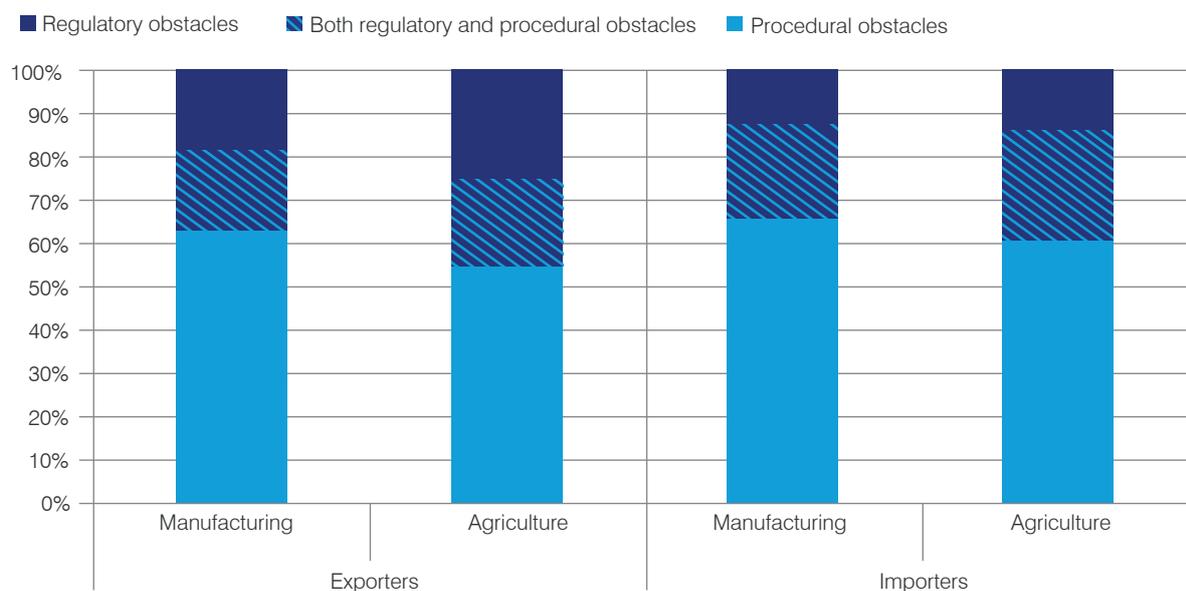
Producers tend to bear the bulk of such costs, though others contribute. For VSS, producers usually incur the costs of implementing standards and proving compliance (certification costs), according to information from the ITC Standards Map (Figure 15). For some VSS, costs are borne by many different 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

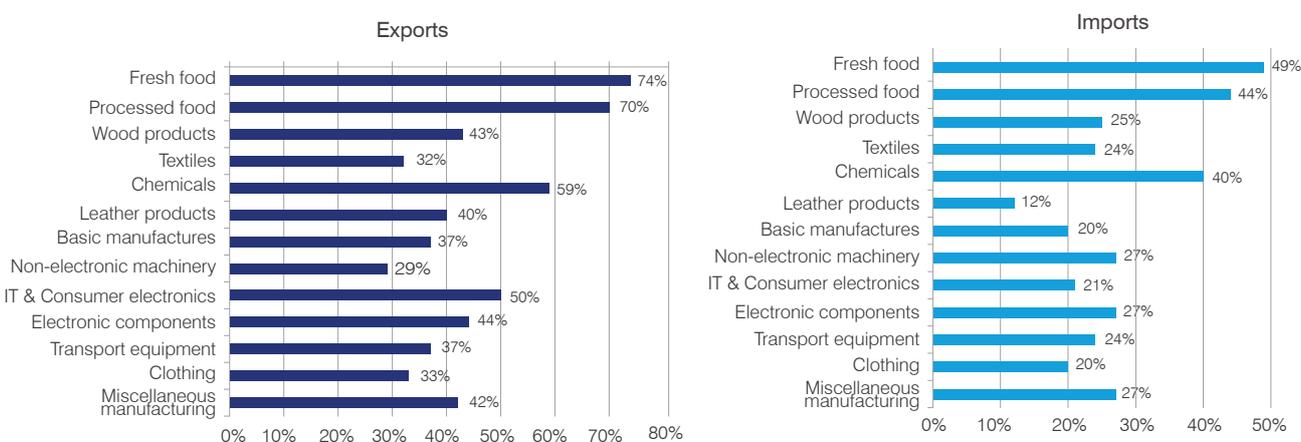
FIGURE 16 Procedural obstacles – an important part of the problem



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.⁷⁷

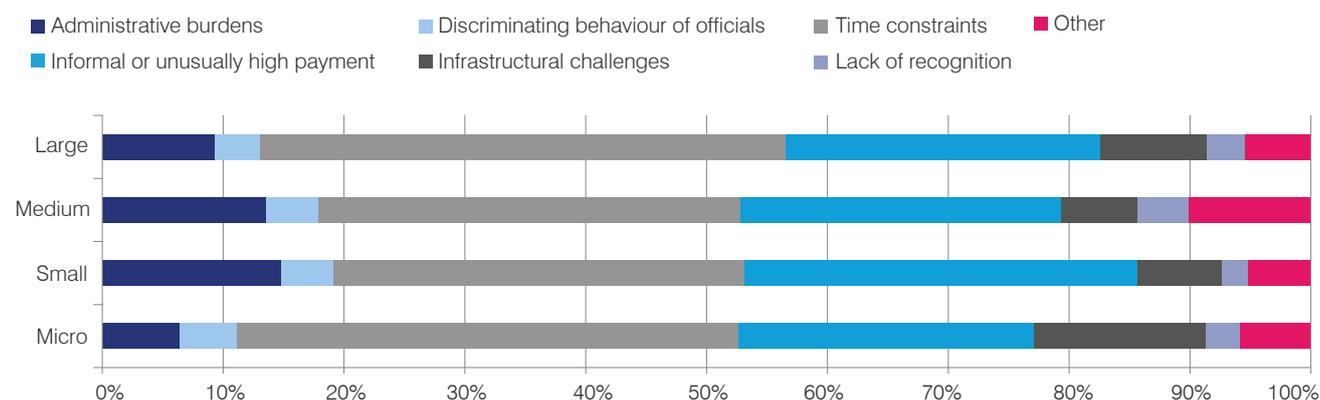
Data from the ITC Business Surveys on NTMs show the overwhelming importance of procedures associated with technical regulations, for both exporting and importing companies. Of problems reported by agricultural exporters, 70% make reference to procedural obstacles; for manufacturing exporters, the share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

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.⁷⁹

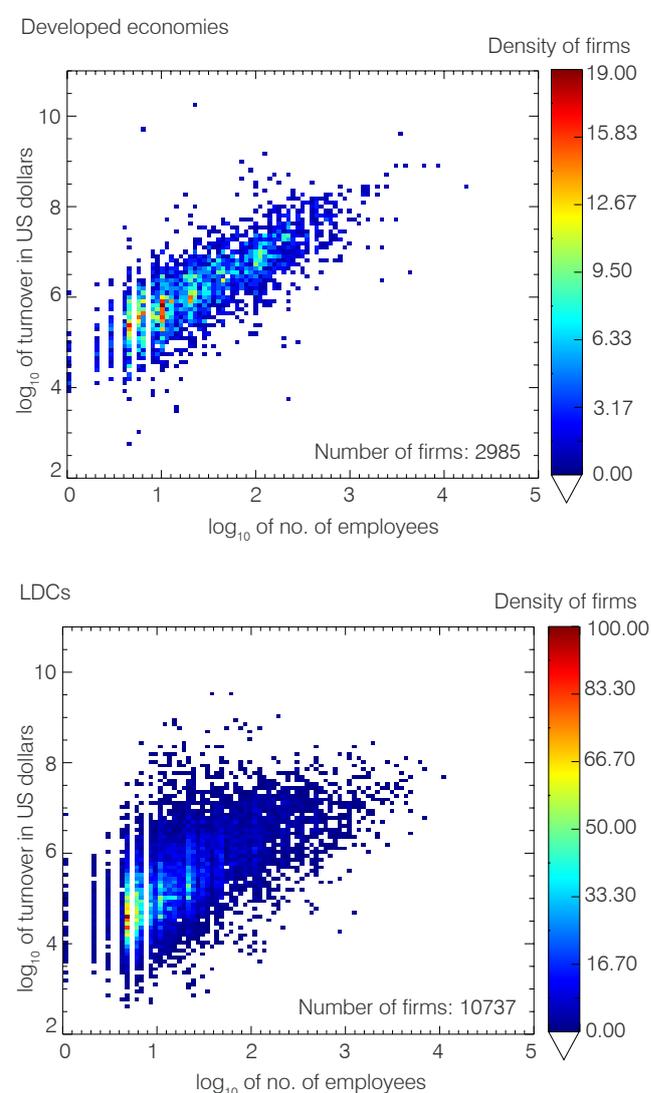
For developed countries, the relationship between the number of employees and turnover is much tighter. This means that for any given firm size, the revenue figures are spread over a much smaller range than that for developing countries or LDCs. Furthermore, in developed countries, firm turnovers are 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.⁸⁰ 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.⁸¹ Small domestic companies without foreign funding are usually more affected by high costs of compliance with food safety regulation, which may exclude

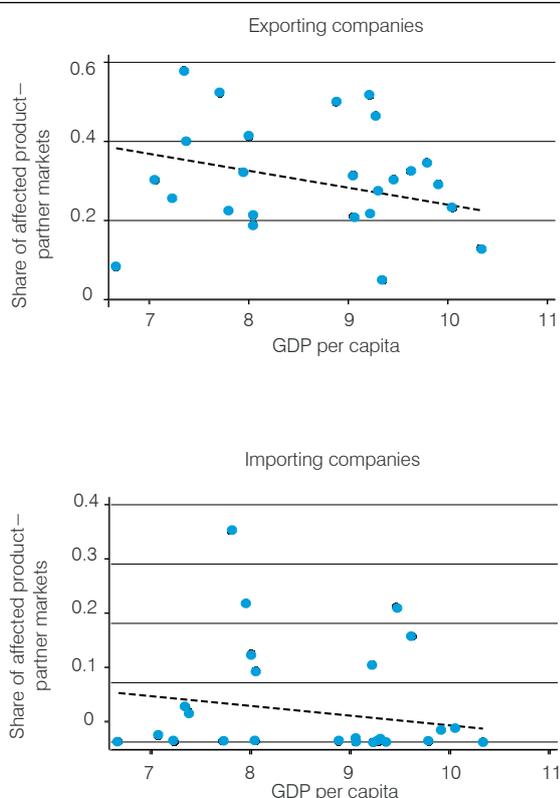
them from foreign market activities. Firms situated closest to the 'efficiency' frontier, instead, are more likely to be able to comply with NTMs and to benefit from it.⁸² Those firms tend to be larger and more productive.

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.⁸³

Similar findings come from a study on the effect of TBT on export performance of top-50 Pakistani exporters,⁸⁴ 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.⁸⁵

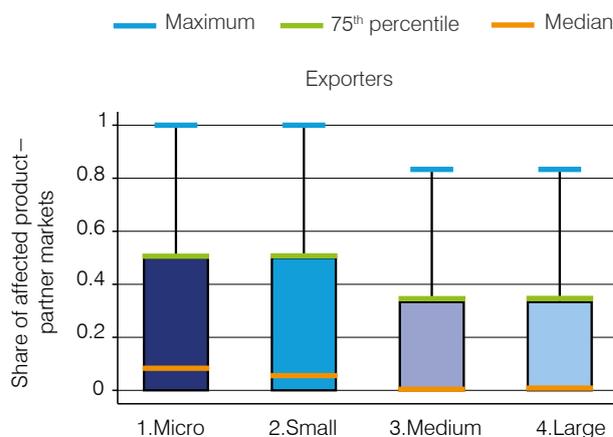
Company-level data from the ITC NTM Business Surveys confirm that technical regulations affect micro and small

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.

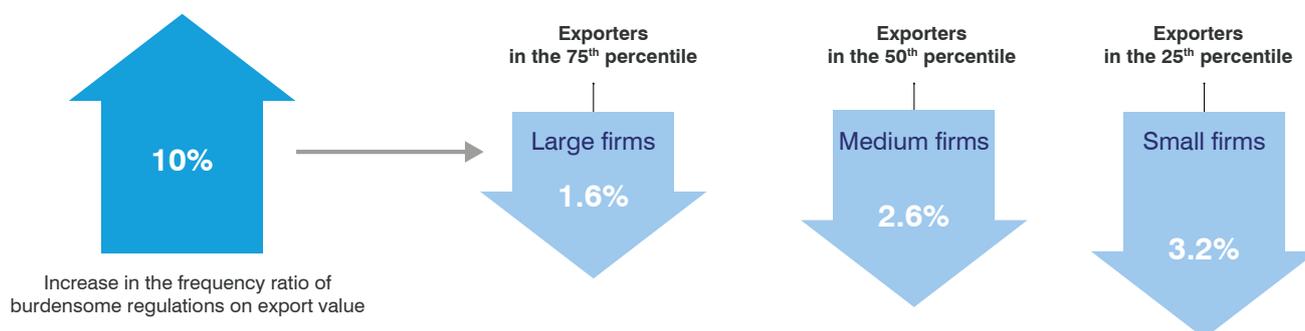
Source: ITC calculations based on ITC Business Survey on NTMs (2016).

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.⁸⁶ 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.⁸⁷ 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.⁸⁸ In other words, small exporters are found to be more negatively affected by technical regulations.⁸⁹

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 upgrading⁹⁰ and hence increase sales in foreign markets.⁹¹ 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.

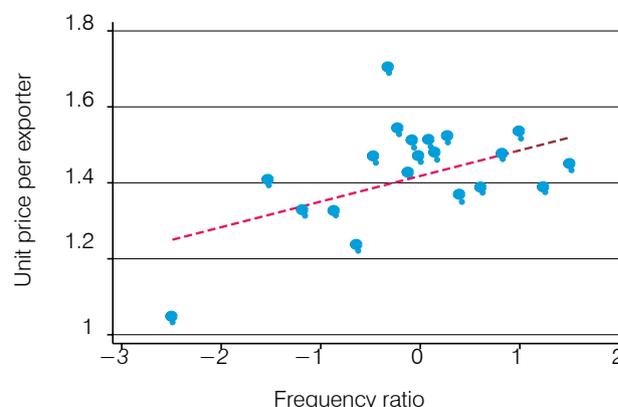
Investment prompted by standards to improve the health, safety and environmental aspects of a product, often linked to use of higher-quality materials, can bolster consumer perceptions and increase demand. It also can lead to technological upgrades and innovation, and prompt structural changes in production 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.⁹²

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.⁹³ 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.⁹⁴

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

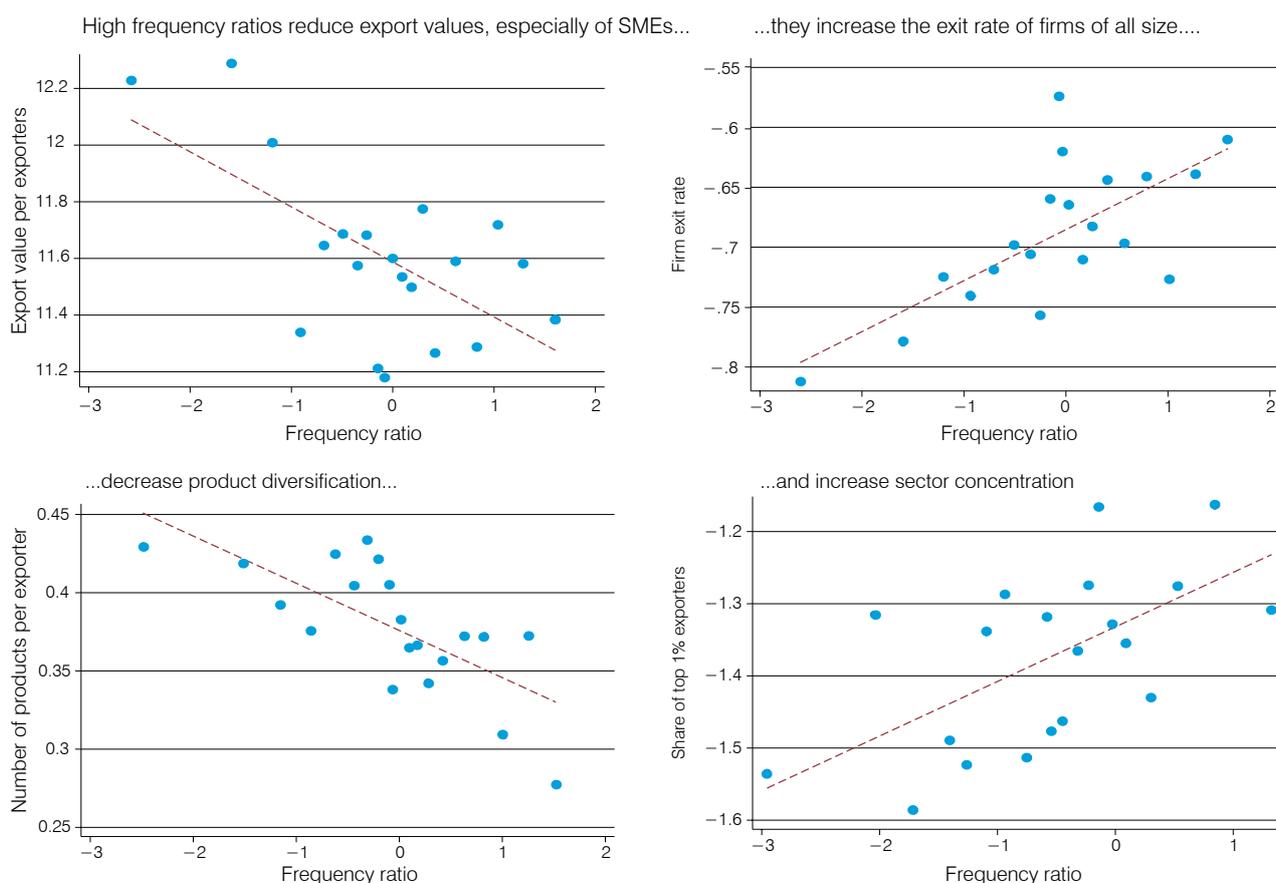
New entrants in a market (firms that did not export the previous year) drive the higher prices linked to more burdensome technical regulations.⁹⁵ New entrants cannot internalize the cost of compliance with technical regulations, probably because meeting the regulations entails an increase in fixed production 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.'

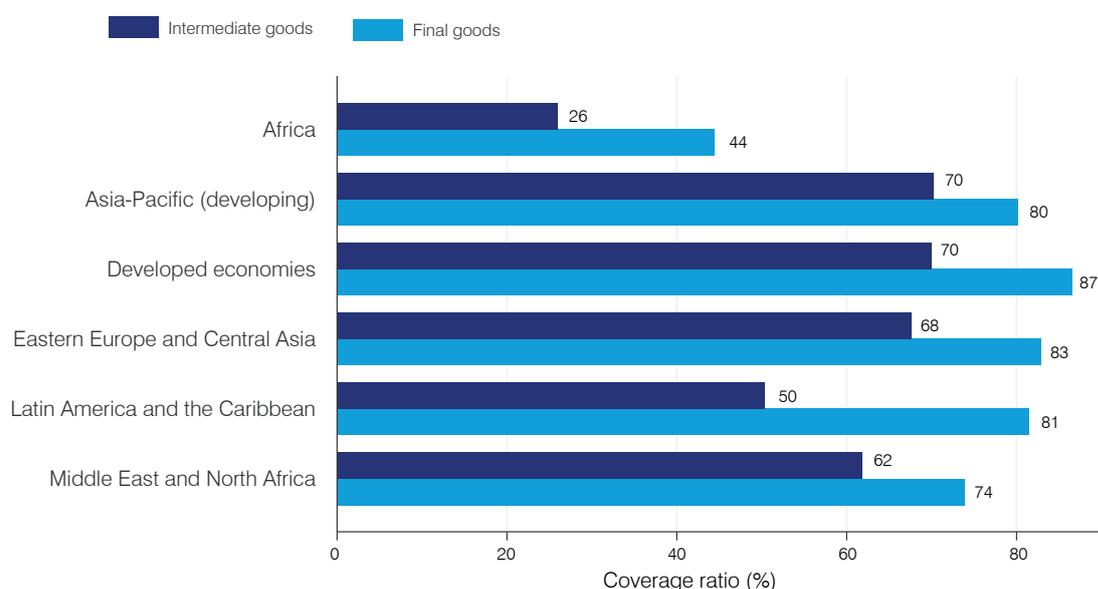
Costs associated with technical regulations affect the capacity of firms to compete (Figure 24). A higher frequency of technical regulations is associated with a decline in the average value of firms' exports (within the same sector-partner market, controlling for sector-fixed effects).

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.⁹⁶ 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.⁹⁷ 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.⁹⁸ 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.⁹⁹ Hence, technical regulations on imported intermediate goods potentially influence both imports of intermediates and the subsequent exports of products made with these intermediates.¹⁰⁰

The data shown in Figure 25 highlight the importance of regulations for intermediate imports.¹⁰¹ 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.¹⁰² At the firm level, empirical evidence shows that harmonization of NTMs with the EU has raised profits and labour productivity of Moroccan firms.¹⁰³

Empirical work on Tunisia commissioned by ITC provides additional insights.¹⁰⁴ 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 database¹⁰⁵ 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.

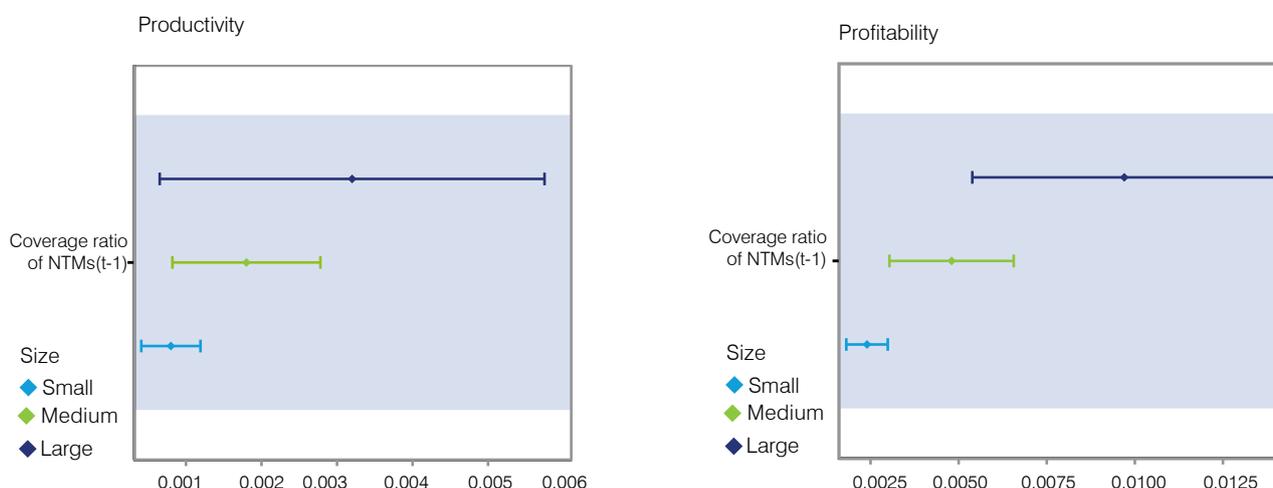
However, membership in trade agreements does not insulate firms from trade barriers associated with standards and regulations. ITC Business Surveys on NTMs show that 53% of product-partner markets where exporting firms report a technical regulation obstacle are in countries which share trade agreements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

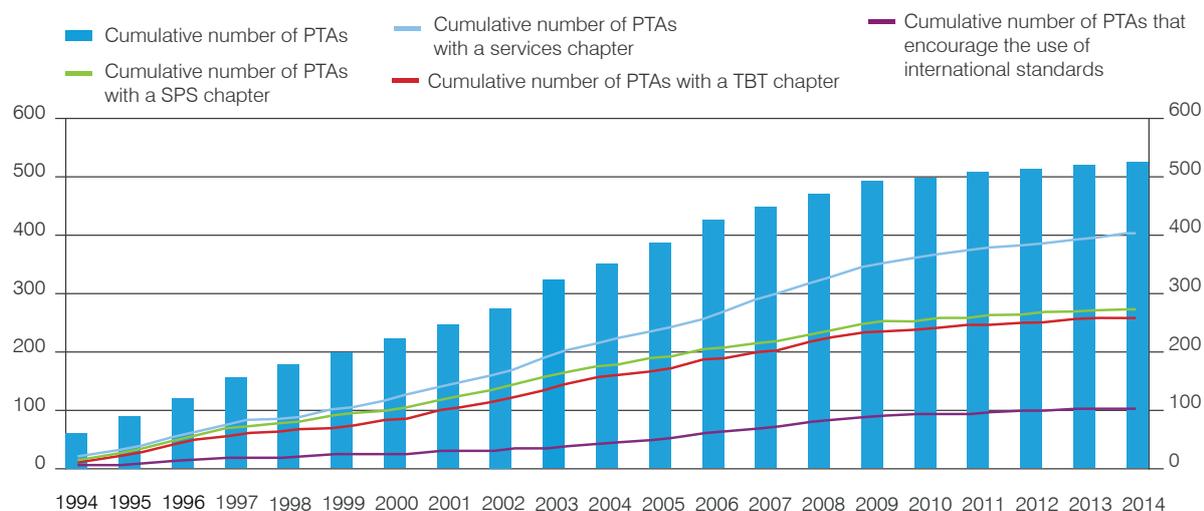
For example, in 2014 Rwanda sold 80% of its exports (in terms of value) to partners outside OECD, where its exporting firms face burdensome regulations or procedures in only 30% of markets they serve. On the other hand, the United Republic of Tanzania sold approximately 70% of its exports outside of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

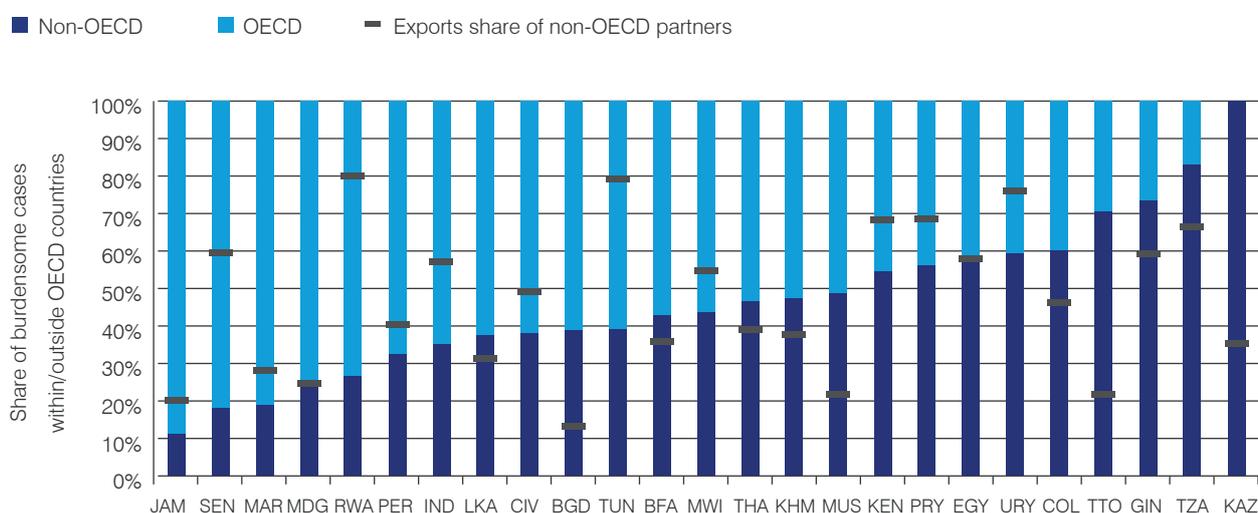
Procedural obstacles: The impact on women

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.¹⁰⁶ 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.¹⁰⁷

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.

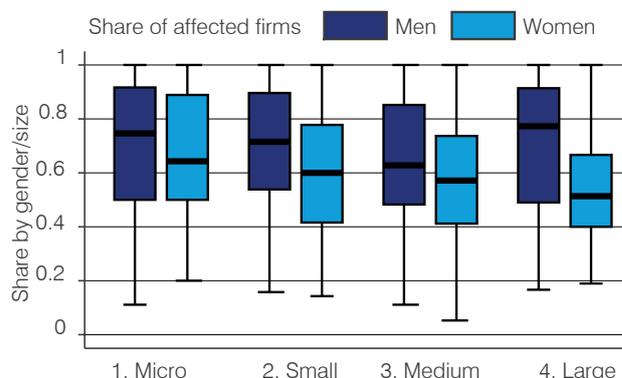
Procedural obstacles may discriminate

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.

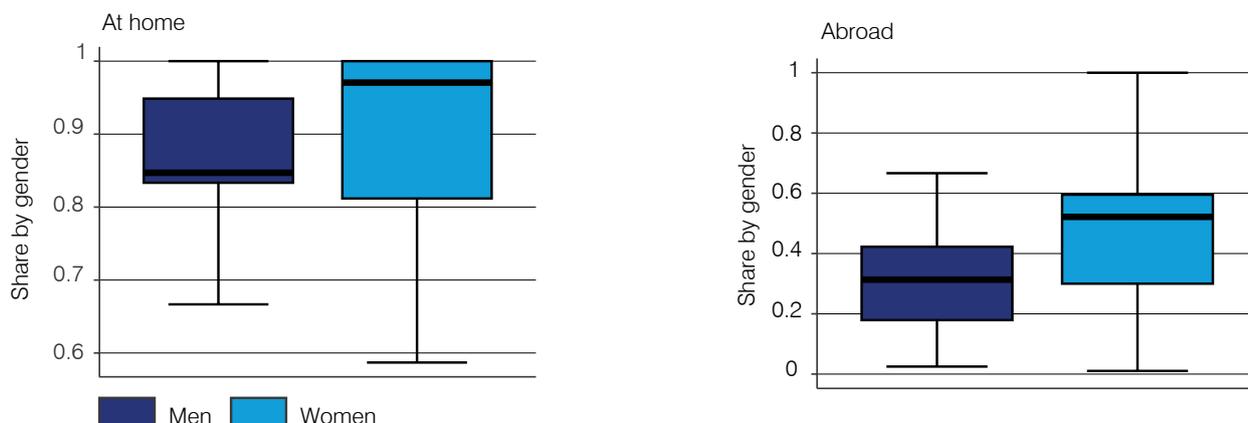
Female-owned exporting enterprises experience better sales and profitability when trading with far-off destinations than when trading just across the border of their home country. This is because women often face specific barriers related to cross-border activities, where they have a personal interaction with custom officials or clients.¹⁰⁸ 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.¹⁰⁹

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

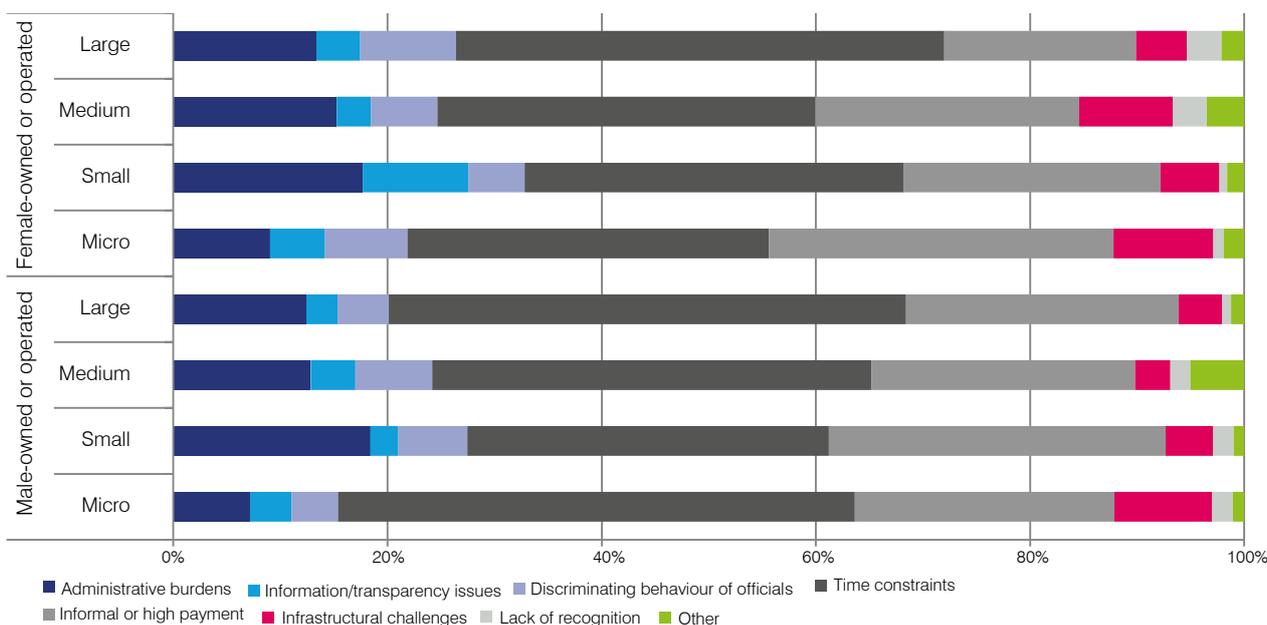
Procedures related to conformity assessment – testing, certification, labelling, inspections and approval – decrease the likelihood of entry in the protected markets¹¹⁰ and lead to a decline in product and geographic diversification.¹¹¹ This is because compliance increases fixed and variable costs, and alters trade patterns and competition.¹¹² 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.¹¹³ 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.¹¹⁴

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.¹¹⁵ 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.¹¹⁶ 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.¹¹⁷

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.¹¹⁸

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.¹¹⁹

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.¹²⁰

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.¹²¹

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.¹²² 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.¹²³

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.¹²⁴ 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.¹²⁵ 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.¹²⁶

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.

Benefits: Not immediate, not for all

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.¹²⁷

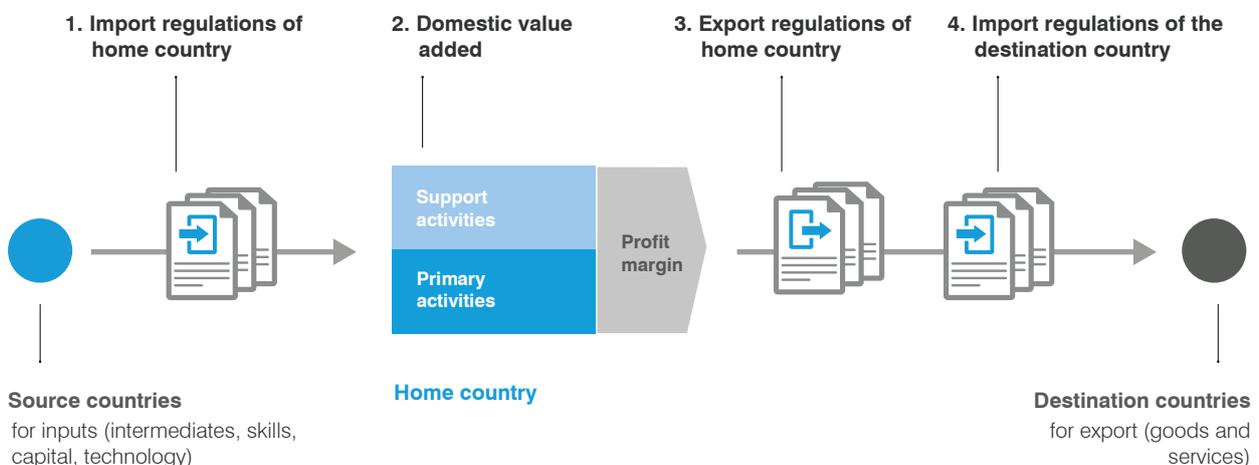
Navigating the complex world of regulations and standards is one of the challenges managers meet. For those running a firm that exports and/or imports, this challenge is more complex.

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.¹²⁸

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.¹²⁹

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.

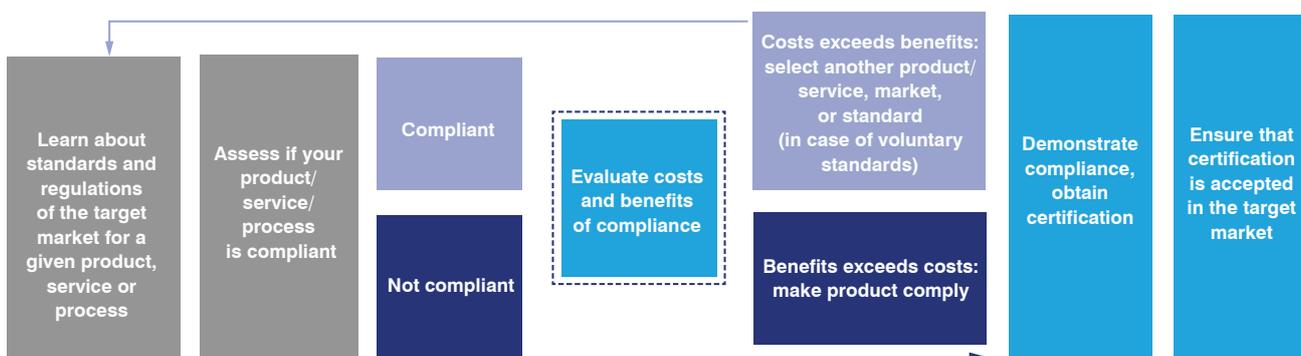
Often different market niches command different prices. When considering whether to apply a certain standard, managers thus must consider the size of the market niche and the price that products meeting the standard can command.

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.¹³⁰

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.¹³¹

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:¹³²

- **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.¹³³

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
International and cross-country sources			
ITC	Market Access Map (MAcMap) www.macmap.org	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) http://wits.worldbank.org		
WTO	Integrated Trade Intelligence Portal (I-TIP) http://i-tip.wto.org/goods	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) http://spsims.wto.org	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) http://tbtims.wto.org	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
Regional			
Centre for the Promotion of Imports from developing countries (CBI)	Market information https://www.cbi.eu/market-information/	Exhaustive coverage of EU regulations, tips and explanations for exporters from developing countries	EU countries; 27 sectors
European Commission	EU Export Helpdesk http://exporthelp.europa.eu	Exhaustive coverage of EU regulations, tips and explanations	EU countries, all products
ITC	Euro-Mediterranean Trade and Investment Mechanism (TIFM) http://euromed.macmap.org	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 http://asean.i-tip.org	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
National			
Malaysia National Single Window/ The Official Portal for Trade Facilitation	MyTRADELINK http://www.mytradelink.gov.my/tariff-code	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 http://www.mauritiustrade.mu/	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 http://www.oecd.org/tad/services-trade/regulatory-database-services-trade-restrictiveness-index.htm	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) http://i-tip.wto.org/services	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 www.iec.ch/about/activities/standards.htm	International Standards for electrical, electronic and related technologies
ILO	International Labour Organization http://www.ilo.org/global/standards/lang--en/index.htm	International labour standards
IPPC	International Plant Protection Convention: www.ippc.int/en/core-activities/standards-setting/ispms	International standards for phytosanitary measures
ISO	International Organization for Standardization: Online Browsing Platform www.iso.org/obp/ui	Over 21,000 International standards
ITU	International Telecommunication Union: ITU-T Recommendations www.itu.int/ITU-T/recommendations/index.aspx	Standards defining how telecommunication networks operate and interwork
OECD	Organisation for Economic Co-operation and Development: Agricultural Codes and Schemes www.oecd.org/tad/code	International certification standards for agricultural seeds, forest reproductive materials, fruit and vegetables and tractors
OIE	The World Organisation for Animal Health: International Standards www.oie.int/international-standard-setting/overview	Standards relating to animal health and zoonoses
UN FAO and WHO	The Codex Alimentarius Commission (Codex) standards www.fao.org/fao-who-codexalimentarius	International food standards
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) www.unece.org/cefact.html	Electronic business standards and trade facilitation recommendations
UNECE	UN Economic Commission for Europe: Working Party on Agricultural Quality www.unece.org/trade/agr	Fresh fruit and vegetables, dry and dried produce, seed potatoes, meat, eggs, cut flowers
UNECE	UN Economic Commission for Europe: Vehicle Regulations www.unece.org/trans/main/welcwp29.html	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 commitments¹³⁴) 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
for Standardization (ISO)

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:

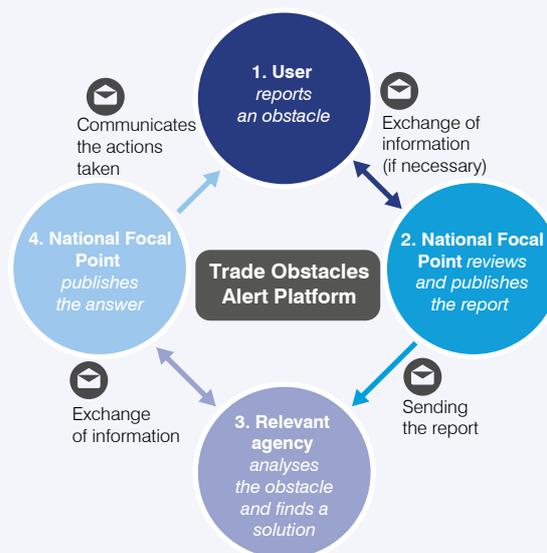
'Our consignments of polybags [polyethylene bags] from Madagascar were held at customs due to an import permit requirement. This law should have been in force in January 2016 but the authorities implemented it in September 2015.'

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) and Côte d'Ivoire (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.¹³⁵ Compliance may also require improving management practices and staff development and training.¹³⁶

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 www.standardsmap.org	Over 200 voluntary sustainability standards
Big Room Inc.	Ecolabel www.ecolabelindex.com	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.¹³⁷ Effects can be long-lasting, with business literature suggesting that certification improves consumer perceptions of product and service quality, satisfaction and corporate image.¹³⁸ In addition, being able to prove the compliance of goods and services with standards is likely to facilitate access to finance.¹³⁹

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.¹⁴⁰

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%.¹⁴¹

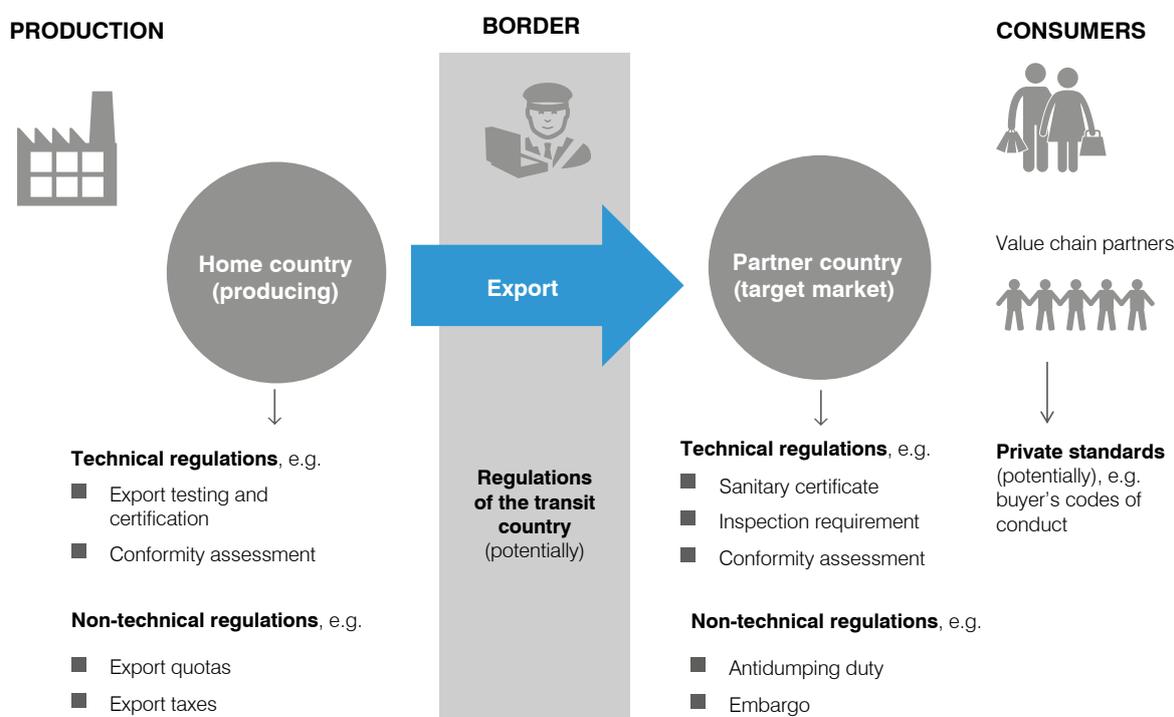
For Mode 4 exports (movement of natural persons), requirements and restrictions depend on the profession, national legislation in the exporting and importing country and the bilateral agreements the two countries have. Japan and Singapore, for example, signed an Economic Partnership Agreement in which 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.¹⁴²

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.¹⁴³ 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.'¹⁴⁴

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.¹⁴⁵

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.¹⁴⁶

The two most important success factors in negotiating specifications of a standard are substance and power of persuasion.¹⁴⁷ 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.¹⁴⁸

Early information brings gains

The payoffs of such involvement can be significant, as illustrated in a number of case studies in recent business literature.¹⁴⁹ 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.

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.¹⁵⁰

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.¹⁵¹

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

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.¹⁵² Costs for firms include searching and interpreting information, which can involve hiring competent persons or specialized agencies.¹⁵³ 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, 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).

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.¹⁵⁴

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.¹⁵⁵ 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.¹⁵⁶ 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.¹⁵⁷

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 50001.¹⁵⁸ 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.¹⁵⁹

Lipton, for example, decided in 2007 to source all its tea for teabags from Rainforest Alliance Certified™ farms.¹⁶⁰



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.¹⁶¹ 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.¹⁶²

Below is an overview of elements to take into account to design, expand or strengthen a country's technical infrastructure for standards and regulations.

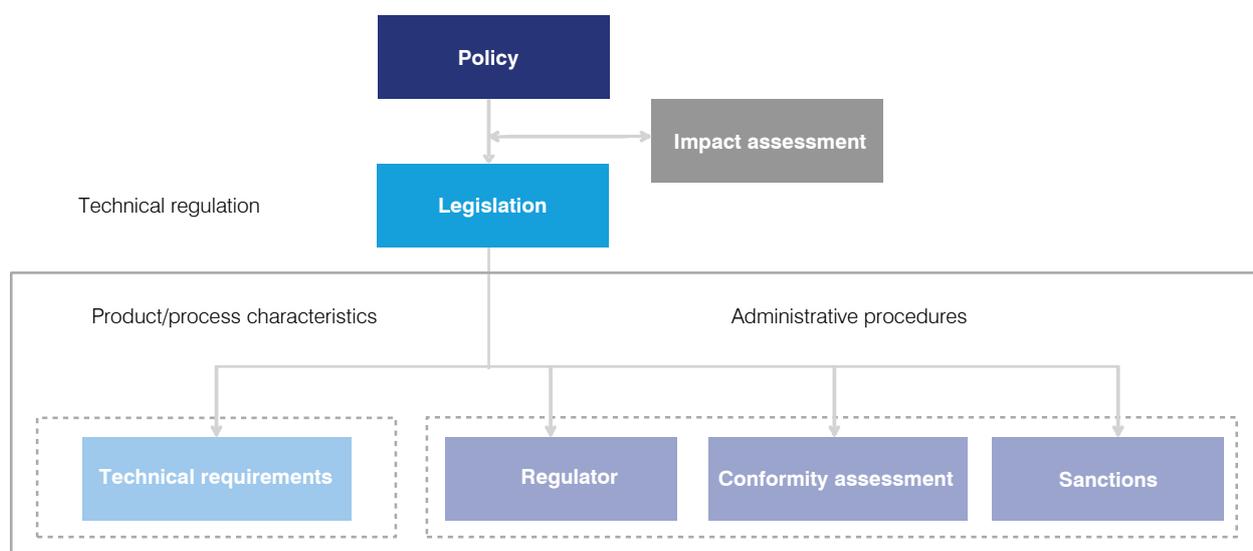
Designing technical infrastructure

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.¹⁶³ 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.

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.

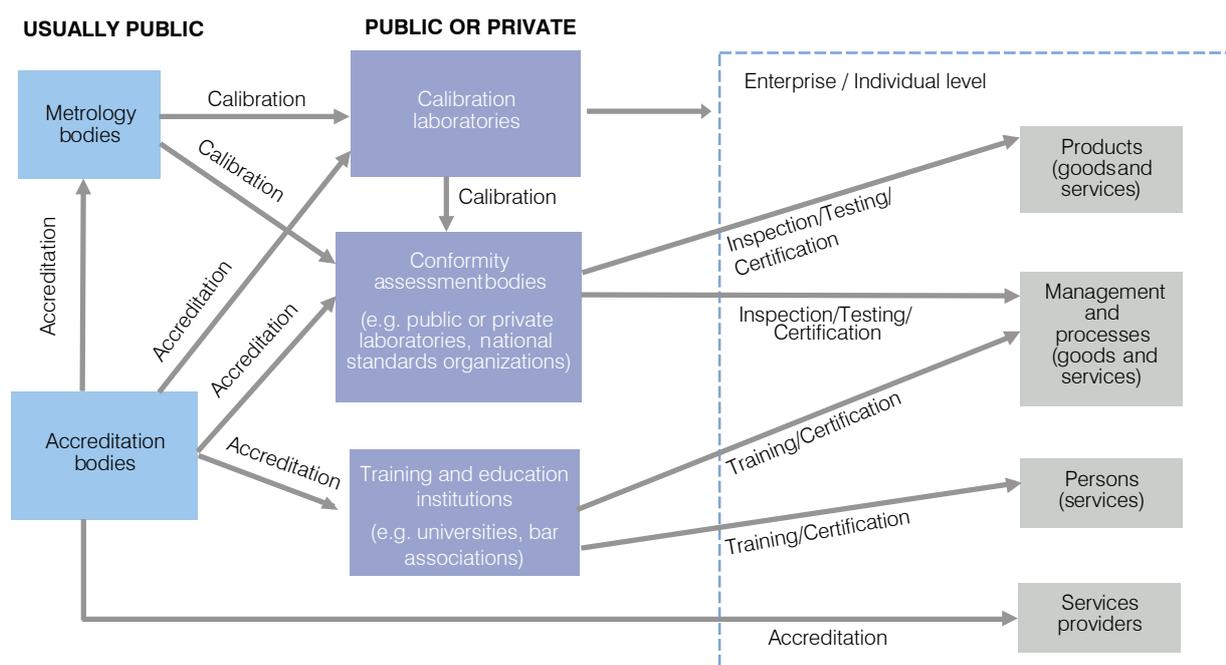
- The registration committee under the Institute of Certified Public Accountants of Kenya (ICPAK) provides membership to those who pass the professional exam and non-Kenyans with suitable qualifications seeking to practice in the country.
- ICPAK sets professional standards, ensures compliance with international accounting and financial reporting standards, conducts professional development training, and takes disciplinary action.¹⁶⁴

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

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.¹⁶⁵

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.¹⁶⁶

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.¹⁶⁷

Voluntary certification systems to cover sustainability issues are also gaining prominence.¹⁶⁸ The World Tourism Organization (UNWTO) highly recommends that governments establish such certification.¹⁶⁹ The Global Sustainable Tourism Council, a United States-registered non-profit organization with a diverse and global membership,¹⁷⁰ 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.¹⁷¹
- 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.¹⁷²

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.¹⁷³

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.¹⁷⁴

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.¹⁷⁵

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.¹⁷⁶

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.¹⁷⁷

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.¹⁷⁸

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

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.¹⁷⁹ 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.¹⁸⁰

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.¹⁸¹ It identifies business obstacles when complying with NTMs at the level of product, sector and partner country.¹⁸²



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.

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.

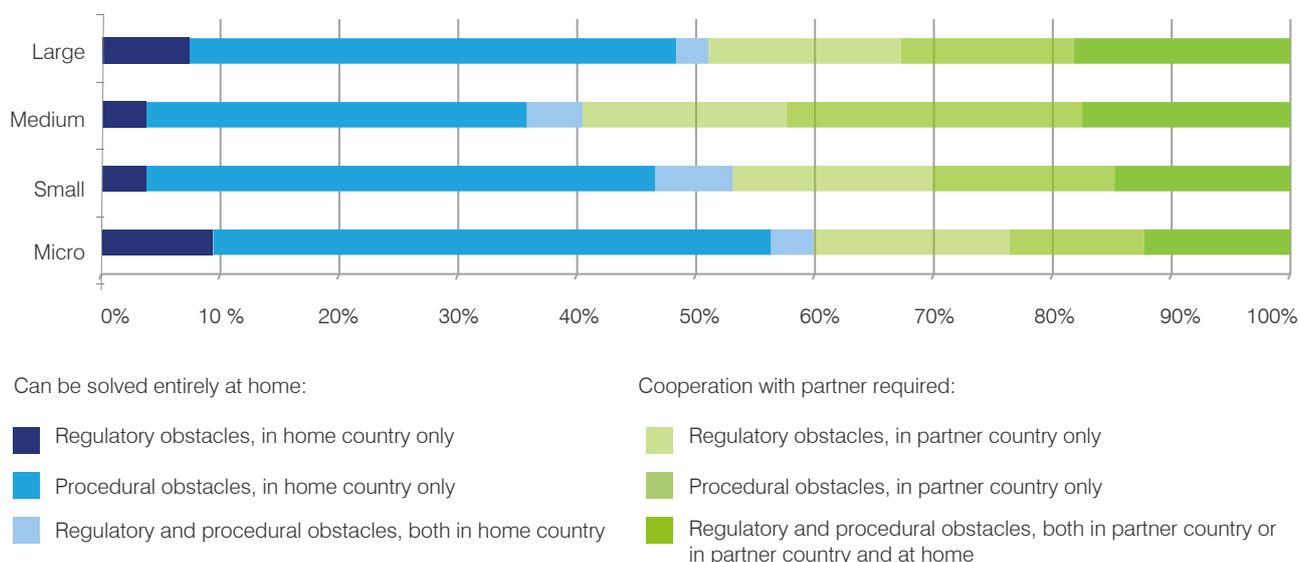
The WTO should continue its multilateral work to ensure more regulatory transparency and coherence. New or changing technical regulations in different countries can create unnecessary and unjustified technical barriers to trade. Discrepancies between product rules may impose additional trade restrictions 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.

FIGURE 40 Addressing non-tariff measures to trade: Action begins at home



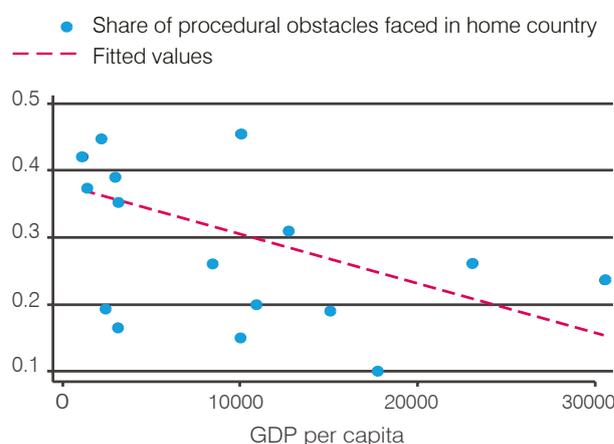
Note: This figure includes only regulations and procedures related to technical requirements, conformity assessment and export inspection or certification. It does not include non-technical measures, such as trade remedies, rules of origin, etc. The data include 25 countries from the NTM Business Surveys.
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.¹⁸³

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.¹⁸⁴

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.¹⁸⁵

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.¹⁸⁶ ITC published guidebooks that directly target the private sector and inform SMEs how to make best use of the TFA.¹⁸⁷

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.¹⁸⁸

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.¹⁸⁹

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.¹⁹⁰ Firms in participating countries have been found to be more likely to enter new markets and to increase their volume of trade.¹⁹¹

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.

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.¹⁹²

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.¹⁹³

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.

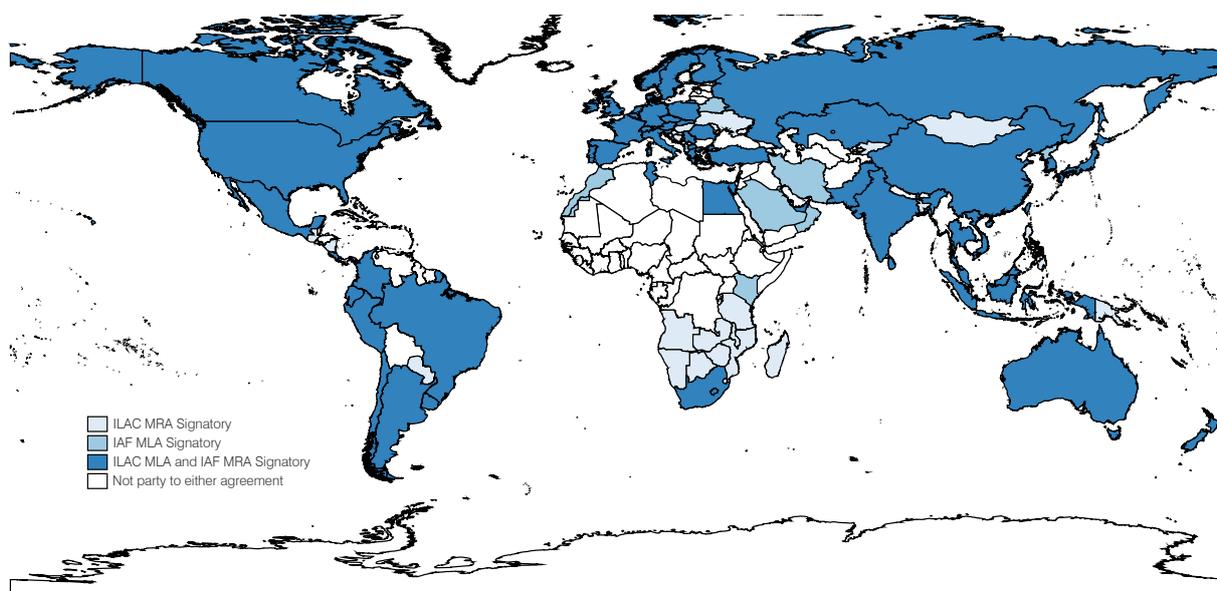
Harmonizing standards and regulations

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.¹⁹⁴ 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.¹⁹⁵ 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.¹⁹⁶

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.¹⁹⁷

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.¹⁹⁸

MRAs are a frequent policy tool to recognize educational qualifications, legal and financial services and technical advice across countries.¹⁹⁹ 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.²⁰⁰

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.

FIGURE 43 Meeting the standard for trade: An action checklist

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.